#### Final

# ANGOON AIRPORT WETLAND WESPAK WETLAND ASSESSMENT

SURVEY RESULTS

Prepared for ADOT&PF Southcoast Region

November 2019





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#### **APPROACH**

Several wetlands were delineated in the Proposed Project Area, and each has been classified as one of four types: *bog forest*, *bog woodland*, fen, and *salt marsh*; using the naming convention provided by the National Environmental Policy Act, Final Environmental Impact Statement (FEIS) for the Proposed Project (FAA 2016). For the wetlands likely to be determined to be jurisdictional (see ESA 2019), an assessment of their function and value has been performed to provide key mitigating metrics in the event they are impacted by the Proposed Project. Assessments were performed using Wetland Ecosystem Services Protocol for Southeast Alaska (WESPAK-SE) (Adamus 2015). Because both tidal and non-tidal wetlands are present in the Proposed Project Area, and WESPAK provides two assessment methods based on whether a wetland is tidally influenced, both methods were used as appropriate. A summary of the delineated wetlands is provided in Table 1.

With the exception of fen wetlands, more than one wetland was delineated for each wetland type. In some cases, each delineated wetland was assessed independently because of being unique to the Proposed Project Area. However, in other cases, more than one wetland shared a diversity of characteristics, allowing them to be grouped and assessed by a single WESPAK-SE. These wetlands are generally part of larger wetland complexes; are the same wetland type; and share multiple characteristics such as geography, geology, and hydrology. An example from this survey is Wetland A (Table 1), which is composed of 10 separately delineated wetlands that share numerous characteristics. The similarity across the 10 Wetland A wetlands allows them to be grouped for WESPAK-SE, with a single representative wetland being assessed, and output applied to all wetlands in that group.

To assess the delineated wetlands using WESPAK-SE in a manner applicable to the greater Proposed Project, each wetland type was aligned across the three classification systems that have been used to date:

- The system established by the FEIS (FAA 2016)
- Cowardin classification system (Cowardin et al. 1979)
- HGM classification system (Powell et al. 2003)

Once each wetland was coded across these three wetland typing systems, they were then matched to the four wetland classes established by WESPAK-SE: *forested peatland*, *open peatland*, *fen/marsh*, and *tidal marsh* (Adamus 2015) (included in Table 1). The wetland ratings were performed using *Non-tidal WESPAK-SE v.2* for non-tidal wetlands, and *Tidal WESPAK-SE v.2* for tidally-influenced wetlands.

The condition of the wetlands in the Proposed Project Area have been degraded through time due to the various environmental and geotechnical studies performed in support of the Proposed Project. Thus, this WESPAK-SE wetland assessment is based specifically on the condition of the wetlands prior to the start of the study and degradation.

Table 1. Summary of wetlands delineated within the Proposed Project Area, including acreage and type

					WEGDAY, GE
Wetland Name	Delineated Area (acre)*	Wet Habitat**	Cowardin Class	HGM Class	WESPAK-SE Wetland Type
A1	0.7	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A2	0.4	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A3	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A4	0.4	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A5	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A6	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A7	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A8	0.05	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A9	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
A10	0.1	Salt Marsh	E2EM1N	Estuarine Fringe Tidal	Tidal Marsh
В	0.1	Bog Forest	PFO4B	Slope Forest	Forested Peatland
С	0.006	Bog Forest	PFO4B	Slope Forest	Forested Peatland
D	1.0	Bog Forest	PFO4B	Slope Forest	Forested Peatland
Е	0.2	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G1	67.0	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G2	2.7	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G3	0.6	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G4	0.2	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G5	2.7	Bog Forest	PFO4B	Slope Bog	Forested Peatland
G6	14.3	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G7	9.6	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G8	1.2	Fen	PEM1H	Slope Tidal	Fen/Marsh
G9	0.8	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G10	0.3	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G11	2.4	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G12	1.7	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G13	0.2	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G14	0.2	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G15	120.1	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G16	24.5	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G17	0.7	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G18	0.3	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G19	2.7	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G20	14.5	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G21	10.1	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G22	1.5	Bog Woodland	PFO1B	Slope Bog	Open Peatland
G23	0.1	Bog Forest	PFO4B	Slope Forest	Forested Peatland

Wetland Name	Delineated Area (acre)*	Wet Habitat**	Cowardin Class	HGM Class	WESPAK-SE Wetland Type
G24	0.6	Bog Forest	PFO4B	Slope Forest	Forested Peatland
G25	1.5	Bog Forest	PFO4B	Slope Forest	Forested Peatland
I	1.5	Bog Forest	PFO4B	Slope Forest	Forested Peatland
J	0.5	Bog Forest	PFO4B	Slope Forest	Forested Peatland
K	0.8	Bog Forest	PFO4B	Slope Forest	Forested Peatland
L	0.09	Bog Forest	PFO4B	Slope Forest	Forested Peatland
M	0.04	Bog Forest	PFO4B	Slope Forest	Forested Peatland
N	2.2	Bog Forest	PFO4B	Slope Forest	Forested Peatland
О	0.02	Bog Forest	PFO4B	Slope Forest	Forested Peatland
P	0.1	Bog Forest	PFO4B	Slope Forest	Forested Peatland
Q	1.2	Bog Forest	PFO4B	Slope Forest	Forested Peatland
R	0.5	Bog Forest	PFO4B	Slope Forest	Forested Peatland
S	3.0	Bog Forest	PFO4B	Slope Forest	Forested Peatland

<sup>\*</sup> Some wetlands extend outside of the Proposed Project Area, and only portions located within are reported
\*\* The water resource names used in the FEIS (FAA 2016)

#### RESULTS

Delineated wetlands with shared characteristics were clustered into 9 different groups for WESPAK-SE assessment (Table 2). Each wetland group received one WESPAK-SE assessment that represented all of the wetlands within that group.

Following the performing of WESPAK-SE on each group, outputs were produced that provide both quantitative and qualitative scores of quality. These scores are summarized in Table 3, below. Because more specific scores are also calculated and can provide additional insight on the functions and values of each wetland, a copy of the scoresheet for each group is provided in Appendix A. Copies of each entire workbook from each WESPAK-SE group are provided in Appendix B.

Table 2. Grouped wetlands with shared characteristics and their associated WESPAK-SE wetland type

Group Number	Grouped Wetlands	WESPAK-SE Wetland Type
1	A (1-10)	Tidal Marsh
2	В, Ј	Forested Peatland
3	C, K, O, P	Forested Peatland
4	D, E, I	Forested Peatland
5	G1, 4, 6, 7, 16, 20, 22	Open Peatland
6	G2, 3, 5, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 23, 24, 25	Forested Peatland
7	G8	Fen
8	L, M	Forested Peatland
9	N, Q, R, S	Forested Peatland

Table 3. Summary table of WESPAK-SE overall scores and ratings for each wetland group

Group Number	Grouped Wetlands	Overall Score	Overall Rating
1	A (1-10)	5.36	Moderate
2	B, J	6.68	Moderate
3	C, K, O, P	6.58	Moderate
4	D, E, I	7.18	Higher
5	G1, 4, 6, 7, 16, 20, 22	7.89	Higher
6	G2, 3, 5, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 23, 24, 25	7.64	Higher
7	G8	8.09	Higher
8	L, M	7.45	Higher
9	N, Q, R, S	7.79	Higher

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## Appendix A

WESPAK-SE Scoresheets for each
Wetland Group Assessed in the
Proposed Angoon Airport Project Area;
Groups are Presented in the Order They
Appear in Table 2 and Table 3



Site Name or Site ID#:	Angoon Air	n o #													-
Investigator Name:			e Associates (ES	۸)					<u> </u>						-
Date of Field Assessment:			June, 2017; 6-14		R				 						
Nearest Town:	Angoon, Ala		ounc, 2011, 0-14	ounc, zon											
Latitude (decimal degrees):	57.475520°														
Longitude (decimal degrees):	-134.553167	0													
HUC12 Watershed #:	19010204														
Approximate size of the Assessment Area (AA, in acres)	8 acres, inc	luding area	of open water (2	.15 acres o	of fringe wetlan	d)									
AA as percent of entire wetland (approx.)	100														
Tidal phase during most of visit:	Low														
What percent (approx.) of the <b>wetland</b> were															
you able to visit?	100														
What percent (approx.) of the <b>AA</b> were you able to visit?	100														
Have you attended a training session for this				_											
protocol? If so, indicate approximate month															
& year.	No. Familia	. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM													
How many wetlands have you assessed previously using this protocol (approx.)?	6														
Scores will appear below after data are entere	ed in workst	eets OF	T and S See	Manual fo	or definitions :	and									
descriptions of how scores were computed.	a m worken	, ,	r, and o. occ	manaan re	n deminione (					F	JNCTIC	ON	'	/ALUE	
WESPAK-SE version 2 scores for t	hia Tidal											olds for		Thresh	
	.nis i idai											on Rating	Median	for Val	ue
Wetland Assessment Area (AA):										Median of Normalize	(norma	ilizea	of Normaliz	Rating (normal	li=od\
	Score	Score	Score	n	Score	Value		FV	/ P		Low is		ed V	Low is	
Functions and Their Values:	Raw	Raw	(normalized)						Inormaliz						
Sediment Retention & Stabilization (SR)	7.25				(normalize	Rating	FV	Index	(normaliz ed)	d F Scores		Hiah is >		< or =	=
Carbon Sequestration (CS)		10 00	6.33		(normalize	Rating		Index	ed)	Scores	< or =	High is >	Scores	< or =	=
	6.64	10.00	6.33	High	10.00	Rating High	8.17	Index 8.17	<b>ed)</b> 7.90	Scores 4.11	< or =	5.96			=
	6.64	10.00	3.85	High Moderate	•		8.17 3.85	8.17 3.85	7.90 2.93	Scores 4.11 3.40	< or = 3.56 2.65	5.96 5.62	Scores	< or =	
Organic Nutrient Export (OE)	6.21		3.85 7.33	High Moderate High	10.00	High	8.17 3.85 7.33	8.17 3.85 7.33	7.90 2.93 7.33	3.40 5.72	< or = 3.56 2.65 3.81	5.96 5.62 6.80	Scores 5.22	< or = 5.22	10.0
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA)	6.21 5.12	10.00	3.85 7.33 9.20	High Moderate	•		8.17 3.85 7.33 9.60	8.17 3.85 7.33 9.60	7.90 2.93	Scores 4.11 3.40 5.72 6.95	< or = 3.56 2.65 3.81 6.12	5.96 5.62 6.80 7.64	5.22 5.00	< or = 5.22 3.56	10.0
Organic Nutrient Export (OE)	6.21		3.85 7.33	High Moderate High	10.00	High	8.17 3.85 7.33	8.17 3.85 7.33	7.90 2.93 7.33	3.40 5.72	< or = 3.56 2.65 3.81	5.96 5.62 6.80	Scores 5.22	< or = 5.22	10.0
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA)	6.21 5.12 6.94	10.00	3.85 7.33 9.20	High Moderate High High	10.00	High High	8.17 3.85 7.33 9.60	8.17 3.85 7.33 9.60	ed) 7.90 2.93 7.33 9.60	Scores 4.11 3.40 5.72 6.95	< or = 3.56 2.65 3.81 6.12	5.96 5.62 6.80 7.64	5.22 5.00	< or = 5.22 3.56	10.0
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF)	6.21 5.12 6.94	10.00	3.85 7.33 9.20 8.92	High Moderate High High	10.00	High High High	8.17 3.85 7.33 9.60 9.46	8.17 3.85 7.33 9.60 9.46	ed) 7.90 2.93 7.33 9.60 9.46	Scores 4.11 3.40 5.72 6.95 4.12	< or =  3.56  2.65  3.81  6.12  3.34	5.96 5.62 6.80 7.64 5.88	5.22 5.00 0.00	< or = 5.22 3.56 0.00	= 10.0 6.67 0.67
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE	6.21 5.12 6.94 2.36	10.00 10.00 10.00	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00	High High High High	8.17 3.85 7.33 9.60 9.46 5.57	8.17 3.85 7.33 9.60 9.46 5.57	ed) 7.90 2.93 7.33 9.60 9.46 5.18	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.22 5.00 0.00 0.00	< or = 5.22 3.56 0.00	= 10.0 6.67 0.67 10.0
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH)	6.21 5.12 6.94 2.36	10.00 10.00 10.00	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00	High High High High	8.17 3.85 7.33 9.60 9.46 5.57	8.17 3.85 7.33 9.60 9.46 5.57	ed) 7.90 2.93 7.33 9.60 9.46 5.18	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.22 5.00 0.00 0.00	< or = 5.22 3.56 0.00	6.67 0.67 10.0 6.30
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU)	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00	High High High Low	8.17 3.85 7.33 9.60 9.46 5.57 0.86	8.17 3.85 7.33 9.60 9.46 5.57 1.71	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 2.59	3.56 0.00 2.59	6.67 0.67 10.0 6.30
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE) Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St) Wetland Sensitivity (Sens) - not used in	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00	High High High Low	8.17 3.85 7.33 9.60 9.46 5.57 0.86	8.17 3.85 7.33 9.60 9.46 5.57 1.71	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59	3.56 0.00 0.00 2.59	= 10.0 6.67 0.67 10.0 6.30 6.24 7.22
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St Wetland Sensitivity (Sens) - not used in subsequent calculations Stress Potential (STR) - not used in	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00 2.29 4.35	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00 0.73 6.53	High High High Low Low Moderate	8.17 3.85 7.33 9.60 9.46 5.57 0.86 0.73 6.53	8.17 3.85 7.33 9.60 9.46 5.57 1.71	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59 4.40 4.17	3.56 0.00 0.00 2.59 3.30 4.72	= 10.0 6.67 0.67 10.0
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St Wetland Sensitivity (Sens) - not used in subsequent calculations Stress Potential (STR) - not used in	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00 2.29 4.35 3.35	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00 0.73 6.53 2.51	High High High Low Low Moderate Moderate AVG w/o	8.17 3.85 7.33 9.60 9.46 5.57 0.86 0.73 6.53 2.51	8.17 3.85 7.33 9.60 9.46 5.57 1.71  0.73 6.53 2.51 2.22 selected	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43 0.00 6.53 0.68	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59 4.40 4.17 3.20	<ul> <li>&lt; or =</li> <li>5.22</li> <li>3.56</li> <li>0.00</li> <li>0.00</li> <li>2.59</li> <li>3.30</li> <li>4.72</li> <li>2.48</li> </ul>	= 10.00 6.67 0.63 10.0 6.30 6.24 4.44
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St Wetland Sensitivity (Sens) - not used in subsequent calculations Stress Potential (STR) - not used in subsequent calculations	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00 2.29 4.35 3.35	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00 0.73 6.53 2.51	High High High High Low Low Moderate Moderate	8.17 3.85 7.33 9.60 9.46 5.57 0.86 0.73 6.53 2.51	8.17 3.85 7.33 9.60 9.46 5.57 1.71  0.73 6.53 2.51 2.22 selected	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43  0.00 6.53	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59 4.40 4.17 3.20	<ul> <li>&lt; or =</li> <li>5.22</li> <li>3.56</li> <li>0.00</li> <li>0.00</li> <li>2.59</li> <li>3.30</li> <li>4.72</li> <li>2.48</li> </ul>	= 10.0 6.67 0.67 10.0 6.30 6.24 4.422
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE) Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St) Wetland Sensitivity (Sens) - not used in subsequent calculations Stress Potential (STR) - not used in subsequent calculations  Overall Score (see Manual for explanation of how the spreadsheet	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00 2.29 4.35 3.35	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00 0.73 6.53 2.51	High High High Low Low Moderate Moderate AVG w/o	8.17 3.85 7.33 9.60 9.46 5.57 0.86 0.73 6.53 2.51	8.17 3.85 7.33 9.60 9.46 5.57 1.71  0.73 6.53 2.51 2.22 selected	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43 0.00 6.53 0.68	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59 4.40 4.17 3.20	<ul> <li>&lt; or =</li> <li>5.22</li> <li>3.56</li> <li>0.00</li> <li>0.00</li> <li>2.59</li> <li>3.30</li> <li>4.72</li> <li>2.48</li> </ul>	6.66 0.66 10.0 6.30 6.24 4.44
Organic Nutrient Export (OE) Anadromous Fish Habitat (FA) Waterbird Feeding Habitat (WBF) Songbird, Raptor, & Mammal Habitat (SE Native Plant Habitat (PH) Other Values or Attributes: Public Use (PU) Subsistence & Provisioning Services (St Wetland Sensitivity (Sens) - not used in subsequent calculations Stress Potential (STR) - not used in subsequent calculations Overall Score (see Manual for	6.21 5.12 6.94 2.36 3.60	10.00 10.00 10.00 1.00 2.29 4.35 3.35	3.85 7.33 9.20 8.92 1.13	High Moderate High High High Low	10.00 10.00 10.00 10.00 0.00 0.73 6.53 2.51	High High High Low Low Moderate Moderate AVG w/o Social	8.17 3.85 7.33 9.60 9.46 5.57 0.86 0.73 6.53 2.51 2.22 with Social	8.17 3.85 7.33 9.60 9.46 5.57 1.71  0.73 6.53 2.51 2.22 selected Higher	ed) 7.90 2.93 7.33 9.60 9.46 5.18 1.43 0.00 6.53 0.68 0.96	Scores 4.11 3.40 5.72 6.95 4.12 5.79	< or =  3.56  2.65  3.81  6.12  3.34  2.98	5.96 5.62 6.80 7.64 5.88 6.41	5.00 5.00 0.00 0.00 2.59 4.40 4.17 3.20	<ul> <li>&lt; or =</li> <li>5.22</li> <li>3.56</li> <li>0.00</li> <li>0.00</li> <li>2.59</li> <li>3.30</li> <li>4.72</li> <li>2.48</li> </ul>	= 10.00 6.67 0.63 10.0 6.30 6.24 4.44

Site Name or ID #:	Angoon Airpo	ort													
Investigator Name:	Environmenta	I Science	Associates (E	SA)											
Date of Field Assessment:	13-22 Aug, 20	13; 15-22 J	lune, 2017; 6-	14 June, 2	018										
Nearest Town:	Angoon, Alas	ka													
Latitude (decimal degrees):	57.475520°														
Longitude (decimal degrees):	-134.553167°														
HUC12 Watershed # (from UAS web site):	19010204.00														
Approximate size of the Assessment Area (AA, in acres)	0.60														
AA as percent of entire wetland (approx.)	100.00														
Tidal phase during most of visit:	Low														
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00														
What percent (approx.) of the <b>AA</b> were you able to	100.00														
protocor? Il so, indicate approximate month &	No. Familiar v	with proto	col and certif	ied/traine	d in Oregon (	ORWAP an	d SFA	М							
How many wetlands have you assessed previously using this protocol (approx.)?	6.00														

Scores will appear below after data are entered in work sheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

computed.										FUNCTION		ıN		VALUE	
WESPAK-SE version 2 scores for this N	ON-tidal We	tland									Thres	holds for		Thres	holds for
Assessment Area (AA):	ON-lidai We	tianu									(norr	on Rating malized			e Rating malized
Specific Functions or Values:	Function Score raw	Value Score raw	Function Score (normalized)	Functio n Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	FV Index (normaliz ed)	Median of Normaliz ed F Scores	Low is	High is >	Median of Normalize d V Scores	Low is	High is >
Surface Water Storage (WS)	6.06	7.78	5.54	Moderate	7.78	Higher	6.66	6.66	5.82	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	1.36	0.81	1.63	Lower	1.22	Lower	1.43	1.63	1.63	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	2.33	1.67	2.33	Lower	2.20	Moderate	2.27	2.33	1.79	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	5.93	0.62	5.93	Moderate	1.16	Lower	3.54	5.93	5.15	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization	5.00	3.60	3.64	Moderate	7.85	Higher	5.74	5.74	5.80	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.00	7.78	1.02	Lower	10.00	Higher	5.51	5.51	5.14	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	4.72	6.50	1.89	Lower	7.39	Higher	4.64	4.64	4.64	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	5.22		2.22	Lower			2.22	2.22	2.22	6.53	3.66	6.43			
Organic Nutrient Export (OE)	4.75	5.70	6.86	Moderate	5.73	Moderate	6.30	6.86	6.86	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	3.24	10.00	0.88	Lower	10.00	Higher	5.44	5.44	5.44	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.09	6.67	3.32	Lower	8.48	Higher	5.90	5.90	5.36	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	3.88	0.00	5.61	Moderate	0.00	Lower	2.80	5.61	5.61	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	5.83	8.89	7.20	Moderate	8.89	Higher	8.04	8.04	7.95	8.05	0.00	7.35	4.22	2.50	5.63
	3.46	7.15	4.59	Moderate	9.58		7.08	7.08	6.89	4.94	2.45	5.38	4.22	2.65	5.83
Pollinator Habitat (POL)	4.75	9.53	3.24		9.50	Higher Higher	6.34	6.34	5.81	5.24	4.52	6.51	3.78	3.78	6.46
Native Plant Habitat (PH)	4./5	9.53	3.24	Lower	9.44	Higher	6.34	6.34	5.81	5.24	4.52	6.51	3./8	3./8	6.46
Other Values or Attributes:		2.00			4.00	Madagata	4.00	4.00	4.00				0.04	0.00	5.50
Public Use & Recognition (PU)		3.06			4.09	Moderate	4.09	4.09	4.09				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		3.58			3.68	Lower	3.68	3.68	4.03				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		2.53			2.66	Lower	2.66	2.66	2.80				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		7.31			10.00	Higher	10.00	10.00	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								5.82	5.82	Moderate	3.08	5.91			
WAT ER QUALITY Group (max+avg/2 of SR, PR, NR, C	S)							5.12	3.46	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW)							5.52	1.23	Lower	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABIT AT Group (max+avg/2 of AM, WBF, W								4.63	3.51	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM,	PH, POL)							7.41	6.56	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			
TOWARSH SCORA (see Manual tor			AVG w/o Socia	with Socia	selected higher	normalized	i								
explanation of how the spreadsheet	6.68		4.99	7.18	7.18	6.68									
Overall Rating:	Moderate														

Site Name or ID #:	Angoon Airport	
Investigator Name:	Environmental Science Associates (ESA)	
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018	
Nearest Town:	Angoon, Alaska	
Latitude (decimal degrees):	57.475520°	
Longitude (decimal degrees):	-134.553167°	
HUC12 Watershed # (from UAS web site):	19010204.00	
Approximate size of the Assessment Area (AA, in acres)	0.93	
AA as percent of entire wetland (approx.)	100.00	
Tidal phase during most of visit:	Low	
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00	
What percent (approx.) of the <b>AA</b> were you able to	100.00	
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM	
How many wetlands have you assessed previously using this protocol (approx.)?	6.00	

Scores will appear below after data are entered in work sheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

										Fl	FUNCTION		VALUE		
WESPAK-SE version 2 scores for this N	ON tidal Wo	tland										holds for			holds for
Assessment Area (AA):	OIV-tiuai VV	tiaiiu								Median of		on Rating malized	Median of		e Rating malized
7.00000		1								Normaliz	so	core)	Normalize		core)
Specific Functions or Values	Function Score raw	Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normaliz ed)	ed F	Low is	High is >	d V	Low is	High is >
Specific Functions or Values: Surface Water Storage (WS)	3.11	1.81	2.19	Lower	1.81	Lower	2.00	2.19	0.24	Scores 2.95	2.89	6.34	Scores 3.06	1.85	5.00
<b>3</b> ( )	5.83	1.44	7.00		2.16	Moderate	4.58	7.00	7.00	3.17	2.69	6.13	3.33	1.05	4.48
Stream Flow Support (SFS)	6.20	3.17	6.20	Higher	4.18		5.19	6.20	5.93	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Cooling (WC)	6.25	3.68	6.25	Higher Moderate	6.84	Moderate	6.54	6.54	5.88	5.42	3.33	6.80	2.78	2.11	6.63
Streamwater Warming (WW)						Higher									
Sediment & Toxicant Retention & Stabilization	3.27	0.42	1.43	Lower	0.57	Lower	1.00	1.43	0.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.61	1.15	1.92	Lower	1.16	Lower		1.92	1.26	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	4.63	3.13	1.74	Lower	3.29	Moderate	2.52	2.52	2.52	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.41		4.53	Moderate			4.53	4.53	4.53	6.53	3.66	6.43			
Organic Nutrient Export (OE)	5.60	6.67	8.09	Higher	6.71	Moderate	7.40	8.09	8.09	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.75	10.00	5.97	Higher	10.00	Higher	7.98	7.98	7.98	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.73	6.25	4.48	Moderate	7.72	Higher	6.10	6.10	5.59	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	2.84	0.00	4.10	Moderate	0.00	Lower	2.05	4.10	4.10	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	6.73	10.00	8.31	Higher	10.00	Higher	9.16	9.16	9.11	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	7.90	7.15	11.74	Higher	9.58	Higher	10.66	11.74	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.46	9.53	8.58	Higher	9.44	Higher	9.01	9.01	9.27	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.20			2.56	Moderate	2.56	2.56	2.56				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		10.00			10.00	Higher	10.00	10.00	10.00				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		5.05			8.74	Higher	8.74	8.74	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.65			5.95	Higher	5.95	5.95	6.26				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.90			7.30	Higher	7.30	7.30	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								0.24	0.24	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C	3)							3.30	0.50	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW)							7.53	5.76	Moderate	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, W								4.41	3.23	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, F	PH, POL)							9.73	9.64	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								10.00	10.00	Higher	3.66	6.58			
L WARSH SCOTA (see Manual for			AVG w/o Socia	with Socia	selected higher	normalized									
explanation of how the spreadsheet	6.58		6.43	7.10	7.10	6.58									
Overall Rating:	Moderate														

Site Name or ID #:	Angoon A	irport													
Investigator Name:	Environmo	ental Scie	ence Associate	es (ESA)											
Date of Field Assessment:			-22 June, 2017		o 2018										
Nearest Town:	Angoon, A			,	, 2010										
Latitude (decimal degrees):	57.475520														
Longitude (decimal degrees):	-134.55316														
HUC12 Watershed # (from UAS web site):	19010204.0														
Approximate size of the Assessment Area (AA, in		00												$\vdash$	
acres)	2.70														
AA as percent of entire wetland (approx.)	100.00														
Tidal phase during most of visit:	Low														
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00														
What percent (approx.) of the <b>AA</b> were you able to	100.00														
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Famil	liar with	r with protocol and certified/trained in Oregon ORWAP and SFAM												
How many wetlands have you assessed previously using this protocol (approx.)?	6.00														
Scores will appear below after data are entered in w	ork sheets C	OF, F, and S. See Manual for definitions and descriptions of how scores were													
computed.														VALUE	
WEODAY OF version 2	ION COL	Thresholds for												Thres	holds for
WESPAK-SE version 2 scores for this N	ON-tidal											on Rating malized			e Rating malized
Wetland Assessment Area (AA):											(11011)	nanzeu core)		(1011)	core)
		Value	Function						FV Index	Median of Normaliz			Median of Normalize		
On the Founds	Function	Score	Score		Value Score	Value	FV	EV/ lead	(normaliz	ed F	Low is	I Bate 1	d V	Low is	Liberto de
Specific Functions or Values:	Score raw	raw	(normalized)		(normalized)	Rating	raw	FV Index	ed)	Scores	< or =	High is >	Scores	< or =	High is >
Surface Water Storage (WS)	3.96	0.00	3.16	Moderate	0.00	Lower	1.58	3.16	1.44	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	6.71	1.40	8.05	Higher	2.10	Moderate	5.08	8.05	8.05	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	7.25 4.43	3.75 5.85	7.25 4.43	Higher Moderate	4.95 10.00	Moderate Higher	6.10 7.22	7.25 7.22	7.05 6.68	4.00 5.42	3.36	5.87 6.80	1.98 2.78	2.11	5.49 6.63
Streamwater Warming (WW) Sediment & Toxicant Retention & Stabilization	4.43	2.46	3.56		5.25	Moderate	4.41	4.41	2.56	3.13	3.36	6.52	0.84	2.76	5.86
Phosphorus Retention (PR)	6.61	3.38	4.92	Moderate Moderate	4.74	Moderate	4.41	4.92	4.51	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	5.35	6.17	2.86	Moderate	6.99	Higher	4.92	4.92	4.92	2.33	2.19	4.64	3.25	2.43	4.94
Carbon Sequestration (CS)	6.55	0.17	4.82	Moderate	0.33	riigilei	4.82	4.82	4.82	6.53	3.66	6.43	3.20	2.17	4.34
Organic Nutrient Export (OE)	7.05	6.67	10.18	Higher	6.71	Moderate	8.44	10.18	10.00	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.58	10.00	5.63	Higher	10.00	Higher	7.82	7.82	7.82	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.96	6.25	4.90	Moderate	7.72	Higher	6.31	6.31	5.83	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	4.05	0.00	5.85	Moderate	0.00	Lower	2.93	5.85	5.85	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	7.32	10.00	9.04	Higher	10.00	Higher	9.52	9.52	9.49	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	8.11	7.15	12.07	Higher	9.58	Higher	10.83	12.07	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.66	9.53	9.22	Higher	9.44	Higher	9.33	9.33	9.68	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.54			3.17	Moderate	3.17	3.17	3.17				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		4.41			6.53	Moderate	6.53	6.53	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		6.83			7.19	Higher	7.19	7.19	7.57				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		5.40			8.42	Higher	8.42	8.42	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score	Group Rating					
HYDROLOGIC Group (WS)								1.44	Normalized 1.44	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C	S)							4.56	2.54	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW	)						8.96	8.97	Higher	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, W								4.87	3.81	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM,	PH, POL)							9.86	9.82	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)			AVG w/o Socia	with Socia	selected binks	normalize		8.89	10.00	Higher	3.66	6.58			
Overall Score (see Manual for explanation of how the spreadsheet	7.18		7.12	7.61	7.61	7.18									
Overall Rating:	Higher														

Site Name or ID #:	Angoon A	irnort															
Investigator Name:			nnon Accestati	00 (ECA)													
Date of Field Assessment:			ence Associate														
Nearest Town:			-22 June, 2017	r; 6-14 Jun	ie, 2018												
	Angoon, A																
Latitude (decimal degrees):	57.475520	)°															
Longitude (decimal degrees):	-134.55316	7°															
HUC12 Watershed # (from UAS web site):	19010204.	00															
Approximate size of the Assessment Area (AA, in	131.60																
AA as percent of entire wetland (approx.)	100.00																
Tidal phase during most of visit:	Low																
What percent (approx.) of the <b>wetland</b> were you																	
able to visit?	100.00																
What percent (approx.) of the <b>AA</b> were you able to	100.00																
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Famil	iar with p	rotoocl and co	ertified in	ORWAP												
How many wetlands have you assessed previously																	
using this protocol (approx.)?	6.00	OF Final C. Con Manual for definition and described of formation															
T T	ork sheets C	s OF, F, and S. See Manual for definitions and descriptions of how scores were															
comoufed.															VALUE		
WEODAY OF mario 2	ON COL									· ·	Thres	holds for		Thres	holds for		
WESPAK-SE version 2 scores for this N Wetland Assessment Area (AA):	ON-tidal									Median of		on Rating malized	Median of		e Rating malized		
Wettand Assessment Area (AA).										Normaliz	(11011	ore)	Normalize	(11011)	nanzeu nore)		
Specific Functions or Values:	Function Score raw	Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normaliz ed)	ed F	Low is < or =	High is >	d V	Low is < or =	High is >		
Surface Water Storage (WS)	6.28	1.11	5.79	Moderate	1.11	Lower	3.45	5.79	4.73	Scores 2.95	2.89	6.34	Scores 3.06	1.85	5.00		
Stream Flow Support (SFS)	8.33	2.80	10.00	Higher	4.21	Moderate	7.11	10.00	10.00	3.17	2.67	6.13	3.33	1.45	4.48		
Streamwater Cooling (WC)	10.00	3.00	10.00	Higher	3.96	Moderate	6.98	10.00	10.00	4.00	3.36	5.87	1.98	2.11	5.49		
Streamwater Warming (WW)	10.00	5.24	10.00	Higher	9.75	Higher	9.88	10.00	10.00	5.42	3.33	6.80	2.78	2.78	6.63		
Sediment & Toxicant Retention & Stabilization	6.11	0.28	5.05	Moderate	0.25	Lower	2.65	5.05	4.12	3.13	3.36	6.52	0.84	2.05	5.86		
Phosphorus Retention (PR)	7.67	1.54	6.51	Higher	1.79	Lower	4.15	6.51	6.23	3.34	3.06	6.17	1.27	2.45	5.73		
Nitrate Removal & Retention (NR)	5.38	3.17	2.90	Moderate	3.34	Moderate	3.12	3.12	3.12	2.33	2.19	4.64	3.25	2.17	4.94		
Carbon Sequestration (CS)	8.12	0.17	7.88	Higher	0.04	Woderate	7.88	7.88	7.88	6.53	3.66	6.43	0.20	2.11	7.07		
Organic Nutrient Export (OE)	4.93	5.70	7.12	Moderate	5.73	Moderate	6.43	7.12	7.12	7.68	0.00	7.59	7.00	0.00	7.00		
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67		
Resident & Other Fish Habitat (FR)	5.21	6.67	7.21	Moderate	6.67	Moderate	6.94	7.21	7.21	0.00	0.00	7.43	0.00	1.50	7.76		
Aquatic Invertebrate Habitat (INV)	5.98	10.00	6.45	Higher	10.00	Higher	8.22	8.22	8.22	3.92	2.48	5.04	2.22	2.50	6.43		
Amphibian Habitat (AM)	4.79	6.25	2.77	Lower	7.72	Higher	5.25	5.25	4.62	4.40	3.59	6.74	4.21	2.43	5.19		
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07		
Waterbird Nesting Habitat (WBN)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.58	0.00	6.44	6.90	1.67	8.70		
Songbird, Raptor, & Mammal Habitat (SBM)	5.14	10.00	6.34	Moderate	10.00	Higher	8.17	8.17	8.08	8.05	0.00	7.35	4.22	2.50	5.63		
Pollinator Habitat (POL)	6.67	7.15	9.76	Higher	9.58	Higher	9.67	9.76	9.74	4.94	2.45	5.38	4.15	2.65	5.83		
Native Plant Habitat (PH)	4.93	9.53	3.79	Lower	9.44	Higher	6.61	6.61	6.17	5.24	4.52	6.51	3.78	3.78	6.46		
Other Values or Attributes:																	
Public Use & Recognition (PU)		1.98			2.16	Lower	2.16	2.16	2.16				2.91	2.32	5.59		
Subsistence & Provisioning Services (Subsis)		7.78			7.78	Higher	7.78	7.78	7.78				5.00	0.00	6.67		
Wetland Sensitivity (Sens) - not used in subsequent calculations		5.14			9.05	Higher	9.05	9.05	10.00				5.91	5.03	7.46		
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.17			5.44	Higher	5.44	5.44	5.72				4.15	2.79	5.08		
Stress Potential (STR) - not used in subsequent calculations		4.70			6.84	Higher	6.84	6.84	10.00				6.43	3.31	5.73		
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating							
HYDROLOGIC Group (WS)								4.73	4.73	Moderate	3.08	5.91					
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C								6.61	5.87	Moderate	4.23	6.75					
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW	)						9.53	10.00	Higher	4.07	6.60					
FISH Group (max+avg/2 of FA, FR)	24.0							5.41	5.41	Moderate	2.52	5.83					
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WI								3.08	1.57	Lower	4.04	6.82					
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, SOCIAL GROUP (max+avg/2 of PU, Subsis)	-H, PUL)							8.87 7.78	8.50 8.91	Higher Higher	3.61 3.66	6.32 6.58					
SOCIAL GROUP (IIIAX+avg/2 01 PU, SUDSIS)			N/O ::: 2 :					1.18	0.91	nigner	3.00	0.58					
Overall Score (see Manual for			AVG W/o Socia	with Socia	selected higher	iormalized	1										
explanation of how the spreadsheet calculates it):	7.89		8.01	8.21	8.21	7.89											

Higher

Overall Rating:

TERRESTRIAL HABITAT Group (max+avg/2 of SBM, P

SOCIAL GROUP (max+avg/2 of PU, Subsis)

OVERAIL SCORE (see Manual for

explanation of how the spreadsheet

Overall Rating:

H, POL)

7.64

Highe

#### Group 6

Site Name or ID #:	Angoon Airport	
Investigator Name:	Environmental Science Associates (ESA)	
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018	
Nearest Town:	Angoon, Alaska	
Latitude (decimal degrees):	57.475520°	
Longitude (decimal degrees):	-134.553167°	
HUC12 Watershed # (from UAS web site):	19010204.00	
Approximate size of the Assessment Area (AA, in acres)	147.70	
AA as percent of entire wetland (approx.)	100.00	
Tidal phase during most of visit:	Low	
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00	
What percent (approx.) of the <b>AA</b> were you able to	100.00	
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Familiar with protoocl and certified in ORWAP	
How many wetlands have you assessed previously using this protocol (approx.)?	6.00	

FUNCTION VALUE WESPAK-SE version 2 scores for this NON-tidal Function Rating Value Rating Wetland Assessment Area (AA): Median Median o Value Score (normaliz ow is ow is ed F d V Specific Functions or Values: (normalized) Rating raw FV Index ed) ligh is ligh is core core Surface Water Storage (WS) 3.96 1.11 3.16 1.11 2.13 3.16 1.44 2.95 2.89 6.34 1.85 5.00 Lower 3.06 Stream Flow Support (SFS) 6.50 4.01 7.80 6.05 6.92 7.80 2.67 6.13 1.45 4.48 7.80 3.17 Streamwater Cooling (WC) 7.53 5 84 7 53 Higher 7.70 7.62 7.62 7 44 4.00 3.36 5.87 1 98 2.11 549 Streamwater Warming (WW) 4.03 4.63 4.03 8.61 6.32 5.61 5.42 3.33 6.80 2.78 6.63 Highe 6.32 2.78 Sediment & Toxicant Retention & Stabilization 5.33 2.85 4.06 6.14 Highe 5.10 5.10 4.24 3.13 3.36 6.52 0.84 2.05 5.86 6.15 Phosphorus Retention (PR) 6.99 4.68 5.48 6.82 Highe 6.15 5.84 3.34 3.06 6.17 1.27 2.45 5.73 5.39 6.00 2.91 6.78 4.85 4.85 4.85 2.33 2.19 4.64 3.25 2.17 4.94 Nitrate Removal & Retention (NR) Carbon Sequestration (CS) 6.66 5.04 5.04 5.04 5.04 6.53 3.66 6.43 6.86 7 83 9 92 9 92 Organic Nutrient Export (OE) 5.70 992 Higher 5.73 7 68 0.00 7 59 7 00 0.00 7 00 Anadromous Fish Habitat (FA) 5.01 4.71 6.53 4.71 5.62 6.53 6.53 0.00 2.93 7.23 0.00 0.63 6.67 Resident & Other Fish Habitat (FR) 5.93 6.67 8.20 6.67 7.44 8.20 8.20 0.00 0.00 7.43 0.00 1.50 7.76 Aquatic Invertebrate Habitat (INV) 5.12 10.00 4.70 10.00 7.35 7.35 7.35 3.92 2.48 5.04 2.50 6.43 Highe 2.22 Amphibian Habitat (AM) 5.72 6.25 4.45 7.72 6.09 6.09 5.57 4.40 3.59 6.74 4.21 2.43 5.19 Waterbird Feeding Habitat (WBF) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 4.60 0.00 5.68 2.53 0.85 4.07 0.00 2.62 5.24 4.58 6.44 1.67 Waterbird Nesting Habitat (WBN) 3.63 5.24 0.00 5.24 0.00 6.90 8.70 Songbird, Raptor, & Mammal Habitat (SBM) 7.37 10.00 9.10 Higher 10.00 Highe 9.55 9.55 9.53 8.05 0.00 7.35 4.22 2.50 5.63 Pollinator Habitat (POL) 7.94 7.15 11.81 9.58 Higher 10.69 11 81 10.00 4 94 2 45 5.38 4.15 2 65 5.83 6.48 9.44 9.04 9.04 9.31 5.24 3.78 6.46 Native Plant Habitat (PH) 9.53 8.65 Higher Highe 4.52 6.51 3.78 Other Values or Attributes: Public Use & Recognition (PU) 1.98 2.16 2.16 2.16 2.32 5.59 0.00 6.67 Subsistence & Provisioning Services (Subsis 7.78 7.78 7.78 7.78 7.78 5.00 Wetland Sensitivity (Sens) - not used in 4.46 6.72 6.72 5.03 7.46 Modera 6.72 10.00 5.91 subsequent calculations Wetland Ecological Condition (EC) - not used 6.42 6.75 6.75 6.75 7.11 4.15 2.79 5.08 Higher in subsequent calculations Stress Potential (STR) - not used in subsequent 4 90 7 29 3.31 7 29 Higher 7 29 10.00 643 5.73 calculations Group Score Group Score Rating Summary Scores for Groups: HYDROLOGIC Group (WS) 1.44 1.44 5.91 WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS 3.93 5.41 4.23 6.75 AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC, WW) 8.77 8 54 4.07 6.60 FISH Group (max+avg/2 of FA, FR) 7.79 7.79 Highe 2.52 5.83 AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN) 3.45 4.59 4.04 6.82

AVG w/o Sociawith Sociaselected highernormalized

8.00

7.64

8.00

7.78

9.81

7.78

9.74

8.91

3.61

3.66

6.32

6.58

Site Name or ID #:	Angoon Airport	
Investigator Name:	Environmental Science Associates (ESA)	
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018	
Nearest Town:	Angoon, Alaska	
Latitude (decimal degrees):	57.475520°	
Longitude (decimal degrees):	-134.553167°	
HUC12 Watershed # (from UAS web site):	19010204.00	
Approximate size of the Assessment Area (AA, in acres)	1.20	
AA as percent of entire wetland (approx.)	100.00	
Tidal phase during most of visit:	Low	
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00	
What percent (approx.) of the <b>AA</b> were you able to	100.00	
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Familiar with protocol and certified in ORWAP	
How many wetlands have you assessed previously using this protocol (approx.)?	6.00	

Scores will appear below after data are entered in work sheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

computed.										F	UNCTIO			VALUE	halda tax
WESPAK-SE version 2 scores for this N	ION-tidal											holds for on Rating			holds for e Rating
Wetland Assessment Area (AA):										Median of		nalized	Median of		malized
	Function	Score	Score	Functio	Value Score	Value	FV		(normaliz	Normaliz	Low is	ore)	Normalize	Low is	core)
Specific Functions or Values:	Score raw	raw	(normalized)	n Rating	(normalized)	Rating	raw	FV Index	ed)	ed F Scores	< or =	High is >	d V Scores	< or =	High is >
Surface Water Storage (WS)	2.13	0.56	1.08	Lower	0.56	Lower	0.82	1.08	0.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	8.06	4.35	9.67	Higher	6.55	Higher	8.11	9.67	9.67	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	4.69	5.89	4.69	Moderate	7.77	Higher	6.23	6.23	5.96	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	6.90	5.29	6.90	Higher	9.84	Higher	8.37	8.37	8.05	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization	4.09	3.75	2.48	Lower	8.20	Higher	5.34	5.34	4.81	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.46	5.24	1.71	Lower	7.71	Higher	4.71	4.71	4.27	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	5.62	5.88	3.26	Moderate	6.63	Higher	4.95	4.95	4.95	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	5.23		2.23	Lower			2.23	2.23	2.23	6.53	3.66	6.43			
Organic Nutrient Export (OE)	3.80	6.67	5.50	Moderate	6.71	Moderate	6.10	6.10	6.10	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	5.11	6.80	6.67	Moderate	6.80	Higher	6.73	6.73	6.73	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	6.69	6.80	9.26	Higher	6.80	Moderate	8.03	9.26	9.26	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.59	10.00	5.66	Higher	10.00	Higher	7.83	7.83	7.83	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	7.02	6.25	6.83	Higher	7.72	Higher	7.27	7.27	6.92	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	6.80	4.22	9.37	Higher	5.48	Higher	7.42	9.37	10.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	7.01	8.60	10.12	Higher	8.60	Moderate	9.36	10.12	10.00	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	4.77	10.00	5.88	Moderate	10.00	Higher	7.94	7.94	7.84	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	6.10	7.15	8.84	Higher	9.58	Higher	9.21	9.21	9.15	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.19	9.53	7.74	Higher	9.44	Higher	8.59	8.59	8.73	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.12			2.41	Moderate	2.41	2.41	2.41				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		3.21			2.40	Lower	2.40	2.40	0.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.58			5.88	Higher	5.88	5.88	6.19				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.66			6.77	Higher	6.77	6.77	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score	Group Rating					
HYDROLOGIC Group (WS)								0.00	Normalized 0.00	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C	S)							4.51	2.45	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW	)						8.60	8.15	Higher	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								8.63	8.63	Higher	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, W								9.49	9.56	Higher	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM,	PH, POL)							8.86	8.49	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			
Overall Score (see Manual for			AVG w/o Socia	with Socia	selected higher	normalized	i								
explanation of how the spreadsheet	8.09		7.89	8.38	8.38	8.09									
Overall Rating:	Higher														

Site Name or ID #:	Angoon Airport	
Investigator Name:	Environmental Science Associates (ESA)	
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018	
Nearest Town:	Angoon, Alaska	
Latitude (decimal degrees):	57.475520°	
Longitude (decimal degrees):	-134.553167°	
HUC12 Watershed # (from UAS web site):	19010204.00	
Approximate size of the Assessment Area (AA, in acres)	0.13	
AA as percent of entire wetland (approx.)	100.00	
Tidal phase during most of visit:	Low	
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00	
What percent (approx.) of the <b>AA</b> were you able to	100.00	
protocol? If so, indicate approximate month &	No. Familiar with protoocl and certified in ORWAP	
How many wetlands have you assessed previously using this protocol (approx.)?	6.00	

Scores will appear below after data are entered in work sheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

										FI	JNCTIC			VALUE	
WESPAK-SE version 2 scores for this N	ON_tidal											holds for on Ratina			sholds for
Wetland Assessment Area (AA):	OIV-liuai									Median of		on Kating malized	Median of		e Rating malized
										Normaliz	S	core)	Normalize	s	core)
Out of the Franchiscon of Walters	Function Score raw	Score	Score (normalized)	Function Rating	Value Score (normalized)	Value	FV raw	FV Index	(normaliz	ed F	Low is	I Barb to a	d V	Low is	I II ale ta a
Specific Functions or Values:		raw	(		, ,	Rating			ed)	Scores	< or =	High is >	Scores	< or =	High is >
Surface Water Storage (WS)	10.00	9.17	10.00	Higher	9.17	Higher	9.58	10.00	10.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	2.06	0.00	2.06	Lower	0.00	Lower	1.03	2.06	1.49	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	6.27	0.00	6.27	Moderate	0.00	Lower	3.13	6.27	5.55	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization	10.00	1.66	10.00	Higher	3.41	Moderate	6.71	10.00	10.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	10.00	7.78	10.00	Higher	10.00	Higher	10.00	10.00	10.00	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	10.00	3.58	10.00	Higher	3.85	Moderate	6.92	10.00	10.00	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.46		4.65	Moderate			4.65	4.65	4.65	6.53	3.66	6.43			
Organic Nutrient Export (OE)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	3.92	10.00	2.26	Lower	10.00	Higher	6.13	6.13	6.13	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.04	6.67	3.22	Lower	8.48	Higher	5.85	5.85	5.30	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	3.10	0.00	4.48	Moderate	0.00	Lower	2.24	4.48	4.48	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	5.31	8.89	6.56	Moderate	8.89	Higher	7.72	7.72	7.61	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	4.67	7.15	6.53	Higher	9.58	Higher	8.06	8.06	7.92	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	4.67	9.53	2.99	Lower	9.44	Higher	6.21	6.21	5.65	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		3.39			4.69	Moderate	4.69	4.69	4.69				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in		4.54			6.98	Moderate	6.98	6.98	10.00				5.91	5.03	7.46
subsequent calculations		4.04			0.50	Woderde	0.50	0.50	10.00				0.01	0.00	1.40
Wetland Ecological Condition (EC) - not used in subsequent calculations		3.22			3.39	Moderate	3.39	3.39	3.57				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		8.93			10.00	Higher	10.00	10.00	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								10.00	10.00	Higher	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C	S)							9.33	10.00	Higher	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW	)						4.38	0.00	Lower	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, W	,							4.28	3.07	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM,	PH, POL)							7.49	6.66	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			
L Werall Score (see Manual tor			AVG w/o Socia	with Socia	selected higher	normalized	i								
explanation of how the spreadsheet	7.45		7.48	7.84	7.84	7.45									
Overall Rating:	Higher														

3.0up >													
Site Name or ID #:	Angoon A	Airport											
Investigator Name:	Environm	ental Sci	ence Associate	es (ESA)									
Date of Field Assessment:	13-22 Auç	j, 2013; 15	-22 June, 2017	'; 6-14 Jun	ne, 2018								
Nearest Town:	Angoon,	Alaska											
Latitude (decimal degrees):	57.475520	0°											
Longitude (decimal degrees):	-134.55310	67°											
HUC12 Watershed # (from UAS web site):	19010204.	.00											
Approximate size of the Assessment Area (AA, in acres)	6.90												
AA as percent of entire wetland (approx.)	100.00												
Tidal phase during most of visit:	Low												
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00												
What percent (approx.) of the <b>AA</b> were you able to	100.00												
Have you attended a training session for this protocol? If so, indicate approximate month &	No. Fami	iliar with <sub>l</sub>	protocol and c	ertified/tr	ained in Ore	gon ORWA	P and	SFAM					
How many wetlands have you assessed previously using this protocol (approx.)?	6.00												
Scores will appear below after data are entered in w computed.	orksheets (	OF, F, and	S. See Manua	l for defini	tions and des	criptions of I	how sc	ores were					
									FUNCTIO	ON	V/	ALUE	

										FU	JNCTIC			VALUE	h - l - l - l
WESPAK-SE version 2 scores for this N	ION-tidal										Function	holds for on Rating		Value	holds for e Rating
Wetland Assessment Area (AA):											(norr	malized		(non	malized
Specific Functions or Values:	Function Score raw	Value Score raw	Function Score (normalized)	Functio n Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	FV Index (normaliz ed)	Median of Normaliz ed F Scores	Low is	High is >	Median of Normalize d V Scores	Low is < or =	High is >
Surface Water Storage (WS)	10.00	1.67	10.00	Higher	1.67	Lower	5.83	10.00	10.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	7.67	0.00	7.67	Higher	0.00	Lower	3.83	7.67	7.50	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	3.93	0.00	3.93	Moderate	0.00	Lower	1.97	3.93	2.76	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization	10.00	0.30	10.00	Higher	0.31	Lower	5.15	10.00	10.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	10.00	6.67	10.00	Higher	10.00	Higher	10.00	10.00	10.00	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	10.00	3.25	10.00	Higher	3.44	Moderate	6.72	10.00	10.00	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	7.35		6.38	Moderate			6.38	6.38	6.38	6.53	3.66	6.43			
Organic Nutrient Export (OE)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.12	10.00	4.70	Moderate	10.00	Higher	7.35	7.35	7.35	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.75	6.25	4.52	Moderate	7.72	Higher	6.12	6.12	5.61	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	2.92	0.00	4.21	Moderate	0.00	Lower	2.11	4.21	4.21	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	6.59	10.00	8.13	Higher	10.00	Higher	9.07	9.07	9.02	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	7.73	7.15	11.47	Higher	9.58	Higher	10.52	11.47	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	5.82	9.53	6.59	Higher	9.44	Higher	8.01	8.01	7.98	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:				, in the second		, i									
Public Use & Recognition (PU)		2.22			2.59	Moderate	2.59	2.59	2.59				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		4.59			7.14	Moderate	7.14	7.14	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		8.92			9.39	Higher	9.39	9.39	9.88				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		5.11			7.77	Higher	7.77	7.77	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								10.00	10.00	Higher	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, C	S)							9.55	10.00	Higher	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, C	E, WC, WW	)						5.51	1.22	Lower	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, W								4.44	3.27	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM,	PH, POL)							9.50	9.33	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			
Overall Score (see Manual for			AVG w/o Socia	with Socia	selected higher	normalized									
explanation of how the spreadsheet	7.79		7.82	8.13	8.13	7.79									
Overall Rating:	Higher														

## Appendix B

WESPAK-SE Workbooks for each
Wetland Group Assessed in the
Proposed Angoon Airport Project Area;
Presented in the Order They Appear in
Table 2 and Table 3



## **GROUP 1**

WESPAK SE TIDAL REPORT
Wetlands A1, A2, A3, A4, A5, A6, A7, A8, A9, A10

Scores for TIDAL Wetland Functions a	nd Values: WESPAK-SE version 2
Site Name or Site ID#:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed #:	19010204
Approximate size of the Assessment Area (AA, in	
acres)	8 acres, including area of open water (2.15 acres of fringe wetland)
AA as percent of entire wetland (approx.)	100
Tidal phase during most of visit:	Low
What percent (approx.) of the wetland were you	
able to visit?	100
What percent (approx.) of the AA were you able	
to visit?	100
Have you attended a training session for this	
protocol? If so, indicate approximate month &	
year.	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM
How many wetlands have you assessed	
previously using this protocol (approx.)?	6

Scores will appear below after data are entered in how scores were computed.	worksheets	s OF, T, an	d S. See Manua	al for defini	tions and desc	riptions of				F	UNCTIO		\	/ALUE	
WESPAK-SE version 2 scores for this 1 Assessment Area (AA):	Tidal Wet	land								Median of	Functio (norma	olds for n Rating lized	Median of	Thresho Value R (normal	
Functions and Their Values:	Score Raw	Score Raw	Score (normalized)	Function Rating	(normalized )	Value Rating	FV	FV Index	(normalize d)		Low is	High is >	d V Scores		High is > or =
Sediment Retention & Stabilization (SR)	7.25	10.00	6.33	High	10.00	High	8.17	8.17	7.90	4.11	3.56	5.96	5.22	5.22	10.00
Carbon Sequestration (CS)	6.64		3.85	Moderate			3.85	3.85	2.93	3.40	2.65	5.62			
Organic Nutrient Export (OE)	6.21		7.33	High			7.33	7.33	7.33	5.72	3.81	6.80			
Anadromous Fish Habitat (FA)	5.12	10.00	9.20	High	10.00	High	9.60	9.60	9.60	6.95	6.12	7.64	5.00	3.56	6.67
Waterbird Feeding Habitat (WBF)	6.94	10.00	8.92	High	10.00	High	9.46	9.46	9.46	4.12	3.34	5.88	0.00	0.00	0.67
Songbird, Raptor, & Mammal Habitat (SBM)	2.36	10.00	1.13	Low	10.00	High	5.57	5.57	5.18	5.79	2.98	6.41	0.00	0.00	10.00
Native Plant Habitat (PH)	3.60	1.00	1.71	Low	0.00	Low	0.86	1.71	1.43	5.14	2.93	6.42	2.59	2.59	6.30
Other Values or Attributes:															
Public Use (PU)		2.29			0.73	Low	0.73	0.73	0.00				4.40	3.30	6.24
Subsistence & Provisioning Services (Subsis)		4.35			6.53	Moderate	6.53	6.53	6.53				4.17	4.72	7.22
Wetland Sensitivity (Sens) - not used in subsequent calculations		3.35			2.51	Moderate	2.51	2.51	0.68				3.20	2.48	4.42
Stress Potential (STR) - not used in subsequent calculations		3.30			2.22	Moderate	2.22	2.22	0.96				2.89	1.72	4.13
						AV/C/a		a a la a ta al		1					

Overall Score (see Manual for explanation of how the spreadsheet calculates it):	5.36
Overall Rating:	Moderate

AVG w/o Social with selected Higher normalized 6.39 7.60 7.60 5.36

Д

# Office (OF) Data Form. Tidal WESPAK-SE version 2.0

WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: SR= Sediment Retention, CS= Carbon form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data Sequestration, OE= Organic Export, FA= Anadromous Fish, WBF= Feeding Waterbirds, SBM= Songbirds, Mammals, & Raptors, PH= Plant DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in last column below. Except where instructed otherwise, in the Data column change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so imagery. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each Habitat, PU= Public Use & Recognition, Subsis= Subsistence, Sens= Sensitivity, STR= Stressors.

#		Condition Choices	Data	Explanations, Definitions
0F1	Geography	Enter 1 for ALL that are true. The AA is located:		[CS, OE, FA, WBF, SBM]
		in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or estuaries	0	
		in another mainland area or inner coast	<del>-</del>	
		on or close to the outer coast	0	
0F2	Geomorphic Setting	As viewed at a coarse (e.g., 1.24000) scale, the AA is (select one):		Major river = channel >150 ft wide at mean annual flow. Head of title = the farthest point upriver where
		Adjoined by a major* river, and is closer to the upriver head-of-tide than to marine bays or ocean; if known, the water salinity is <5 ppt at low tide nearly all the year.	0	no darly incluatoris in water revers one to toes are noticeader, even during river base-now conditions. [CS, OE, FA, WBF, SBM, PH]
		Adjoined by a major* river, and is closer to marine bays or ocean than to upriver head-of-tide, may be in a river delta; if known, the water salinity is >5 ppt at low tide nearly all the year.	0	
		In a sheltered fish-accessible lagoon, embayment, pocket beach, or tidal slough with a relatively narrow connection to other marine waters and no direct river inputs (a small tributary may be present).	_	
		On a marine fjord, canal, or strait with no major river adjoining the AA itself.	0	
		Other setting	0	
0F3		From the center of the AA, the distance to the nearest population center, via the nearest maintained road, is:		"Population center" means a settled area with more than 50 year-round residents per square mile. The
	Population Center	<0.5 mile	0	road distance can be measured automatically by going online and entering the coordinates in mans.google.com [FAv. WBFv. SBM, PH. PU. Subsis]
		0.5 - 2 miles	<del>-</del>	
		2-5 miles	0	
		5-10 miles	0	
		>10 miles	0	
0F4	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or 0= no.	<del>-</del>	The route to other wetlands need not be direct – it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. Presence of culverts or bridges along the route is irrelevant. [SBM]
0F5		The distance from the center of the AA to the nearest maintained road (dirt or paved) is:		In the online WESPAK-SE Wetlands Module, Table of Contents, mark Transportation and ADOT road
	Road	<100 ft	0	layers to show road networks. [PH]
		100-500 ft	-	
		500-1000 ft	0	
		1000-2600 ft	0	
		0.5-1 mile	0	
		>1 mile	0	
0F6		Distance to Natural Land The minimum distance from the AA edge to the edge of the closest tract or corridor of natural (not necessarily native) land cover larger Cover		Natural cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas. It does not include water, glaciers, annual crops,

A Biological Wave Exposure	The <b>Biological Wave Exposure</b> of most of the AA is shown as: (see directions in column E)  very protected protected semi-protected semi-protected semi-exposed exposed or very exposed	E  1) In the Module's Table of Contents menu, click on ShoreZone.  2) Expand the menu (click on +) and check Derived ShoreZone Attributes.  3) Expand (+) that menu, then check BC Class. Web site may take up to 20 seconds to respond. [SR, CS, OE, WBF, SBM, Sens]
OF14 Distance to Separate Tidal Marsh	b by water to the closest tidal marsh <b>that is distinct from the AA</b> (>150 ft away and separated by subtidal water, permanent upland) is:	1) In the Module's Table of Contents menu, click on ShoreZone.  2) Expand the menu (dick on +) and check Biological Attributes, expand (+) that menu, then check Salt Marsh Vegetation and Sedges. Uncheck all others. Web site may take up to 20 seconds to respond.  4) Alternatively, check Response Attributes, expand that menu, then Environmental Sensitivity Index and look for Salt & Brackish Water Marsh.  5) Additionally, verify with aerial imagery and/or do field survey.  6) Additionally, verify with aerial imagery and/or do field survey.  6) Measure the inter-marsh distances from their edges. [FA, WBF, PHv, PU, Sens]
OF15 Distance to Eelgrass or Kelp	The distance by water to the dosest patch of <b>eelgrass or kelp</b> is [see <i>directions in column E</i> ]: <150 ft, or present within the AA 150-1000 ft	Follow steps 1 and 2 above, then check Seagrass Biobands and Canopy Kelp Biobands. Additionally, verify with aerial imagery and/or do field survey. [SRv, FA, WBF]  0
OF16 Adjoining Mudflat Width	The width of mudflat, measured at its widest point along a transect between the vegetated wetland and adjoining water that remains during mean daily low tide, is [see directions in column E]:  none (no adjoining mud flat is apparent at low tide)  <10 ft  10-100 ft  >100-1000 ft	"Mudifar" does not include areas that are mainly sand, cobble, or gravel. Base the determination on field observations during mean low tide, or by viewing aerial images at low tide, or by viewing the online Wetlands Module, select Best Available from the basemap menu to show aerial imagery and determine if a mudifat is present. If it is, click on Intertidal Areas-SEAK Hydro and increase the layer's transparency. Measure distance (mudifat width) from upland to Subtidal (or an adjoining permanent channel, if doser) on a line passing through the AA, and exclude the vegetated part of the AA from the measured width. [SR, WBF]
OF17 Input Tributary	s intersected by a freshwater stream (tributary) that flows during most of the growing season and originates in the upland directly this wetland. Or the AA is a fringe wetland along a river. If yes, enter 1 and continue. If no, enter 0 and <b>SKIP to 0F19.</b>	Interpret from aerial imagery or ground observations. [OE, FA, WBF, SBM, Subsis]
OF18 Fish Access or Use	The stream identified above: (select ONE – mark only the first applicable choice)  a) is accessible to anadromous fish at 1 mile above tidewater (some Class I streams). <b>SKIP to OF20.</b> b) is not accessible to anadromous fish 1 mile above tidewater, but doser portions above tidewater are accessible to anadromous fish (some Class I streams). <b>SKIP to OF20.</b> c) stream areas above tidewater support resident fish <b>only</b> ; anadromous fish access is blocked at tidewater (Class 2 streams).  d) stream areas above tidewater are not accessible to any fish (Class 3 and 4 streams).	In the online Wetlands Module, select SEAK Hydro Process Groups > Stream Class and be sure to UNcheck Process Groups (below it) and SEAK Hydro Streams (above it) to avoid confusing colors.  Simultaneously, check Habitat Layers > Anadromous Waters Catalog. If stream not shown or condition unknown, contact ADFG to be sure not Anadromous, and ask about other fish use. [FA, Subsis]
OF19 Distance to Anadromous Stream or River	dromous (Glass 1) stream or river, the water distance from the AA to the tidewater outlet of the nearest s anadromous fish is:	Follow instructions in OF18 to find other mapped anadromous fish waters. [SRv, FA]  0  1
OF20 Input Stream Gradient	The gradient of the largest intersecting stream (or if none, then the closest fish-bearing stream) averaged up to 1000 ft above tidewater, is: <1% 1-5%	Measure as vertical rise divided by 300 ft horizontal. [SRv, OE] 0

D 0 0 1 [SRv]	0 + 0	[SRv] 0 0 1	0 The score is based on the size of the estuary relative to others within its biogeographic province. [FA,WBF]	3 The rating is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability in other waters of their biogeographic province. [FA,WBF, Subsis]	[FAv, Subsis]	0 0 1	0 [PU]	0 voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites are shown online at. http://www.conservationregistry.org/ [PU]	0 [PU]	These are waterbird species of conservation concern that do not breed in Southeast Alaska, but feed here regularly during migration or winter. [WBFv, Sens]	0 0 0	1 These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. [SBMv, Sens]
										lomed		ıas
Northward (N, NE) Southward (S, SW) other (E, SE, W, NW), or no detectable uphill slope (flat) The percentage of the contributing area (measured to no more than 1000 fl upslope) that drains directly to the AA and is comprised of	buildings, roads, parking lots, other pavement, recent (<5 years old) clearcuts, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about : <10% 10 to 25% >25%	A relatively large proportion of the precipitation that falls on the slope adjoining the AA reaches this wetland quickly as runoff (surface water), as indicated by the following:  Mostly true  Somewhat true  Mostly untrue	In Manual, see Appendix B, Table B-1. If the AA is not within any of the units listed, enter 0. Otherwise enter the score indicated (3, 2, or 1, see table heading).	Refer to map in the Manual (Appendix A, Fig. A-1). Suitability surrounding the AA is: 3=Very High, 2= High, 1= Moderate, 0= all other.	The AA or waters that directly adjoin it:	is in Juneau or Ketchikan, and thus is a designated <b>Non-</b> subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries) is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps) neither of the above	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0, no information= change to blank.	Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore enhance, the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0, no information= change to blank.	Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends monitoring area.	Mark just the first choice below that is true. One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Homed Grebe, Trumpeter Swan — has been detected semi-annually under conditions similar to what now occur, by a qualified observer:	in the AA out within 0.5 mile, in a generally similar wetland.  outside the AA but within 0.5 miles, in a generally similar wetland.  outside the AA and 0.5 to 2 miles away, in a generally similar wetland.  beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	One or more of these species – Osprey, Peregrine Falcon, Queen Charlotte Goshawk, Olive-sided Flycatcher, Rusty Blackbird – has been detected <b>nesting</b> semi-annually along the AA's <b>upland edge</b> (within 300 ft) under conditions similar to what now occur, by a qualified observer. Enter "1" if yes, "0" if no or unknown.
B Unvegetated Surface in	the Contributing Area	Transport From Upslope	Large Estuarine Extent	Salmonid Watershed	Subsistence Focal Area		Mitigation Investment	Conservation Investment	Sustained Scientific Use	Non-breeding (Feeding) Waterbird Species of Conservation Concern		Songbird or Raptor Species of Conservation Concern
A 0F29		OF30	0F31 I	0F33 (	0F34		0F35 I		0F37 (	OF38 I		OF39 (

ш

[PHv, Sens] O 0 C An uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet below, has been detected within the AA under conditions similar to what now occur, by a qualified observer. Enter "1" if yes, "0" if no or unknown.

A B
OF40 Plant Species of
Conservation Concern

D	Data		0	0	_	∞		0	0	0	0	0	0	_		0	0	<b>—</b>	0	0
C)	Condition Choices	Enter "1" for all that are true:	Due to impassible culverts, tidegates, or other physical infrastructure barriers (not glacial uplift or other natural factors), anadromous fish cannot access part of the AA that currently is tidal.	Due to impassible culverts, tidegates, or other physical infrastructure barriers (not glacial uplift or other natural factors), anadromous fish cannot access a <b>contiguous non-tidal wetland or stream</b> which can be assumed to have been tidally connected within the past 100 years.	Neither is true, or uncertain.	For each condition listed in the rows in the table below, estimate how much of the AA's area (including its internal tidal channels) is likely to be accessible to small fish. Then select one number from each row, and sum the four numbers and enter the sum in the column to the right.	The percent of the vegetated part of the AA that is "low marsh" (covered by tidal water for part of almost every day) is:	none, or <1%	1-10%	10-25%	25-50%	92-15%	75-90%	%06<	Width of Vegetated Zone At daily <b>low</b> tide, the average width of vegetated area in the AA that separates adjoining uplands from most deepwater (subtidal water) at Daily Low Tide within or adjoining the AA, or from the largest intersecting river or tributary (whichever is less), is:	1-5 ft	5-25 ft	25-100 ft	100-300 ft	>300 ft
В	Indicator	Outflow Confinement				Tidal Regime	Low Marsh								Width of Vegetated Z at Daily Low Tide					
Α	#	Ξ				12	73								T4					

D (subtidal water)		0 0 + 0 0	d at	ط عt	d at dat	d at d at		
B Width of Vegetated Zone At daily <b>high</b> tide, the average width of vegetated area in the AA that separates adjoining uplands from most deepwater (subtidal water) at Daily High Tide within or adjoining the AA, or from the largest intersecting river or tributary (whichever is less), is:			:he extent of fish cover pi ood (thicker than 6 inche	the extent of fish cover prood (thicker than 6 inche from 6 inches above the	he extent of fish cover prood (thicker than 6 inchefrom 6 inches above this can occur if ground sonot closely hug the gro	he extent of fish cover prood (thicker than 6 inche from 6 inches above the his can occur if ground so not closely hug the groground foliage.	he extent of fish cover prood (thicker than 6 inchefrom 6 inches above this can occur if ground so not closely hug the groground foliage.  Ground foliage.  Prings are observed, or (prings are observed, or (prings are observed) or grandy, or grandy or grandy.	the extent of fish cover prood (thicker than 6 inche from 6 inches above the from 50 not closely hug the ground foliage.  Ground foliage.  The prings are observed, or () prings are observed, or () prings are observed, or () prings are observed in elevatic groundwater influx is un maximum of:
within or adjoining the AA, or from the largest intersecting river or tributary (whichever is less), is:			1-51 ft 5-25 ft 100-300 ft 100-300 ft >300 ft Within the part of the AA and its internal channels that remain underwater during mean daily low tide, the extent of fish cover provided that time by partly submerged vegetation, inchannel pools, horizontally incised banks, and pieces of wood (thicker than 6 inches and longer than 4 feet, or smaller pieces in dense accumulations) is:  Little or none Intermediate	AA and its internal channels that remain underwater during mean daily low tide, the extent of fish cover provided benesed vegetation, inchannel pools, horizontally incised banks, and pieces of wood (thicker than 6 inches and smaller pieces in dense accumulations) is:  'the AA that are not inundated by tides on most days, i.e., high marsh. Viewed from 6 inches above the soil in most of this area is:	5-25 ft 25-100 ft 100-300 ft 300-300 ft >300 ft  Within the part of the AA and its internal channels that remain underwater during mean daily low tide, the extent of fish cover provided a that time by partly submerged vegetation, inchannel pools, horizontally incised banks, and pieces of wood (thicker than 6 inches and longer than 4 feet, or smaller pieces in dense accumulations) is:  Little or none Intermediate Extensive Consider the parts of the AA that are not inundated by tides on most days, i.e., high marsh. Viewed from 6 inches above the soil surface, the condition in most of this area is:  Ittle or no (<5%) bare ground or plant litter (thatch) is visible between erect stems or under canopy. This can occur if ground surface is extensively blanketed by graminoids with great stem densities, or plants with ground-hugging foliage.  some (5-20%) bare ground or litter is visible. Herbaceous plants have moderate stem densities and do not closely hug the ground.	AA and its internal channels that remain underwater during mean daily low tide, the extent of fish benerged vegetation, inchannel pools, horizontally incised banks, and pieces of wood (thicker that smaller pieces in dense accumulations) is:  The AA that are <b>not inundated by tides</b> on most days, i.e., high marsh. Viewed <b>from 6 inches</b> in in <b>most</b> of this area is:  By ground or plant litter (thatch) is visible between erect stems or under canopy. This can occur if the y graminoids with great stem densities, or plants with ground-hugging foliage.  Tround or litter is visible. Herbaceous plants have moderate stem densities and do not closely hugground or plant litter is visible. Low stem density and/or tall plants with little near-ground foliage.	5-50 ft 55-10 ft 10-300 ft	5-26 ft 75-100 ft 100-300 ft -300 ft -
			during mean daily low tic cised banks, and pieces o	during mean daily low tic cised banks, and pieces of ys, i.e., high marsh. Viev	25-100 ft 100-300 ft 100-300 ft >300 ft >300 ft  Within the part of the AA and its internal channels that remain underwater during mean daily low tide, that time by partly submerged vegetation, inchannel pools, horizontally incised banks, and pieces of volonger than 4 feet, or smaller pieces in dense accumulations) is:  Little or none Intermediate Extensive Consider the parts of the AA that are <b>not inundated by tides</b> on most days, i.e., high marsh. Viewer surface, the condition in <b>most</b> of this area is:  Iittle or no (<5%) bare ground or plant litter (thatch) is visible between erect stems or under canopy. extensively blanketed by graminoids with great stem densities, or plants with ground-hugging foliage. some (5-20%) bare ground or litter is visible. Herbaceous plants have moderate stem densities and the stem of the condition in the condition of litter is visible. Herbaceous plants have moderate stem densities and the condition in the condition of litter is visible.	during mean daily low tic sised banks, and pieces of ys, i.e., high marsh. Viev ct stems or under canopy with ground-hugging foliag oderate stem densities an d/or tall plants with little n	during mean daily low tic sised banks, and pieces of stems or under canopy with ground-hugging foliagoderate stem densities an dior tall plants with little not at the marsh surface: (as at the marsh surface: (as at the marsh surface: (as end 1000 ft or until the fire end of 1000 ft or until the fire	during mean daily low tices of forbs reaches and pieces of the wetland.  Identify summer. Wetland as at the marsh surface: (a the wetland of 1000 ft or until the fire of 1000 ft or until the wetland.
			nain underwater during s, horizontally incised b ons) is:	nain underwater during s, horizontally incised b ons) is: ides on most days, i.e	nain underwater during, horizontally incised bons) is:  ides on most days, i.e. ble between erect stem sities, or plants with gro	nain underwater during, horizontally incised b ans) is: ble between erect sterrities, or plants with grost plants have moderate stem density and/or tall stem density and/or tall	Within the part of the AA and its internal channels that remain underwater during mea that time by partly submerged vegetation, inchannel pools, horizontally incised banks, longer than 4 feet, or smaller pieces in dense accumulations) is:  Little or none Intermediate  Extensive  Consider the parts of the AA that are <b>not inundated by tides</b> on most days, i.e., high <b>surface</b> , the condition in <b>most</b> of this area is:  little or no (<5%) bare ground or plant litter (thatch) is visible between erect stems or extensively blanketed by graminoids with great stem densities, or plants with ground-I some (5-20%) bare ground or plant litter is visible. Low stem density and/or tall plan mostly (>50%) bare ground or plant litter is visible. Low stem density and/or tall plan mostly (>50%) bare ground or accumulated plant litter.  Select one:  Select one:  Part of the AA contains <b>strong evidence</b> of fresh groundwater discharges at the marx measurements from shallow wells indicate groundwater is discharging to the wetland. Part of the AA has less definitive evidence of discharging groundwater during summ AND is at the base of a natural slope of >5% (as averaged over a distance of 1000 ft.)	nain underwater during s, horizontally incised b ans) is:  ble between erect stem sities, or plants with grostem density and/or tall stem density and/or tall groundwater during 3 d over a distance of 100 r discharge to or flow the r disc
			AA and its internal channels that remain ur omerged vegetation, inchannel pools, horiz smaller pieces in dense accumulations) is:	hannels that remain inchannel pools, hornse accumulations) in inundated by tides is:	hannels that remain inchannel pools, hornes accumulations) is rise.  In (thatch) is visible by great stem densities lie. Herbaceous plan	hannels that remain inchannel pools, hon nse accumulations) is inundated by tides a is:  ar (thatch) is visible by great stem densities le. Herbaceous plar is visible. Low stem ed plant litter.	hannels that remain inchannel pools, hon nse accumulations) in finundated by tides a is:  In (thatch) is visible by great stem densities ale. Herbaceous plants visible. Low stem at plant litter.  In of fresh groundwater is disc ce of discharging grants averaged ove 5% (as averaged ove	hannels that remain inchannel pools, hother accumulations) is a secumulations) in the accumulations and is:  In undated by tides as is:  In the there is wisible by great stem densities also great stem densities also great stem densities are the densities of fresh groundwater is discondinated over of fresh groundwater may discoundwater may discoundwater.", "high marsh"), the
			and its internal cha irged vegetation, in aller pieces in dens	and its internal cha riged vegetation, in aller pieces in dens AA that are <b>not in</b> <b>most</b> of this area is	and its internal cha erged vegetation, in aller pieces in dens AA that are <b>not in</b> <i>nost</i> of this area is <i>ound</i> or plant litter ( graminoids with grand or litter is visible.	and its internal cha riged vegetation, in aller pieces in dens most of this area is vund or plant litter ( graminoids with gre nd or litter is visible. Lind or plant litter is	and its internal cha arged vegetation, in aller pieces in dens most of this area is bund or plant litter ( graminoids with grand or litter is visible. Ind or plant litter is and or accumulated frong evidence of lefinitive evidence atural slope of >5%	and its internal cha arged vegetation, in aller pieces in dens most of this area is bund or plant litter ( graminoids with grand or litter is visible. Ind or plant litter is and or accumulated frong evidence of lefinitive evidence atural slope of >5% although some grount flood daily (i.e., '
	00 ft t	Within the part of the AA	that time by partly submer longer than 4 feet, or sma Little or none Intermediate	that time by partly submerged vegetation, inclonger than 4 feet, or smaller pieces in dense Little or none Intermediate Extensive Consider the parts of the AA that are not inusurface, the condition in most of this area is:	ne by partly submer than 4 feet, or sma rediate ediate sive the parts of the 4. The condition in receively blanketed by (6-20%) bare groun	that time by partly submerged vegetation, inchannel polonger than 4 feet, or smaller pieces in dense accumul. Little or none Intermediate Extensive Consider the parts of the AA that are not inundated be surface, the condition in most of this area is: Iittle or no (<5%) bare ground or plant litter (thatch) is extensively blanketed by graminoids with great stem d some (5-20%) bare ground or litter is visible. Herbace much (20-50%) bare ground or plant litter is visible. Lumostly (>50%) bare ground or accumulated plant litter. Select one:	ne by partly submer than 4 feet, or sma rr none ediate ediate sive the condition in res, the condition in rich (<5%) bare groun (5-20%) bare groun (<20-50%) bare groun (<50%) bare groun (<50%) bare groun one:	ne by partly submer than 4 feet, or sma rediate ediate sive the condition in rese, the condition in reserve from shall fithe AA contains st rements from shall fithe AA has less do ne stathe base of a ne rediabove is true, a sof the AA that dor sof the AA that dor
	1-5 ft 5-25 ft 25-100 ft 100-300 ft >300 ft	Within th	longer than 4 Little or none Intermediate			itter	ifter	itter
at Daily High Tide		Aquatic Cover		Bare Ground & Accumulated Plant Litter	e Ground & cumulated Plant L	Bare Ground & Accumulated Plant L Groundwater Seeps	e Ground & sumulated Plant L bundwater Seeps	Bare Ground & Accumulated Plant L Groundwater Seeps
atD		Aqu					T7 Bare Acci	Barr Acci Gro

Q 0 0		0	<del>-</del>	0	0		0	0	0	0	0	<del>-</del>	_	0	0		_	0	0	0	0		0 0	
50-95% of the herbaceous cover >95% of the herbaceous cover.	Of just the herbaceous (non-woody) plant species:	One or two species together comprise >50% of the areal cover of herbaceous plants at any time during the year, and one or both are non-native species (see NonNtvPlants worksheet tab).	One or two species together comprise >50% of the areal cover of herbaceous plants at any time during the year, and both are native species.	There are <b>several</b> herbaceous species, <b>including some non-natives</b> , but <b>no species is dominant</b> . That is, no two of the species together comprise >50% of the areal cover of herbaceous plants.	There are <b>several</b> herbaceous species but <b>no species is non-native or dominan</b> t. No two of the native species together comprise >50% of the areal cover of herbaceous plants.	Excluding subtidal waters and channels that stay flooded throughout the tidal cycle, the texture of soil in the uppermost layer in <b>most</b> of the AA is predominantly:	Loamy: includes loam, sandy loam.	Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam.	Organic, from surface to within 4 inches of surface only. Exclude live roots.	Organic, from surface to within 16 inches of surface only. Exclude live roots.	Organic, from surface to greater than 16 inch depth. Exclude live roots.	Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash. Large woody debris that rises at least 3 ft above the marsh terrace or is present in tidal channels is:	none or few (<1 per 10 acres)	intermediate	many (>5 pieces per 10 acres or per 10 channel widths)	On or near the AA's edge with upland (or the upper edge of tidal influence), the percent of the edge occupied by driftwood is:	none	1-25%	25 - 50%	50 - 75%	>75%	The cover of nitrogen-fixing plants (e.g., alder, sweetgale, legumes) along the AA's upland edge is:	<1% or none, or AA has no upland edge 1-25%	
В	Herbaceous Species					Soil Texture						Large Woody Debris				Driftwood						N Fixers		
A	T10					T1						T12				T13						T14		

D 0 1 1 0 ative)	0 0 0 0	0 0 0 till, the	0 0 - 0	avated 0 or other	t include tland 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
25-50% 50-75% >75% Within <b>100 ft upslope</b> of the AA's wetland-upland edge, the percentage of the upland that contains <i>natural</i> ( <b>not necessarily native</b> )		Within 100 ft upslope of the AA's wetland-upland edge, the upland cover that is NO I natural or water is mostly: impervious surface, e.g., paved road, parking lot, building, exposed rock. bare or semi-bare pervious surface, e.g., dirt road, dike, dunes, lawn, recent clearcut, landslide. Along the AA's wetland-upland edge and extending to the most extensive and/or closest disturbance feature within 100 ft uphill, the	slope of the land averages: <1% (flat – almost no noticeable slope) 2-5% 5-30%	In the AA or within its wetland or within 100 ft of the AA, there are elevated terrestrial features such as cliffs, stream banks, excavated pits, or pumice walls (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas.	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case include only the area occupied by the trail].  5% and no inhabited building is within 300 ft of the AA  5-50% and inhabited building is within 300 ft of the AA  5-50% and inhabited building is within 300 ft of the AA  5-50% and inhabited building is within 300 ft of the AA  5-50% and inhabited building is within 300 ft of the AA
B Natural Cover in Buffer		lype of Cover in Buffer Slope from Disturbed	Lands	Cliffs or Banks	Core Area 1
A T15	Š	116		T18	119

B Core Area 2	C The part of the AA visited by humans <b>almost daily for several weeks</b> during an average year probably comprises: [Note: Do not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case include only the area occupied by the trail].	О
	<5% 5-50%	0 +
	50-95% >95% of the AA	0 0
	The maximum percent of the wetland that is visible from the best vantage point on public roads, public parking lots, public buildings, or public maintained trails that intersect, adjoin, or are within 300 ft of the AA (select one) is:	•
	<25% 25-50%	0
	>50% Most of the AA's upland edge is (select one):	0
	publicly owned (federal, state, municipal) and leases are mostly excluded.	0
	otner publicity owned or unknown. owned by non-profit conservation organization or lease holder who allows public access. other private ownership, including Tribes,	0 0 -
	Non-consumptive Uses - Assuming access permission was granted, select <u>all</u> statements that are true of this AA as it currently exists:	
	Walking is physically possible in >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets. Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed most of the year by boat.	
	The AA adjoins or is within 0.5 mile of a <b>public</b> boat dock or ramp, ferry terminal, or airstrip or public lodge, campsite, snowmobile	
	park, or picnic area.	
BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	
	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	
	subsistence-focused harvesting of native plants, their fruits, or mushrooms	
	waterfowl hunting or furbearer trapping	0
	fishing (including shellfish harvest) None of the above	` _

Wetter Water Regime - Internal Causes			
•			
an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or dow	ingradient from the wetland, or raising of outlet culvert elev-	ition.	
excavation within the wetland, e.g., artificial pond, dead-end ditch			
excavation or reflooding of upland soils that adjoined the wetland, thus expanding			
plugging of ditches or drain tile that otherwise would drain the wetland (as part of	f intentional restoration, or due to lack of maintenance, sec	imentation, etc.)	
vegetation removal (e.g., logging) within the wetland			
compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result			
If any items were checked above, then for each row of the table below, you may			
the "0's" for the scores in the following rows. To estimate effects, contrast the cu	Severe (3 points)	Medium (2 points)	Mild (1 point)
Continuous of socialism matter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)
Spatial extent of resulting wetter condition  When most of wetland's wetter condition began	<3 vrs ago	3-9 yrs ago	10-100 yrs ago
Score the following 2 rows only if the wetter conditions began within past 10 years	.,	3-9 yis agu	10-100 yis ago
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often
Average water level increase	>1 ft	6-12"	<6 inches
	1 1 1		sum
			Final Score
			Filidi Scole
Wetter Water Regime - External Causes			
In the last column, place a check mark next to any item occurring in the wetland's would be without that item or activity. Consider only items occurring within past			uently, more deeply, and/or for longer duration than it
subsidies from stormwater, wastewater effluent, or septic system leakage	so you on allow notation and distalled or restored (mineria	10.10.10.10.10.10.10.10.10.10.10.10.10.1	
pavement, ditches, or drain tile in the CA that incidentally increase the transport	of water into the wetland		
removal of timber in the CA or along the wetland's tributaries			
removal of a water control structure or blockage in tributary upstream from the w	etland		
If any items were checked above, then for each row of the table below, you may		umn. However if you believe the checked items had as mos-	surable effect in making any part of the AA watter bases
the "0's" for the scores in the following rows. To estimate effects, contrast the cu			
	Severe (3 points)	Medium (2 points)	Mild (1 point)
Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland
When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago
Score the following 2 rows only if the wetter conditions began within past 10 years	ars, and only for the part of the wetland that got wetter.		
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often
Average water level increase	>1 ft	6-12"	<6 inches
			sun
			Final Score
Drier Water Regime - Internal Causes			
In the last column, place a check mark next to any item located within or immedia	staly adjacent to the wetland, that is likely to have caused s	nart of the welland to be inundated less extensively less de-	only loss fraguently and/or for shorter duration that it
would be without that item. Consider only items occurring within past 100 years			ppy, tood requestry, and or to director distances that it
ditches or drain tile in the wetland or along its edge that accelerate outflow from	the wetland		
lowering or enlargement of a surface water exit point (e.g., culvert) or modification	on of a water level control structure, resulting in quicker drai	nage	
accelerated downcutting or channelization of an adjacent or internal channel (in	cised below the historical water table level)		
placement of fill material			
withdrawals (e.g., pumping) of natural surface or ground water directly out of the	wetland (not its tributaries)		
If any items were checked above, then for each row of the table below, you may	assign points (3, 2, or 1 as shown in header) in the last col	umn. However, if you believe the checked items had no mea	surable effect in making any part of the AA wetter, leave
the "0's" for the scores in the following rows. To estimate effects, contrast the cu	,		e will compute automatically.
	Severe (3 points)	Medium (2 points)	Mild (1 point)
Spatial extent of wetland's resulting drier condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago
Score the following 2 rows only if the drier conditions began within past 10 year		eggennal in namintt	elightly abortor or lass - 6
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often
		seasonal vs. persistent 6-12"	<6 inches
Inundation now vs. previously	seldom vs. persistent		<6 inches
Inundation now vs. previously	seldom vs. persistent		<6 inches
Inundation now vs. previously	seldom vs. persistent		<6 inches
Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the welland's CA (	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to	6-12* have caused a part of the wetland to be inundated less exten	≪6 inches sun Final Score
Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's C4 duration that it would be without those. Consider only items occurring within pas	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to 1100 years or since welland was created or restored (which	6-12* have caused a part of the wetland to be inundated less exten	≪6 inches sun Final Score
Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes in the last column, piace a check mark next to any term within the welland's CA ( dividuals in that if word be without those. Consider only items occurring within as a dam, dike, levee, we'r, berm, or stdegate that interferes with natural inflow to the	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to 1100 years or since welland was created or restored (which	6-12* have caused a part of the wetland to be inundated less exten	≪6 inches sun Final Score
Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the welland's CA ( duration that if would be without those. Consider only items occurring within pas a dam, dike, leve, wit, berm, or delegate that inferiers with antural riflow to relocation of natural tributaries whose water would otherwise reach the welfand	seldom vs. persistent  >1 ft  including channels flowing into the welland) that is likely to 100 years or since welland was created or restored (which welland).	6-12* have caused a part of the wetland to be inundated less exten	≪6 inches sun Final Score
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Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (duration that it would be without those. Consider only items occurring within pas a dam, dike, levee, weir, berm, or fidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach.	seldom vs. persistent  >1 ft  >1 ft  including channels flowing into the wetland) that is likely to 100 years or since wetland was created or restored (which we wetland) that we wetland the wetland do not not not not not not not not not no	6-12*  have caused a part of the welland to be inundated less extentiver is less). [STR]  umn. However, if you believe the checked items had no mea	«S inches sur Sur Final Score sively, less deeply, less frequently, and/or for shorter survey, less deeply, less frequently, and/or for shorter of the AA wetter, leave.
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Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes in the last column, place a check mark next to any tem within the welland's CA ( duation that it would be without floss. Consider only items occurring within as a dam, dike, levee, weir, berm, or idegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetter stream water withdrawals from tributaries whose water would otherwise reach the groundwater withdrawals that divert water that would otherwise reach the wetter if any items were checked above, than for each row off the table below, you may the "Os" for the scores in the following rows. To estimate effects, contrast the cu	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to 1100 years or since wetland was created or restored (which is wetland  d  assign points (3, 2, or 1 as shown in header) in the last col ment condition with the condition if the checked items neve  Severe (3 points)	6-12*  have caused a part of the welland to be inundated less exterever is less). [STR]  umn. However, if you believe the checked items had no mea- roccurred or were no longer present. The sum and final sco  Medium (2 pts)	«S inches sum Final Score sively, less deeply, less frequently, and/or for shorter sively less deeply, less frequently, and/or for shorter sively less deeply, less frequently, and/or for shorter will compute automatically.  Mild (1 point)
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Drier Water Regime - External Causes  In the last column, place a check mark next to any item that is likely to have caused increases  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the welland's CA ( duration that it would be without those. Consider only items occurring within pass  a dam, dike, levee, wer, bern, or idegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the welland instream water withdrawals from tributaries whose water would otherwise reach the welland groundwater withdrawals from tributaries whose water would otherwise reach the welland groundwater withdrawals that divert water that would otherwise reach the welland instream water whose water conditions. The well-well of the table below, you may the "Vs" for the scores in the following rows. To estimate effects, contrast the cut of the following 2 tows only if the drier conditions. Began within past 10 year fundation now so. previously water level decrease  Altered Timing of Water Inputs  In the last column, place a check mark next to any item that is likely to have cause for regulation in the province of the	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to 1100 years or since wetland was created or restored (which is wetland) where the wetland or restored (which is wetland) which wetland do assign points (3, 2, or 1 as shown in header) in the last color ment condition with the condition if the checked items never Severe (3 points)  >20% of the wetland  < 3 yrs ago s. and only for the part of the wetland that god driver.  seldom vs. persistent  >1 ft  seld the timing of water inputs (but not necessarily their vor (harper or more frequent spikes but over shorter times, [indiagate or other control structure at water entry points that severe (3 pts)  -95% of wetland -3 yrs ago and only for the part of the wetland that experiences those shift of weeks	6-12"  have caused a part of the wetland to be inundated less exteriover is less). [STR]  mm. However, if you believe the checked items had no mea occurred or were no longue present. The sum and final scot Medium (2 ps)  5-20% of the wetland  3-9 yts ago  seasonal vs. persistent  1-12"  ume) to shift by hours, days, or weeks, becoming either mor A, FR, INV, PH, STR]  regulates inflow to the wetland  mm. However, if you believe the checked items had no mea occurred or were no longue present. The sum and final scot Medium (2 points)  5-95% of wetland  3-9 yts ago  shift of days intermediate	Source  Source  Final Score  Final Score  Final Score  Final Score  Sovely, less deeply, less frequently, and/or for shorter  source
Drier Water Regime - External Causes  In the last column, place a check mark next to any term thin the welland's CA ( during the color of the color	seldom vs. persistent  >1 ft  including channels flowing into the wetland) that is likely to 1100 years or since wetland was created or restored (which is wetland) the wetland of assign points (3, 2, or 1 as shown in header) in the last colorent condition with the condition if the checked items never seldom vs. persistent  >20% of the wetland <a href="Agy sago">3 yes ago</a> s. and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  seld the timing of water inputs (but not necessarily their vor (larger or more frequent spikes but over shorter times). [I disease or other control structure at water entry points that the condition with the condition if the checked items never server (3 piss)  >95% of wetland  < 1 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (3 yes ago and only for the part of the year (4 yes)  wetland or its CA – that is likely to have accelerated the inpustrial facilities    yes a extraction, other sources (see: http://map.dec.state.a.)	6-12"  have caused a part of the wetland to be inundated less exteriover is less). [STR]  mm. However, if you believe the checked items had no mea occurred or were no longue present. The sum and final scot Medium (2 ps)  5-20% of the wetland  3-9 yts ago  seasonal vs. persistent  1-12"  ume) to shift by hours, days, or weeks, becoming either mor A, FR, INV, PH, STR]  regulates inflow to the wetland  mm. However, if you believe the checked items had no mea occurred or were no longue present. The sum and final scot Medium (2 points)  5-95% of wetland  3-9 yts ago  shift of days intermediate	Source  Source  Final Score  Final Score  Final Score  Final Score  Sovely, less deeply, less frequently, and/or for shorter  source

	Severe (3 points)	Medium (2 points)	Mild (1 point)
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	mildly impacting (reclaimed mine, low density residential
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly
AA proximity to main sources (actual or potential)	0-50 ft	50-300 ft or in groundwater	in other part of the CA
	<u> </u>		sum:
			Final Score
Accelerated Inputs of Nutrients			
In the last column, place a check mark next to any item occurring in either the	wetland or its CA that is likely to have accelerated the inc.	uts of nutrients to the wetland ISTRI	
stormwater or wastewater effluent (including failing septic systems), landfills		1	
fertilizers applied to lawns, ag lands, or other areas in the CA			
livestock, dogs			
artificial drainage of upslope lands			
If any items were checked above, then for each row of the table below, you may	assign points (3, 2, or 1 as shown in header) in the last col	umn. However, if you believe the checked items had no mea	surable effect in making any part of the AA wetter, leave
the "0's" for the scores in the following rows. To estimate effects, contrast the cu	ment condition with the condition if the checked items neve		
	Severe (3 points)	Medium (2 points)	Mild (1 point)
Type of loading	high density of unmaintained septic, some types of industrial sources	moderate density septic, cropland, secondary wastewater treatment plant	livestock, pets, low density residential
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly
AA proximity to main sources (actual or potential)	0-50 ft	50-300 ft or in groundwater	in other part of the CA
, , , , , , , , , , , , , , , , , , ,	10.5	¥ · · · · · ·	sum
			Final Score:
			. aidi Scole
Excessive Sediment Loading from Contributing Area			
In the last column, place a check mark next to any item present in the CA that is	•	e sediment reaching the wetland from its CA. [FA, INV, SRv,	STRJ
erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, fire	ns -		
erosion from construction, in-channel machinery in the CA			
erosion from off-road vehicles in the CA			
erosion from livestock or foot traffic in the CA			
stormwater or wastewater effluent			
sediment from road sanding, gravel mining, other mining, oil/ gas extraction			
accelerated channel downcutting or headcutting of tributaries due to altered land	fuse		
other human-related disturbances within the CA			
If any items were checked above, then for each row of the table below, you may the "0's" for the scores in the following rows. To estimate effects, contrast the cu	assign points (3, 2, or 1 as shown in header) in the last col	umn. However, if you believe the checked items had no mea	surable effect in making any part of the AA wetter, leave
the US for the Scores in the following lows. To estimate effects, contrast the cu	Severe (3 points)	Medium (2 points)	Mild (1 point)
		potentially (based on high-intensity* land use) or scattered	
Erosion in CA	extensive evidence, high intensity*	evidence	no direct evidence
	current & ongoing	1-12 months ago	>1 yr ago
Recentness of significant soil disturbance in the CA	content a ongoing	frequent but mostly seasonal	
Recentness of significant soil disturbance in the CA  Duration of sediment inputs to the wetland	frequent and year-round	rrequent but mostly seasonal	infrequent & during high runoff events mainly
Duration of sediment inputs to the wetland AA proximity to actual or potential sources	frequent and year-round 0-50 ft, or farther but on steep erodible slopes	50-300 ft	infrequent & during high runoff events mainly in other part of the CA
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erc	frequent and year-round 0-50 ft, or farther but on steep erodible slopes	50-300 ft	
Duration of sediment inputs to the wetland AA proximity to actual or potential sources	frequent and year-round 0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erc	frequent and year-round 0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  * high-intensity= extensive off-road vehicle use, plowing, grading, excavation, erc	frequent and year-round 0-50 ft, or farther but on steep erodible slopes sosion with or without veg removat; low-intensity= veg remo	50-300 ft	in other part of the CA
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  Thigh-intensity extensive off-oad vehicle use, plowing, grading, excavation, ercolor sediment  Soil or Sediment Alteration Within the Assessment A  In the last column, place a check mark next to any tem present in the wetland the	frequent and year-round 0-50 ft, or farther but on steep erodble slopes assion with or without veg removal; low-intensity= veg removal; low-in	50-300 ft S0-300 ft val only with little or no apparent erosion or disturbance of	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  Thigh-intensity- extensive off-road vehicle use, plowing, grading, excavation, ere soil or sediment  Soil or Sediment Alteration Within the Assessment A in the last column, place a check mark next to any item present in the wetland the (whichever is lesse), ICS, INV, INP, PL STR]	frequent and year-round 0-50 ft, or farther but on steep erodble slopes scion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered	50-300 ft S0-300 ft val only with little or no apparent erosion or disturbance of	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  "high-inlensity" extensive off-oad vehicle use, plowing, grading, excavation, ere soil or sediment  Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any tem present in the wetland the (winchever is less). ICS, INV, INP, IP, IP, IP  compaction from machinery, off-road vehicles, or mountain bikes, especially duri	frequent and year-round 0-50 ft, or farther but on steep erodble slopes scion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered	50-300 ft S0-300 ft val only with little or no apparent erosion or disturbance of	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  Thigh-intensity extensive off-road vehicle use, plowing, grading, excavation, ere soil or sediment  Soil or Sediment Alteration Within the Assessment A  In the last column, place a check mark next to any item present in the wetland the (shichever is less) [CS, IW, NR, PH, STR]  compaction from machinery, off-road whiches, or mountain blace, especially duri leveling or other grading not to the natural contour	frequent and year-round 0-50 ft, or farther but on steep erodble slopes scion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered	50-300 ft S0-300 ft val only with little or no apparent erosion or disturbance of	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-hinarys: ventraive off-road vehicle use, plowing, grading, excavation, ere poil or sediment  Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any 8em present in the wetland th  inchinchever's less], [CS, INV, INR, PH, STR]  compaction from machinery, off-road vehicles, or mountain bikes, especially duri  leveling or other grading not to the natural contour  stage, plowing (but excluding disking for enhancement of native plants)	frequent and year-round 0-50 ft, or farther but on steep erodible slopes soion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, ended, or otherwise altered ing wetter periods	50-300 ft val only with little or no apparent erosion or disturbance of val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **Thigh-intensity- extensive off-road vehicle use, plowing, grading, excavation, ere soil or sediment.  **Soil or **Sediment Alteration Within the Assessment A in the last column, place a check mark next to any item present in the wetland the whitchever is lass), (CS, NM, NR, PM, STR)  compaction from machinery, off-road vehicles, or mountain bikes, especially durit leveling or other grading not to the natural contour  stillage, plowing fout excluding disking for enhancement of native plants)  fill or riprap, excluding small amounts of upland soils containing organic amendin  fill or riprap, excluding small amounts of upland soils containing organic amendin	frequent and year-round 0-50 ft, or farther but on steep erodible slopes soion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, ended, or otherwise altered ing wetter periods	50-300 ft val only with little or no apparent erosion or disturbance of val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  *high-intensity extensive off-road vehicle use, plowing, grading, excavation, ercisol or sediment  Soil or Sediment Alteration Within the Assessment of in the lists column, place a check mark next to any tem present in the wetland the lethickness is less), [CS, INV, INP, PM, STR]  compaction from anchiency, off-road whiches, or mountain bikes, especially duri leveling or other grading not to the natural contour  stillage, plowing tout excluding disking for enhancement of native plants)  fills or propap, excluding small amounts of upland soils containing organic amendm excavation	frequent and year-round 0-50 ft, or farther but on steep erodible slopes soion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, ended, or otherwise altered ing wetter periods	50-300 ft val only with little or no apparent erosion or disturbance of val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-intensityextensive off-road vehicle use, plowing, grading, excavation, ere soil or sediment  Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any tem present in the wetland th (whichever's less), [CS, INV, INP, PM, STR]  compaction from machinery, off-road vehicles, or mountain bites, especially duri leveling or other grading not to the natural contour  Slage, plowing (but excluding disking for enhancement of native plants)  18 or riprap, excluding small amounts of upland soils containing organic amendre accavation  ditch cleaning or dredging in or adjacent to the wetland	frequent and year-round 0-50 ft, or farther but on steep erod bie slopes soion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered ing wetter periods  nents (compost, etc.) or small amounts of topsoil imported to	50-300 ft val only with little or no apparent erosion or disturbance of val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas	in other part of the CA sum: Final Score:
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  "high-intensity-extensive off-oad vehicle use, plowing, grading, excavation, erc soil or sediment  Soil or Sediment Alteration Within the Assessment A in the last column, place a check mark next to any item present in the wetland th (whichever is less), [CS. INV, IR. PH, STR]  compaction from machinery, off-oad vehicles, or mountain bikes, especially duri leveling or othe grading not to the natival contour  tillage, plowing (but excluding disking for enhancement of native plants)  till or ripna, excluding small amounts of upland soils containing organic amendre excavation  dish dealing or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or	frequent and year-round 0-50 ft, or farther but on steep erodbie slopes selson with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered ing wetter periods  ments (compost, etc.) or small amounts of topsoil imported fi sitr bottom sediments	50-300 ft val only with little or no apparent erosion or disturbance of val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas	in other part of the CA sum: Final Score:
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Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  "high-intensity-extensive off-oad vehicle use, plowing, grading, excavation, erc soil or sediment  Soil or Sediment Alteration Within the Assessment A in the last column, place a check mark next to any item present in the wetland th (whichever is less), [CS. INV, IR. PH, STR]  compaction from machinery, off-oad vehicles, or mountain bikes, especially duri leveling or othe grading not to the natival contour  tillage, plowing (but excluding disking for enhancement of native plants)  till or ripna, excluding small amounts of upland soils containing organic amendre excavation  dish dealing or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or	frequent and year-round 0-50 ft, or farther but on steep erod bie slopes soion with or without veg removal; low-intensity= veg remo  Area ar is likely to have compacted, eroded, or otherwise altered ing wetter periods  series (compost, etc.) or small amounts of topsoil imported it sit bottom sediments mediments mediments assign points (3, 2, or 1 as shown in header) in the last col	50-300 ft val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas from another wetland	in other part of the CA sum Final Score: 100 years or since welland was created or restored
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-initingsty-extensive off-oad vehicle use, plowing, grading, excavation, erricol or sediment  **Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any item present in the wetland th (whichever's less), [CS, IW, NR, PH, STR]  compaction from machinery, off-oad vehicles, or mountain bites, especially duri teveling or other grading not to the natural contour  stillage, plowing (but excluding disking for enhancement of native plants)  still or ripps, excluding small amounts of upland soils containing organic amendre accavation ditch cleaning or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or  afficial water level or flow manipulations sufficient to cause shore erosion or still before, you may  flam y items were checked above, then for each row of the table beow, you may  flam y items were checked above, then for each row of the table beow, you may	frequent and year-round 0-50 ft, or farther but on steep erod bie slopes soion with or without veg removal; low-intensity= veg remo  Area ar is likely to have compacted, eroded, or otherwise altered ing wetter periods  series (compost, etc.) or small amounts of topsoil imported it sit bottom sediments mediments mediments assign points (3, 2, or 1 as shown in header) in the last col	50-300 ft val only with little or no apparent erosion or disturbance of the wetland's soil. Consider only items occurring within pas from another wetland	in other part of the CA sum Final Score: 100 years or since welland was created or restored
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-initingsty-extensive off-oad vehicle use, plowing, grading, excavation, erricol or sediment  **Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any item present in the wetland th (whichever's less), [CS, IW, NR, PH, STR]  compaction from machinery, off-oad vehicles, or mountain bites, especially duri teveling or other grading not to the natural contour  stillage, plowing (but excluding disking for enhancement of native plants)  still or ripps, excluding small amounts of upland soils containing organic amendre accavation ditch cleaning or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or  afficial water level or flow manipulations sufficient to cause shore erosion or still before, you may  flam y items were checked above, then for each row of the table beow, you may  flam y items were checked above, then for each row of the table beow, you may	frequent and year-round 0-50 ft, or farther but on steep erod bie slopes sick on with or without veg removal: low-intensity=veg remo  Area  at a likely to have compacted, eroded, or otherwise altered ang wetter periods  wetter periods  entity (compost, etc.) or small amounts of topsoil imported ft sir bottom sediments assign points (3, 2, or 1 as shown in header) in the last col remot condition with the condition if the checked items neve  Severe (3 points)	50-300 ft val only with little or no apparent erosion or disturbance of lithe welland's soil. Consider only items occurring within pas trom another welland  tumn. However, if you believe the checked items had no mere occurred or were no longer present. The sum and final sco Medium (2 points)	in other part of the CA  sum  Final Score-  100 years or since welland was created or restored  100 years or since welland was created or restored  survable effect in making any part of the AA wetter, leave re will compute automatically.  Mild (1 point)
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **Thigh-intensity-extensive off-road vehicle use, plowing, grading, excavation, erroll of sediment  **Soil or **Sediment Alteration Within the Assessment A*  In the last column, place a check mark next to any item present in the wetland the (whichever is less). [CS, INV, INR, PH, STR]  compaction from machinery, off-road whiches, or mountain bikes, especially during the less of the property of the grading not to the natural contour  thisgae, plowing (but excluding disking for enhancement of native plants)  Iffor riprap, excluding small amounts of upland soils containing organic amending excavation  ditch cleaning or dredging in or adjacent to the wetland  boot traffic in varies or flow manipulsions sufficient to cause ensoin or sis bothout  if any items were checked above, then for each row of the table below, you may the "Os" for the scores in the following rows. To estimate effects, contrast the cut-	frequent and year-round 0-50 ft, or farther but on steep erod bie slopes soion with or without veg removal; low-intensity= veg remo  Area at is likely to have compacted, eroded, or otherwise altered ing wetter periods  bents (compost, etc.) or small amounts of topsoil imported if sit bottom sediments in sediments assign points (3, 2, or 1 as shown in header in the last col revolt condition with the condition if the checked illems neve  Severe (3 points)  -95% of wetland or >95% of its upland edge (if any)	50-300 ft  val only with little or no apparent erosion or disturbance of  val only with little or no apparent erosion or disturbance of  little wedland's soil. Consider only items occurring within pas  irom another wedland  irom another wedla	in other part of the CA sum: Final Score: 100 years or since wetland was created or restored surable effect in making any part of the AA wetter, leave well compute automatically. Mild (1 point) <5% of wetland and <5% of its upland edge (if any)
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-initingsty-extensive off-oad vehicle use, plowing, grading, excavation, erricol or sediment  **Soil or **Sediment Alteration Within the Assessment A in the last column, place a check mark next to any item present in the wetland the (whichever's less), [CS, INV, INR, PH, STR]  compaction from machinery, off-oad vehicles, or mountain bixes, especially furl leveling or other grading not to the natural contour  stillage, plowing (but excluding disking for enhancement of native plants)  still or rippa, excluding small amounts of upland soils containing organic amendre accuration ditch cleaning or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or still claim the research level or flow manipulations sufficient to cause shore erosion or still claim y items were checked above, then for each row of the table below, you may the "Os* for the scores in the following rows. To estimate effects, contrast the cut.  Spetial extent of altered soil  Recentness of significant soil alteration in wetland	frequent and year-round 0-50 ft, or farther but on steep erodible slopes solon with or without veg removal; low-intensity= veg remo  Area  at is likely to have compacted, eroded, or otherwise altered ing wetter periods  entity (compost, etc.) or small amounts of topsoil imported if sit bottom sediments mediments assign points (3, 2, or 1 as shown in header) in the last col ment condition with the condition if the checked items neve  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any) current & ongoing)	50-300 ft  val only with little or no apparent erosion or disturbance of  val only with little or no apparent erosion or disturbance of  if the welfand's soil. Consider only items occurring within pass  rom another welfand   tumn. However, if you believe the checked items had no me,  roccurred or were no longer present. The sum and final soc  Medium (2 points)  5-95% of welfand or 5-95% of its upland edge (if any)  1-12 months ago	in other part of the CA sum Final Score:  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland and year of the AA wetter, leave re will compute automatically.  Milet (1 point)  100 years or since welland years or since years or since years or since years or since years or ye
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  *high-intensity extensive off-road vehicle use, plowing, grading, excavation, ercolor or sediment  Soil or Sediment Alteration Within the Assessment A  in the last column, place a check mark next to any tem present in the wetland the hischever's less), ICS, INV, INR, PM, STRJ  compaction from machinery, off-road whiches, or mountain bikes, especially during the properties of the grading not to the natural contour  stillage, plowing (but excluding small amounts of upland soils containing organic amendment of making the properties of the deciding or deeping and amounts of upland soils containing organic amendment cavavation  ditch cleaning or dredging in or adjacent to the wetland boat traffic in or adjacent to the wetland soil training or adjacent to the wetland  but training were checked above, then for each row of the table below, you may then "Os" for the scores in the following rows. To estimate effects, contrast the cut  Spatial extent of altered soil  Recentness of significant soil alteration in wetland  Duration	frequent and year-round  0-50 ft, or farther but on steep erod bie slopes sist on with or without veg removal: low-intensity= veg remo  Area  at a likely to have compacted, eroded, or otherwise altered ang wetter periods  wetter periods  entry sir bottom sediments assign points (3, 2, or f as shown in header) in the last col remot condition with the condition if the checked items neve  Severe (3 points)  >>5% of wetland or >95% of its upland edge (if any) current & ongoing long-lasting, minimal way recovery	50-300 ft val only with little or no apparent erosion or disturbance of lithe welland's soil. Consider only items occurring within pas from another welland  trom another welland  trom. However, if you believe the checked items had no mer occurred or were no longer present. The sum and final soc  Medium (2 points) 5-95% of wetland of 5-95 hot its upland edge (if any) 1-12 months ago bong-lasting but mostly revegetated	in other part of the CA  sum: Final Score: 100 years or since welland was created or restored  surrable effect in making any part of the AA wetter, leave re will compute automatically.  Milet (5% of wetland and 4% of ist upland edge (if any)  >1 yr ago  short-term, revegetated, not intense
Duration of sediment inputs to the wetland  AA proximity to actual or potential sources  **High-intensity	frequent and year-round 0-50 ft, or farther but on steep erodible slopes solon with or without veg removal; low-intensity= veg remo  Area  at is likely to have compacted, eroded, or otherwise altered ing wetter periods  entity (compost, etc.) or small amounts of topsoil imported if sit bottom sediments mediments assign points (3, 2, or 1 as shown in header) in the last col ment condition with the condition if the checked items neve  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any) current & ongoing)	50-300 ft  val only with little or no apparent erosion or disturbance of  val only with little or no apparent erosion or disturbance of  if the welfand's soil. Consider only items occurring within pass  rom another welfand   tumn. However, if you believe the checked items had no me,  roccurred or were no longer present. The sum and final soc  Medium (2 points)  5-95% of welfand or 5-95% of its upland edge (if any)  1-12 months ago	in other part of the CA sum Final Score:  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland was created or restored  100 years or since welland and year of the AA wetter, leave re will compute automatically.  Milet (1 point)  100 years or since welland years or since years or since years or since years or since years or ye

## GROUP 2

## WESPAK SE NON-TIDAL REPORT Wetlands B, J

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Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	0.60
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to visit?	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

!										F	UNCTIO	N		VALUE	
WESPAK-SE version 2 scores for this NON- Assessment Area (AA):	tidal Wetland									Median of	Functi (nor	noids for on Rating malized core)		I hres Valu (noi	sholds for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Function Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	FV Index (normalize d)	Normalize d F Scores	Low is	High is >	Median of Normalized V Scores	Low is	High is >
Surface Water Storage (WS)	6.06	7.78	5.54	Moderate	7.78	Higher	6.66	6.66	5.82	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	1.36	0.81	1.63	Lower	1.22	Lower	1.43	1.63	1.63	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	2.33	1.67	2.33	Lower	2.20	Moderate	2.27	2.33	1.79	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	5.93	0.62	5.93	Moderate	1.16	Lower	3.54	5.93	5.15	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	5.00	3.60	3.64	Moderate	7.85	Higher	5.74	5.74	5.80	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.00	7.78	1.02	Lower	10.00	Higher	5.51	5.51	5.14	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	4.72	6.50	1.89	Lower	7.39	Higher	4.64	4.64	4.64	2.33	2.19	4.64	3.25	2.43	4.94
Carbon Sequestration (CS)	5.22	0.50	2.22	Lower	1.00	Higher	2.22	2.22	2.22	6.53	3.66	6.43	0.20	2.11	4.54
	4.75	5.70	6.86	Moderate	5.73	Moderate	6.30	6.86	6.86	7.68	0.00	7.59	7.00	0.00	7.00
Organic Nutrient Export (OE)		0.00					0.00		0.00	0.00					
Anadromous Fish Habitat (FA)	0.00		0.00	Lower	0.00	Lower		0.00		0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00		0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	3.24	10.00	0.88	Lower	10.00	Higher	5.44	5.44	5.44	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.09	6.67	3.32	Lower	8.48	Higher	5.90	5.90	5.36	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	3.88	0.00	5.61	Moderate	0.00	Lower	2.80	5.61	5.61	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	5.83	8.89	7.20	Moderate	8.89	Higher	8.04	8.04	7.95	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	3.46	7.15	4.59	Moderate	9.58	Higher	7.08	7.08	6.89	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	4.75	9.53	3.24	Lower	9.44	Higher	6.34	6.34	5.81	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		3.06			4.09	Moderate	4.09	4.09	4.09				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		3.58			3.68	Lower	3.68	3.68	4.03				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		2.53			2.66	Lower	2.66	2.66	2.80				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		7.31			10.00	Higher	10.00	10.00	10.00				6.43	3.31	5.73
2								Group Score Not Normalized	Group Score Normalized	Group Rating					
Summary Scores for Groups:										ū	2.00	5.04			
HYDROLOGIC Group (WS)								5.82 5.12	5.82 3.46	Moderate	3.08 4.23	5.91 6.75			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)  AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WG	\W\W\							5.12	1.23	Lower	4.23	6.60			
FISH Group (max+avg/2 of FA, FR)	, ****)							0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								4.63	3.51	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, PC	L)							7.41	6.56	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			
1			AVG w/o Social	with Social	selected higher	normalized									
Overall Score (see Manual for explanation of how the spreadsheet calculates it):	6.68		4.99	7.18	7.18	6.68									

Overall Score (see Manual for explanation of how the spreadsheet calculates it):

Overall Rating:

Moderate

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¢ (	0		
Data Fo	orm OF (Office)	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
	NNS: Conduct an as in the Data column primarily based on y may require conferr form requires 1-2 h is of each WESPAK w Support, WC= W ion, OE= Organic E	explanation nultiple choi shaded par shaded par or reviewing on pertains, Codes for fu on, PR= Ph childent Fish, A childrent Fish, A chil	Site Location: Angoon Alaska Investigator: ESA Staff  Date: 13-22 Aug. 2013: 15-22 June, 2017: 6-14 June, 2018  Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
2 Nesting Wa	aterbirds, SBM= SO	Nesting waterbirds, 56W= Songolids, Marintals, & Raptors, PUL= Pollinators, PT= Plant Habitat, PU= Public Use & Recognition, Subsistence, EU=	Evaluations Definitions
DF1	Distance by Boad to	Measured along the maintained road or host landing that is pearest the AA the distance to the pearest bouilation center is:	"Ponilation center" means a settled area with more than about 50 year-round residents per square
		ב מוסוק מוס ווומווומוווסט וסמס סו מסמן ומוסוון עו וופמוסטן נווס ראי נווס	mile, IFAv. FRv. NRv. WBFv. PH. PU. SBM. Subsisi
5 Center		<0.5 mile	
9		0.5 - 2 miles	0
7		2-5 miles	0
∞		5-10 miles	0
6		>10 miles	0
OF2 Wild	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other	
10		separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	http://seakgis.alaaka.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3	Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
11 Mair	Maintained Road		http://seakgis.alaska.edu/flex/wetlands/ [FAv. FRv. AM. PH. PU. SBM. WBN]
12		<100 ft	
13		100-500 ft	0
14		500-1000 ft	
15		1000 ft - 0.5 mile	
2 -		0 5. 4 mile	
91			
T			
OF4 Distan 18 Cover	Distance to Natural Land Cover	If The minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native—see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and clearcuts harvested more than 10
61		<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses,
20		<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	oroads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21		150-300 ft, with or without interrupting features	online WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be located driving a site user. Do not include page of the popural concernately or confider that are
22		300-1000 ft, with or without interrupting features	0 narrower than 150 ft. [AM, SBM, Sens]
23		none of the above	0
OF5 Size	Size of Largest Nearby Tract or Corridor of	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA (i.e., not completely separated by highways or channels that are uniformly wider than 150 ftl, occupies:	View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear cap of >150 ft. if the cap is comorised of impervious surface, here
	Natural Land Cover	(1 acre or larger hit with average width <150 ff	dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
57 6		1. The series	Ì
97		11.00 control	tool to determine acreage. [AM, SBM, Sens, WBN]
27		10-100 dotes	
07 02		>1000 acres.	
9 <u>+</u> 0	Natural Land Cover	Within a 2-mile radius measured from the center of the AA, the percent of the land that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should
30 Extent	ent		be examined to answer this. [AM, SBM]

Form OF Non-tidal

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31	,	<5% of the land (excluding ocean and bav)	0	נ
		5 to 20% of the land		
37		ייין איין איין איין איין איין איין איין	o (	
33		20 to 60% of the land	Э	
34		60 to 90% of the land	_	
35		>90% of the land. <b>SKIP to OF8.</b>	0	
36 OF7	Type of Land Cover	Within a 2-mile radius measured from the center of the AA, the area that is not natural land cover or water is mostly:		[AM, SBM]
37	Alteration	impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
38		bare pervious surface, e.g., recent (5 yrs ago) clearout, dirt or gravel road, plowed fields, landslide.	1	
0F8		Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		Aerial imagery should be examined to help answer this, and land cover maps contained in the online
(	Uniqueness	as being intersected by the AA, or a "2" next to ones which (a) are present in the AA and (b) ALSO comprise less than 10% of the landscape outside of the AA but within 2 miles.		WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv, INVv, PHv. SBMv, POL. Sens]
39				
40		Fresh Water	2	
41		Wetland	1	
42		Muskeg	0	
43		Herbaceous	2	
4		Shrubland (Low)	0	
45		Shrubland (Tall)	1	
46		Deciduous/Mixed Forest	2	
47		Conifer Forest - Young or Small	1	
48		Conifer Forest - Medium	1	
49		Conifer Forest - Large	0	
20		Wetland Shrub Forest	1	
51		other	0	
Ş		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90%, of the landscape uniside of the AA and within 2 miles. Enter "y" in the next column	0	
25		above in the factor of the fac	c	
53		no Level 3 cover type maps available for this area, but from aerfal imagery it appears that the AA does NO I contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "I" in the next column.	0	
OF9 54		If any of the above were marked "Z", the distance from the AA edge to the closest one that was so marked is:		[INVv, AMv, SBMv, POLv, PHv, Sens]
55	Uncommon Cover Type	<150 ft	1	
99		150 - 500 ft	0	
57		500 - 1000 ft	0	
28		1000 ft - 1 mile	0	
65		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10 61	Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or tidal system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
62		0	0	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
63		10.2	1	they are inundated and water is ponded at least seasonally. [AM, PH, SBM, Sens, WBF, WBN]
\$		3106	0	
65		7 to 9	0	
99		10 to 12	0	
29		>12	0	
OF11 68	1 Ponded Water Proximity	r The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		"Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. "Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	Crassilication Lever 1 layer and took for bring pulygoris. If it until the simaller water bourds are senarated by <150 ft they may be combined when evaluating acreage. I AM. PH. SRM. Sens. WRF.

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A B	ους 4000 ε 1 1 1 1 1 1 1		
71	SUD-TUDU TI, and connected with a natural land comidor	WBN]	
72	300-1000 ft, but no uninterrupted natural land corridor	0	
73	>1000 ft, and connected with a natural land corridor		
74	>1000 ft, but no uninterrupted natural land corridor	0	
OF12 Distance to Lake	The distance from the AA edge to the closest (but separate) lake (a non-tidal body of water that is bonded during most of the year and is	In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 layer and look	aver and look
		for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they	ed by <150 ft they
92	<1 mile	may be combined when evaluating acreage. [Sens, WBF, WBN]	
ĹĹ.	1-5 miles		
78	>5 miles and on the mainland or the same island	0	
62	>5 miles and on a different island	0	
OF13 Tidal Proximity	The distance from the AA edge to the closest tidal water body is:	[AM, FA, FR, INV, NR, OEv, PH, PR, PU, SBM, Sens, SR, Subsis, WBF, WBN, WS, WWV]	, wwv]
000	5300.6	T,	
81	300.11		
82	000 1 000 1		
83	IUUUπ - I mile		
84	1-5 miles	0	
85	>5 miles	0	
OF14 Upland Edge Contact	Select one:	"other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland	he same wetland
87	The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	out will be unarrected by proposed alteration. [NK, 55M, 56Ns]	
	1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
88 T	OF FAM - 5th - AM		
68	25-50% of the AA's perimeter abuts uptand. The rest adjoins other wetlands or water that is mostly wider than the AA.		
06	50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91	More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.		
_		Г	robobility,
OF15 Hoodable Property 92	From floodplain maps, topographic maps, aerial imagery, and/or contacts with FEMA and public works departments, determine IF: downslope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillslope runoff, or sudden icefalls AND  (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams. If true, enter "1" in next column. If false, enter "0".	Vetchikan and perhaps a few other communities have maps showing the 10L-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]	robability Module: SEAK
OF16 Glacier Fed	Refer to the Glaciers map in the online WESPAK-SE Wetlands Module. Select the first applicable choice:	[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]	
94	No upstream glacier feeds <b>surface</b> water to the AA, not even seasonally.		
95	A glacier feeds streamflow or other surface water to the AA and it obviously reduces water darity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0	
96	A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water clarity.	0	
OF17 Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:	Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,	2%, can be INV, NRv, PRv,
86	a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0 Subsis, WBF, WBN	
66	<ul> <li>b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	0	
100	c) is not accessible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	0	
101	d) is fishless (i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)		
102	e) fish presence and potential fish access are unknown and undeterminable.	0	
OF18 Designated IBA	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit (Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forrester Island (Prince of Wales-Outer Ketchikan), Stikine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WBNv]	slacksand Spit d (Sitka), etersburg).
103			

0	
within 1 mile downslope, and connected to the AA by a channel	

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OF19	Deer Winter Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	0	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20 105	0 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
107		67-87 inches	1	and ratitude: [51.50, OE]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
111		>165 inches	0	
112		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
113	Allica.	modera as (rounce to the legres) whole mained).		cens covering ocululeast Alaska. The injuries data are not into diagon ocase onlyeisity Finish. Plimato Cocino and are based on the alimate normals for the pariod 1081 2010, as well as alevation.
114		<38 degrees F	0	Clinidae Group and are based on the clinidae normals for the period 1901-2010, as well as elevation and lattings. RM CS FR INV NR OF PH PR Sens SR WRF WC WS WMV.
115		38-40 degrees F	0	
116		41-42 degrees F	1	
117		43-44 degrees F	0	
118		> 44 degrees F	0	
119		no information available	0	
0F22	2 Basic pH or Karst	The AA (a) is in a karst area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>←</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adiantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa), [AM, FA, FR, INV, OE, PH]
120	_			
0F23	3 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Granitic Geology. The AA is underlain primarily by granitic formations or glacial till that is known to be granitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	if deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	4 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landsides.  Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or classifications intersect the AA.	0	Zones of past and possibly future elosion. [PT, PKV, Sens, SKV]
124		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
126		no information	1	
OF25	5 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first rue statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem; If no quality-controlled sampling has been done, then a statement or rating
128		within the AA	0	occurrier ining the problem and published in a recent agency report or onlicial correspondence may be counted. Also, if time allows, query and retrieve water quality data from:
129		in waters within 1 mile that flow into the AA.	0	http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
130		Sampling (not just absence of map symbols) indicates no problems.	0	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
131		insufficient data (no map symbols $\&$ no sampling, or >1 mile upstream).	1	STR, WBF, WBNJ
OF26	6 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters <b>downslope from</b> the AA. Or, other sampling has identified such a problem downslope. Select the <b>first</b> true statement. These conditions are present:		See above. [SRv]
132		within 1 mila downselone, and connected to the $\Delta A$ by a channel	c	
133		Within Thie downslope, and connected to the AA by a channel	>	

Form OF Non-tidal

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Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.	<u>is</u>	Site Name: Angoon Airport
(false) observed and over all Program Appen Water 2 inverted in the control of th	CTIONS: Conduct an as to to a 1 (true) for the best vations and interpretation where or other knowledga listing of functions to whi and X of the accompany. Warming, SR= Sedimer ebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3 #	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	[Ā]	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
F1.1		Forested Peatland	Sc (Sc Inc	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water. Includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2		Open Peatland	O Tre	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface.  Tree cover is <5% and cover of fall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Su Of O is l un	Surface water is more extensive, at least seasonally. More emergent than tall (>3 ft) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, it largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4:		Floodplain Wetland	At du du song	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are silt or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous; often alder, willow, devil's club. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
F1.5		Uplift Meadow	Mc Na Mc Ous Ous	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downcut. Mostly sweetgale and/or herbaceous vegetation, e.g., silverweed, iris, Lyngbye's sedge. Tree cover usually <30%, Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	Int lev 0 are fre	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	T H	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WW]
12		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA newer contains surface water	0	
14		25-50% of the AA never contains surface water.	o <b>-</b>	

A	В	)	E
15		50-99% of the AA never contains surface water.	0
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
17		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to F30.	0
_		10	ייי וייי וייי און
7	% with Persistent	The percentage of the AA that has <b>surface</b> water (either ponded or flowing, either open or obscured by vegetation) during <b>all</b> of the growing	0.01 acre is about 20 it on a side if square. This is the <u>cumulative</u> acreage of all areas that have surface
18	Surface water	season dunng most years is:	water. Sites led by glaciers, or by unregulated streams that descend on north-racing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	femain wet longer into the summer. Indicators of persistence may include itsn, some dragonilles,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	0 isoluda information on activation participance IAM CS EA ED IMV NID DOLIDE SPM MADE MIDNI
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	III GALGE III GALGA GALG
22		25-50% of the AA	
33		50-95% of the AA	0
3 2		295% of the AA	
t 1	عو موناموطان مستاسوسسين	_	7
۲ <u>۲</u>	Water	At michay during the warmest time when sounde water is present, the area of water <u>within</u> the AA triacis shaded by vegetation, incised channels, streambanks, or other features also present within the AA is:	consider the aspect and surrounding topographic refler as well as vegetation height and density. [FA, WC, WW]
G (		KEV, at the unsterin abaded	
56		Co% of the water is shaded	
27		5-25% of the water is shaded	0
28		25-50% of the water is shaded	0
59		50-75% of the water is shaded	0
30		>75% of the water is shaded	
_		AND THE PROPERTY OF THE PROPER	+
£	Fringe Wetland	The AA adjoins a take, stream, or river wose wetted width (not counting the AA's wettend) during mean annual conditions to gleater than 50 ft.	[WBF, WBN, WC, WWW]
		and aso lines unless the vegetated wettails average would inteasured perpendicular to distance, in the entire in allo continues. It lasse,	
31		leave the U and continue.	
P6	Lacustrine Wetland	The AA borders a body of ponded open water whose size (not counting the AA's wetland) exceeds 20 acres during most of the growing	
32		season. Enter "1" if true, "0" if false.	(WBN)
F7	% Flooded Only	The percentage of the AA soil that is covered by surface water only during the wettest time of year, and for >2 continuous weeks during that	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that
33	Seasonally	time, is:	flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are
3		e19, or eft fil acre whicheviar is lass. SKID to Eq	
34		170 UV.O. I duer, milatrata is less. Out 10.1 s.	Jahren (Vs. perennial) plant species. In fiverine systems, the extent of this zone can be estimated by the first first for the configuration of the configuration of the first form the first fir
35		1-25%	Infutipying by 2 the banktur height and visualizing where that wount intercept the land along the river.  O Affhough useful only as a general quide, the NWI's water regime modifier code and NRCS soil survey.
3		25-50%	Т
36			saturation persistence. The wettest times in Southeast Alaska typically occur during late fall, during rain
37		90-95%	events after the ground is frozen, and/or during spring snowmelt. Near melting glaciers, surface water
38		%56<	may be present mainly in summer. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
<u>8</u>	Annual Water Fluctuation	The maximum annual fluctuation in surface water within the AA is:	IAM. CS. INV. NR. OE. PH. PR. SR. WBN. WSI
39	Range		
40	)		0
41		0.5-1#	0
42		13.11	
43		>3ft	0
F9	Predominant Depth	During most of the growing season, surface water depth in <b>most</b> of the area where it is present is: [Note: This is not asking for the maximum Inport 1]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow dentes may be measured by drilling through winter ine. This question is asking about the
<del>1</del>		Christian Caracter Ca	
45		VU.Sit deep (but >u)	temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth
46		0.5 - 1 ft deep	
47		1-2 ft deep	0 well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
48		2-6 ft deep	0
49		>6 ft deep. True for many fringe wetlands.	0

	4	2	-
V 0		Doubt Class Distribution Mhon second surface under in most of the AM usually consists of Calculation.	[] Estimate these associators by considering the analysis and misroteneously of the city Oce disease in
50 610		when present, surace water in those of the Am usually consists of (sefect one).	Estimate triese proportions by considering the gradient and microtopography or the site. See diagram in the manual IFR INV MRE WRNI
51		One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth class that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes o vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		90-75%	0
09		>75%	0
F13	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the AA that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant inclicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AMI, CJ, INK, OE, PT, PK, SBM, SBIS, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, do not consider herbaceous plants. Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so snould not be attempted. [AW, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has <b>ponded</b> surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWJ]
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	0
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
76		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16 79	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WWJ
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	0
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	
F17 86	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]

		4		
A	В			Ę
87		scattered in small clumps, islands, or patches throughout the surface water area.		
88		intermediate		
08		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers		
_	T	יייי יייי יייי יייי ייייי ייייי ייייי יייי		
F18 90	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater substrate. If true, enter "4" in next column. If unitue or uncertain, enter "0".	[EC, PR, WBF]	
F19	Ice Cover	loe (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	Available data suggest this ranking from shorte Annette, Sitka, Little Port Walter, Juneau, Yaku	Available data suggest this ranking from shortest to longest ice duration based on location. Ketchikan, Annette, Sitka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as
91			elevation, water body deptn, and flow velocity s SFS, SR, WBF, WS]	elevation, water body deptin, and thow velocity should be considered. [AW, CS, FK, NK, CE, FK, Sens, SFS, SR, WBF, WS]
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	[FR, OE, PR, WW]	
F21	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	[WBN]	
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):	[FA, FR, PH, SBM, Sens, WBF, WBN]	
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may indude: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		
5		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But		
/6		Deaver occas in the region (i.e., within 10 miles) or on same stand).  none Reaver are absent from the region and/or the island		
F23	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either		
66		open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).		
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.		
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.		
103		5-30% of the AA.		
104		30-70% of the AA.		
105		70-95% of the AA.		
106		>95% of the AA.		
F24 107	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a lake or river. Often shown as a channel on a lopo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If talse, enter 0 and SKIP to F28.	[NRv, PH, PRv, SRv]	
F25		Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	[WC, WWv]	
108	Temperature	years. Enter 1= yes, 0= no.		
F26 109	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:	Estimate gradient by dividing the elevation diffe	Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		%\		
111		1-5%		
112		>30%		
F27	Throughflow Complexity	_	[FA, FR, INV, NR, OE, PR, SR, WS]	
114	· ·			

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A	C  C  C  C  C  C  C  C  C  C  C  C  C	B
115		1
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the dosest off-site downstope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year), almost always shown on stream maps, or determine from your dry-season observation.	0F35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	near a channel. A channel is defined as an observably incised langiorn triat transports surface water in a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none — but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur during the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
7.0	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not annear to drain the welland artificially during most of the proving season	1 N., OE, P.Y. Gells, O.Y. Woj
128	leaves through natural exits, not mainly through artificial or temporary features.	0
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wettand artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lyloglice 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very close to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul><li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li><li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li><li>(d) AA is located at a geologic fault.</li></ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	
136 137	75.5% 25.50%	
138	50-75%	0
139	>75%	0
Tree & Tall Shrub	Within the vegetated part of the AA, just the <b>trees</b> that are taller than 20 ft occupy.	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for existed weeks of the ground general. The "constituted not include the find the thought of the country.
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	1 submersed aquatics, IPH, SBM, Sens
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% or the Vegerated AA	0
145	>95% of the Vegetated part of the AA	

<u>n</u>	Do not count trees if they merely hang into the wellt	0 submersed aquatics. [CS, OE, INV, SBM, PH]	0	0	0	0	Int The trees and shrubs need not be wetland species. Measurements are the d.b.h., the diameter of the tree measured at 4.5 ft above the ground. [AM, CS, POL, SBM, Sens, WBN]	0	0	0	0	0	0	0	Snags are standing trees at least 10 ft tall that are mainly without bark or foliage. [POL, SBM, WBN]		0	0	Exclude temporary "burn piles." [AM, INV, POL, SBM]	0	0	The "vegetated part" may include moss, but it should not include floating-leaved or submersed aquatics.	[Alw, FT, SDW]	0	0	0	EC, PH, SBM, Sens]	-	0		whereas those that show "fine-grained" forests suggest more even-aged, even-sized forest with little interspersion. [SBM, Sens]	0	0	nd	
	Within the vegetated part of the AA, just the deciduous trees that are taller than 20 ft occupy:	<1% of the vegetated AA	1-25% of the vegetated AA	25-50% of the vegetated AA	50-95% of the vegetated AA	>95% of the vegetated part of the AA		evergreen 1-4" diameter and >3 ft tall	deciduous 1-4" diameter and >3 ft tall	evergreen 4-9" diameter	deciduous 4-9" diameter	evergreen 9-21" diameter	deciduous 9-21" diameter	evergreen >21" drameter Admiditione >24" drameter	The number of large snags (diameter >8") in the AA plus the area within 100 ft uphill of the closest upland to the wetland edge is:	Several (>2/acre) and a pond or lake of at least 1 acre is within 1 mile.	Several (>2/acre) but above not true.	Few or none	The number of downed wood pieces longer than 6 ft and with diameter >6", and not persistently submerged, is:	Several (>5 if AA is >10 acres, or >2 for smaller AAs)	Few or none	Woody vegetation 3 to 20 ft tall that is not under the drip line of trees is:	<5% of the vegetated AA and (if a fringe wetland) <5% of its water edge. Or <0.01 acre. SKIP to F41.	5-25% of the vegetated AA or (if a fringe wetland) 5-25% of the water edge whichever is greater.	25-50% of the vegetated AA or the water edge, whichever is greater.	30-95% of the vegetated AA of the water edge, whichever is greater. 368% of the vancitated nort of the AA or the water adno whichever is creater.	Determine which two native shrub species (3 to 20 ft tall) comprise the greatest portion of the native shrub cover. Then choose one:	those species together comprise > 50% of the areal cover of native shrub species.	those species together do <b>not</b> comprise > 50% of the areal cover of native shrub species.	In "ducks-eye view", the distribution pattern of woody vegetation (including low shrubs) VS. unshaded herbaceous/moss vegetation within the AA is:	(a) Woody cover and herbaceous/moss cover EACH comprise 30-70% of the vegetated part of the AA, AND (b) There are many patches of woody vegetation scattered widely within herbaceous/moss vegetation, or many patches of herbaceous vegetation scattered widely within woody vegetation.	(a) Woody cover and herbaceous/moss EACH comprise 30-70% of the vegetated AA, AND (b) There are f <u>ew</u> patches ("slands") of woody vegetation scattered widely within herbaceous vegetation, or few patches of herbaceous/moss vegetation ("gaps") scattered widely within woody vegetation.	(a) Woody cover <b>OR</b> herbaceous/moss comprise >7 <b>0%</b> of the vegetated AA, AND (b) There are several patches of the other scattered within it. (e.g., forested AAs with patches – not limited to corridors – of skunk cabbage, or muskeg with scattered shrubs).	(a) Woody over OR herbaceous/moss comprise >70% of the vegetated AA, AND (b) The other is absent or is mostly in a single area or distinct zone with almost no intermixing of woody and unshaded herbaceous/moss vegetation.	ZUIR WIII AIIIOSI IIO IIIGIIIIMII O II WOODY AID MISIAACA HADAACAAN WAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
A	Deciduous Trees						34 Woody Diameter Classes								F35 Snags				F36 Downed Wood			37 Exposed Shrub Canopy 1					F38 Shrub Species			Woody-Herbaceous Interspersion					

V	В		(Included the control of the control
183		<1% of the AA's vegetated area, or largest patch occupies less than 400 sq. ft	o soils with little moss ground cover, such as burns, clearcuts, landslides, avalanche paths, abandoned
184		1-25% of the vegetated area	beaver flowages, areas of recent glacial rebound or deglaciation, heavily grazed or drained lands, and
185		25-50% of the vegetated area	0 floodplains [CS, INV, OE, PH, SBM]
186		50-75% of the vegetated area	0
187		>75% of the vegetated area	0
100 F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			Irchens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
160		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
161		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	0
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens,
200			SR
201		little or no (<5%) bare ground is visible between erect stems or under canopy <u>and</u> ground surface is extensively blanketed by moss, lichens, loraminoids with great stem densities, or plants with ground-hugging foliage.	0
200		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		nostly (>50%) bare ground or ground covered only with thatch.	
205		Not applicable. Surface water (either open or obsoured by emergent plants) covers all of the AA all the time.	0
F44	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised	"Microtopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only
206		mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	by inorganic features, except where living plants have created depressions or mounds (hummocks) of soil. Do not count incised channels and other "macon" features. If notes of the all are flat but others.
207		Few or none (minimal microtopography; <1% of that area)	There is the contract of the c
208		Intermediate	the AA that lack persistent water. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
209		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	define the size threshold. Upland inclusions may sometimes be created by fill. JAM. NR. SBM.
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at load 2 widoly proceed localized and use the soil to	"Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Ol" horizon. Theo colls are much less common in Boodelaine. Do not include dutt flores common in absorbed.
214		reas, o mony spaced recursors, and use the son texture key in Appendix C or the mandar. It organize, use shover to dig overn to no deput or until hitting mineral soil, whichever is first, then measure.]	e.g., dead plant leaves and stems). If exture varies greatly, base durant on which the control of the control o
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA trial lack persistent water. [Co., NR, OF, Ph, PK, Sens, SPS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, loam, sandy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	0
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	

A	В	D D	D
F47	Shorebird Feeding	Within the AA, the extent of mudifats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sg. ft within the AA	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located,
<i>300</i>	ratch	submerged and toating aquatics) withing the AA is: [vote: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the patch to include contiguous nerbaceous vegetation in the same wetland (but a dimerent AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
077		201 acra SKID to ESA	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
177		0.1 done	
077		d to different	7
229		in the dates	
230		10 to 100 acres	0
231		100 to 1000 acres	0
232		>1000 acres	0
733 F49	Unshaded Herbaceous	As visible in birds-eye view, herbaceous vegetation (excluding mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
CC 2	Extent	ZEW, of the viacatatated rout of the A. Mark "1" have and CKID to EEA	herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
234		Con the vegetate part of the An. Walk I here also and only to the	
235		5-25% of the vegetated AA	0
236		25-50% of the vegetated AA	0
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
F50	Forb Cover	The percent of the vecetated ground cover that is forbs (e.g., skunk cabbage, buckbean, wildflowers) reaches an annual maximum of:	forbs = flowering non-woody vascular plants (excludes grasses, sedges, ferns, mosses). Exclude
239			horsetail (Equisetum) even though technically it is a forb. [POL]
240		<5% of the vegetated ground cover	0
177		5-25% of the venetated around cover	
1 7		25-50% of the undestand mining round	
747		בי סבילי ניוד	
243		50-95% of the vegetated ground cover	0
244		>95% of the vegetated ground cover. SKIP to F52.	0
F51	Sedge Cover	Sedges (Carex spp.) and/or cottongrass (Eriophorum angustifolium) occupy:	[50]
246		<5% of the vegetated ground cover, or <0.01 acre	0
247		5-50% of the vegetated ground cover	0
248		50-95% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fem) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do not comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	EC, PH, POL, Sensi
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike clover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	0
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	
258		Invasive species comprise >50% of the herb or shrub cover.	0

		3	
A	В	S	D
F54 259	Weed Source Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 10 ft of wetland) that is occupied by plant species that are considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	If the wetland has no upland edge, or upland edge is <10% of wetland's perimeter, then answer for the portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., winter
260		none of the upland edge (invasives apparently absent)	——conditions) but its genus contains an invasive species, assume the unidentified plant to also be 0 invasive. If vacatation is so canascad that invasive snacias cannot be identified "answer "none". IDHI
261		some (but <5%) of the upland edge	
262		5-50% of the upland edge	
263		most (>50%) of the upland edge	0
F55 264	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains natural (not necessarily native – see column E) land cover taller than 6 inches is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses,
265		92%	Tecreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
266		5 to 30%	Todos. Natural rand cover is not tille same as native vegetation. It can include areas with myasive prants.  If the AA does not adjoin indand has a vour answar on the closest indand. IAM_EA_ER_INV_NRV_DH.
267		%09 ot 0E	0 PRV. SBM. Sens. SRv. WBNI
268		%0 to 20%	0
569		>90%. <b>SKIP to F58</b> .	0
F56 270	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge closest to the AA, the upland land cover that is NOT unmanaged vegetation or water is mostly (mark ONE):	[AM, FA, INV, NRv, PH, SBM, WBN]
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	
272		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated clearcut, landslide, unpaved road, dike.	0
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	dosest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	A As is only part of a wetland and does not have an upland edge, evaluate this along the upland edge المحاطرة
275		2-5%	disease to the Art. Estimate style by dividing the devator unleterize (between the weathing and disturbed area) by their horizontal distance anatt INRv PRv Sens SRv1
276		5-30%	
277		>30%	0
F58 278	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	Do not include upturned trees as potential den sites. [POL, SBM]
F59	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows, proportion placies can lave free factors affecting what once was unland from hardrich sail	Do not include wetlands created by beaver dams except for the part where flooding affected uplands for the part where flooding affected uplands for the part where said streams. Determine this using his high programmy old mans
280		ON	soil maps, or permit files as available [CS, NR, OE, PH, PRv, Sens, SRv]
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	0
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU, WBFv]
287		<25%	0
288		55-50%	0
289		%09<	
290 F61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
291		publicly owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles).	local (ax indps ii possible: [T v]
292		publicly owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	0
293		owned by non-profit conservation organization or lease holder who allows public access.	0
294		other private ownership, including Tribes.	0

Ą			D
295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Bernation layers Represtion Facilities (DLI)
296	סנמש סו סנפוויים	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	-
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstirp, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nighton on profile or the AA unlock more than half the undensity is nighted from the trails and thou are untiling 400 ft of the undensity order. In	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		value of trains outside of the An unless from that has the wedgin is value from the trains and they are within 100 it of the wedgin edge. In that case add only the area occupied by the trail.]	population centers, todas, trans, accessioning of the weten to the population size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SEM, WEY, WEN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	0
306		>95% of the AA	
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
I		not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail 1.	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
307			
308		<5%. If F63 was answered ">95%", <b>SKIP to F67.</b>	0
309		5-50%	0
310		50-95%	0
311		>95% of the AA	1
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	(PH, PU)
F66	BMP - Wildlife Protection		[AM, PU, WBF, WBN]
313	:	or whall except during lighting seasons). Little!	
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification forms Evidence of these consumntive insecting or direct physical processing or presence of physical
315		Low-impact commercial timber harvest (e.g., selective thinning)	0 evidence (e.g., recently cut stumps, fishing lures, shell cases), or might be obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	0 communication with the land owner or manager. [FAv, FRv, PHv, Subsis, WBFv]
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	1
321 F68	Domestic Wells	Wells or water bodies that curently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	Tietgriborillood is kilowin to not be connected to a municipal dimiking water system (e.g., is outside a 0 Idenselv settled area). INRv1
323		500-1000 ft	0
324		>1000 ft away, or none, or no information	

Stre	essor (S) Data Form for Non-Tidal Wetlands.	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
S1	Wetter Water Begins Internal Causes				
	Wetter Water Regime - Internal Causes In the last column, place a check mark next to any item that is likely to have caused	a part of the wetland to be inundated more extensively, more	frequently, more deeply, and/or for longer duration than it we	ould be without that item or activity. Consider only items	
	occurring within past 100 years or since wetland was created or restored (whichever table beneath them). [CS]				
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or downg	radient from the wetland, or raising of outlet culvert elevation			
	excavation within the wetland, e.g., artificial pond, dead-end ditch				
	excavation or reflooding of upland soils that adjoined the wetland, thus expanding plugging of ditches or drain tile that otherwise would drain the wetland (as part of ir		station atc.)		х
	vegetation removal (e.g., logging) within the wetland	mentional restoration, or due to tack or maintenance, sedimen	itation, etc.)		
	compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of	machinery livestock or off road vehicles			X X
	If any items were checked above, then for each row of the table below, you may ass the "0's" for the scores in the following rows. To estimate effects, contrast the currer	ign points (3, 2, or 1 as shown in header) in the last column.			
	g	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	3
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Score the following 2 rows only if the wetter conditions began within past 10 years,	· ·	, ,	, ů	
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	2
	Average water level increase	>1 ft	6-12"	<6 inches	3
				Sum=	9
				Final Score=	0.75
S2	Wetter Water Regime - External Causes				
	In the last column, place a check mark next to any item occurring in the wetland's	ontributing area (CA) that is likely to have caused a part of t	he wetland to be inundated more extensively, more frequent	ly, more deeply, and/or for longer duration than it would be	
	without that item or activity. Consider only items occurring within past 100 years or s			-	
	subsidies from stormwater, wastewater effluent, or septic system leakage				х
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			х
	removal of timber in the CA or along the wetland's tributaries				
	removal of a water control structure or blockage in tributary upstream from the wet	land			
	If any items were checked above, then for each row of the table below, you may ass			le effect in making any part of the AA wetter, then leave	
	the "0's" for the scores in the following rows. To estimate effects, contrast the currer			MAIL (A : - A)	
	One Part and a form of the control o	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	3
	When most of wetland's wetter condition began  Score the following 2 rows only if the wetter conditions began within past 10 years,	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	2
		F	F	3 1, 1 31 1 1 1 1	
	Average water level increase	>1 ft	6-12"	<6 inches	3
	Average water level increase	>1 ft	6-12"	<6 inches	3
	Average water level increase	>1ft	6-12"		9
S3		>1 ft	6-12"	Sum=	
S3	Drier Water Regime - Internal Causes			Sum= Final Score=	9
S3		y adjacent to the welland, that is likely to have caused a part c		Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately	y adjacent to the wetland, that is likely to have caused a part o and was created or restored (whichever is less).		Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wella	r adjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less). welland	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the	v adjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainage	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification	v adjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainage	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis	v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less). seetland of a water level control structure, resulting in quicker drainaged below the historical water table level)	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	9
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass	r adjacent to the welland, that is likely to have caused a part of and was created or restored (whichever is less).  In welland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che	of the wetland to be inundated less extensively, less deeply, i e e cked items had no measurable effect in making any part of t	Sum= Final Score= less frequently, and/or for shorter duration that it would be	9
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S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incident).	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	9 0.75
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of the last would be without those. Consider only items occurring within past 100 years.	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presenses of the wetland or >95% of its upland edge (if any) <a href="#">Severe (3 points)</a> <a href="#">&gt;95% of wetland or &gt;95% of its upland edge (if any)</a> <a href="#">3 yrs ago</a> <a href="#">nd only for the part of the wetland that got drier.</a> <a href="#">seldom vs. persistent</a> <a href="#">&gt;1 ft</a> <a href="#">&gt;1 ft</a> <a href="#">uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a>	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously.  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland.	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presenses of the wetland or >95% of its upland edge (if any) <a href="#">Severe (3 points)</a> <a href="#">&gt;95% of wetland or &gt;95% of its upland edge (if any)</a> <a href="#">3 yrs ago</a> <a href="#">nd only for the part of the wetland that got drier.</a> <a href="#">seldom vs. persistent</a> <a href="#">&gt;1 ft</a> <a href="#">&gt;1 ft</a> <a href="#">uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a> <a href="#">wetland</a> <a href="#">wetland</a> <a href="#">was created or restored (whichever is less).</a>	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit at it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the second or >95% of its upland edge (if any) <a href="#"><a hr<="" td=""><td>of the wetland to be inundated less extensively, less deeply, less dee</td><td>Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  &lt;5% of wetland and &lt;5% of its upland edge (if any) 10-100 yrs ago  slightly shorter or less often  &lt;6 inches  Sum= Final Score=  t, less deeply, less frequently, and/or for shorter duration  contrast it with the condition if checked items never</td><td>9 0.75</td></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a>	of the wetland to be inundated less extensively, less deeply, less dee	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  t, less deeply, less frequently, and/or for shorter duration  contrast it with the condition if checked items never	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage and below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items of the wetland or >95% of its upland edge (if any)  >95% of wetland or >95% of its upland edge (if any)  3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  Juding channels flowing into the wetland) that is likely to have the or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the folio	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  t, less deeply, less frequently, and/or for shorter duration  contrast it with the condition if checked items never wing rows.	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit hat it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the verlocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points occurred or were no longer present. However, if you believe the checked items had	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items in seldom vs. persistent  > 1 ft    Value   V	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA.	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  t, less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.  Mild (1 point)	9 0.75
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit at it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland  of a water level control structure, resulting in quicker drainage and below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items of the wetland or >95% of its upland edge (if any)  >95% of wetland or >95% of its upland edge (if any)  3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  Juding channels flowing into the wetland) that is likely to have the or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the folio	Sum= Final Score=  less frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  t, less deeply, less frequently, and/or for shorter duration  contrast it with the condition if checked items never wing rows.	9 0.75

Score the following 2 rows only if the drier conditions began within past 10	years, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	1-12"	<1 inch	0
			Sum=	0
			Final Score=	0.0
Alternat Timber of Materials				
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have			uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy				
flow regulation in tributaries or water level regulation in adjoining water bo	ody, or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland				Х
increased pavement and other impervious surface in the CA				х
straightening, ditching, dredging, and/or lining of tributary channels in the	CA			
If any items were checked above, then for each row of the table below, you			part of the AA, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the o	condition if the checked items never occurred or were no longer preser			
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	3
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
Score the following 2 rows only if the altered inputs began within past 10 y	rears, and only for the part of the wetland that experiences those.			
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	3
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	2
			Sum=	9
Accelerated Innuts of Conteminants and/or Solt			Final Score=	0.7
Accelerated Inputs of Contaminants and/or Salt	s			
In the last column, place a check mark next to any item occurring in eithe	r the wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. IFA. NRv. PRv1		
stormwater or wastewater effluent (including failing septic systems), landf				
· · · · · · · · · · · · · · · · · · ·		/		)
metals & chemical wastes from mining, shooting ranges, snow storage ar	eas, oil/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/)		,
oil or chemical spills (not just chronic inputs) from nearby roads				
spraying of pesticides, as applied to lawns, croplands, roadsides, or other	r areas in the CA			>
If any items were checked above, then for each row of the table below, you			contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current cond.	ition with the condition if the checked items never occurred or were no	longer present.		
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Usual toxicity of most toxic contaminants		active mine, mid-sized town, cropland	mildly impacting (reclaimed minie, low density residential)	2
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	·		
Usual toxicity of most toxic contaminants Frequency & duration of input		active mine, mid-sized town, cropland frequent but mostly seasonal	mildly impacting (reclaimed minie, low density residential) infrequent & during high runoff events mainly	
	industrial effluent or 303d* for toxics	·		2 2 3
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	2
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	2
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	3
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	3
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	3
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	industrial effluent or 303d* for toxics  frequent and year-round 0-50 ft  r the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landf	industrial effluent or 303d* for toxics  frequent and year-round 0-50 ft  r the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in eithe stormwater or wastewater effluent (including failing septic systems), landf fertilizers applied to lawns, ag lands, or other areas in the CA	industrial effluent or 303d* for toxics  frequent and year-round 0-50 ft  r the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in eithe stormwater or wastewater effluent (including failing septic systems), landf fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	industrial effluent or 303d* for toxics  frequent and year-round 0-50 ft  r the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in eithe stormwater or wastewater effluent (including failing septic systems), landf fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft  r the wetland or its CA that is likely to have accelerated the inputs of its	frequent but mostly seasonal 50-300 ft or in groundwater nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 3 7 0.7
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AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	
* high-intensity= extensive off-road vehicle use, plowing, grading, exca sediment	vation, erosion with or without veg removal; low-intensity= veg removal or	nly with little or no apparent erosion or disturbance of soil or	Sum=	
			Final Score=	0
Soil or Sediment Alteration Within the Assess	sment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	retland that is likely to have compacted, eroded, or otherwise altered the v	vetland's soil. Consider only items occurring within past 100 y	rears or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	ecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plant	s)			
fill or riprap, excluding small amounts of upland soils containing organ	ic amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	erosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion of	r stir bottom sediments			
If any items were checked above, then for each row of the table below, estimate effects, contrast the current condition with the condition if the c	you may assign points. However, if you believe the checked items did no hecked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then I	eave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	
			Sum=	
			Final Score=	

## GROUP 3

WESPAK SE NON-TIDAL REPORT

Wetland C, K, O, P

-	
Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	0.93
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to visit?	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

										F	UNCTIO	N		VALUE	
WESPAK-SE version 2 scores for this NON-A Assessment Area (AA):	idal Wetland									Median of	Functi (nor	sholds for on Rating malized core)	• Median of	Valu (noi	sholds for ue Rating rmalized score)
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	d F Scores	Low is < or =	High is >	Normalized V Scores	Low is < or =	High is >
Surface Water Storage (WS)	3.11	1.81	2.19	Lower	1.81	Lower	2.00	2.19	0.24	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	5.83	1.44	7.00	Higher	2.16	Moderate	4.58	7.00	7.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	6.20	3.17	6.20	Higher	4.18	Moderate	5.19	6.20	5.93	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	6.25	3.68	6.25	Moderate	6.84	Higher	6.54	6.54	5.88	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR	3.27	0.42	1.43	Lower	0.57	Lower	1.00	1.43	0.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.61	1.15	1.92	Lower	1.16	Lower	1.54	1.92	1.26	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	4.63	3.13	1.74	Lower	3.29	Moderate	2.52	2.52	2.52	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.41	0.10	4.53	Moderate	0.23	Woderate	4.53	4.53	4.53	6.53	3.66	6.43	0.20	2.17	4.54
. ,	5.60	6.67	8.09	Higher	6.71	Moderate	7.40	8.09	8.09	7.68	0.00	7.59	7.00	0.00	7.00
Organic Nutrient Export (OE)  Anadromous Fish Habitat (FA)	0.00	0.00	0.09	Lower	0.00	Lower	0.00	0.09	0.09	0.00	2.93	7.23	0.00	0.63	6.67
` '	0.00	0.00	0.00		0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Resident & Other Fish Habitat (FR)  Aguatic Invertebrate Habitat (INV)	5.75	10.00	5.97	Lower	10.00		7.98	7.98	7.98	3.92	2.48	5.04	2.22	2.50	6.43
. ,				Higher		Higher					-				
Amphibian Habitat (AM)	5.73	6.25	4.48	Moderate	7.72	Higher	6.10	6.10	5.59	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	2.84	0.00	4.10	Moderate	0.00	Lower	2.05	4.10	4.10	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	6.73	10.00	8.31	Higher	10.00	Higher	9.16	9.16	9.11	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	7.90	7.15	11.74	Higher	9.58	Higher	10.66	11.74	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.46	9.53	8.58	Higher	9.44	Higher	9.01	9.01	9.27	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.20			2.56	Moderate	2.56	2.56	2.56				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		10.00			10.00	Higher	10.00	10.00	10.00				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		5.05			8.74	Higher	8.74	8.74	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.65			5.95	Higher	5.95	5.95	6.26				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.90			7.30	Higher	7.30	7.30	10.00				6.43	3.31	5.73
0								Group Score Not Normalized	Group Score Normalized	Group Rating					
Summary Scores for Groups:										ū					
HYDROLOGIC Group (WS)		-						0.24	0.24	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)	NADAO.							3.30	0.50	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC	, vv vv)							7.53	5.76	Moderate	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52 4.04	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)	1.\							4.41 9.73	3.23 9.64	Lower	4.04 3.61	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, PC SOCIAL GROUP (max+avg/2 of PU, Subsis)	L)							10.00	10.00	Higher Higher	3.66	6.32 6.58			

7.10

7.10

Overall Score (see Manual for explanation of how the spreadsheet calculates it):

Overall Rating:

Moderate

<			0
∢	9		
Dat Shelf	ta Form OF (Office) oil and gas revenues by the	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
DIRE other quest accur office description	ECTIONS: Conduct an as wise, in the Data column tions primarily based on y rately may require conferr a data form requires 1-2 hr inditions of each WESPAK.	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Except where instructed otherwise, in the Data column change the 0 (false) to a 1 (futue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this office data form requires 1-2 hours per site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Aboendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storaes, SFS=	Site Location: Angoon Alaska Investigator: ESA Staff Date: 13-22 Aug. 2013: 15-22 June, 2017: 6-14 June, 2018 Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018
Strea Sequ	am Flow Support, WC= W restration, OE= Organic E ing Waterbirds, SBM= Sor	Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsis= Subsistence, EC=	survey.
3 #	Indicator	Condition Choices	Explanations, Definitions
4 OF1	Distance by Road to	Measured along the maintained road or boat landing that is nearest the AA, the distance to the nearest population center is:	"Population center" means a settled area with more than about 50 year-round residents per square
5		<0.5 mile	IIIIG. [I AV, I IV, IVIV, WEI V, I I, I O, ODIVI, OUDSIS]
9		0.5 - 2 miles	0
7		2-5 miles	0
∞		5-10 miles	0
6		>10 miles	0
0F2	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other separate wetlands located within the circle without being forced to cross maintiained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	Many roads are mapped in the online WESPAK-SE Wetlands Module: http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM.
10			SBIN
11 OF3	Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module: http://seaknis.alaska.enii/flex/wetlands/ IFAv. FRv. AM. PH. PLI. SRM. WRNI
12		<100 ft	
13		100-500 ft	
14		500-1000 ft	0
15		1000 ft - 0.5 mile	0
16		0.5-1 mile	0
17		>1 mile	0
OF4 18	Distance to Natural Land Cover	The minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native—see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and dearcuts harvested more than 10
19		<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
20		<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	o roads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21		150-300 ft, with or without interrupting features	Indiane WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be located during a site visit. Do not include parts of the partiral cours patch or consider that are
22		300-1000 ft, with or without interrupting features	0 narrower than 150 ft. [AM, SBM, Sens]
23		none of the above	0
OF5	Size of Largest Nearby Tract or Corridor of	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA (i.e., not completely separated by highways or channels that are uniformly wider than 150 ft), occupies:	View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of ≻150 ft, if the gap is comprised of impervious surface, bare
25	Natural Land Cover	<1 acre, or larger but with average width <150 ft	0 dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
26		1-10 acres	0 the finite WESPAR-SE Wettains Module finds be examined to allower this, and to use its measure that to determine acreane TAM SBM Sens WBNI
27		10-100 acres	0
28		100-1000 acres	0
29		>1000 acres	
30 OF6	Natural Land Cover Extent	Within a <b>2-mile</b> radius measured from the <b>center</b> of the AA, the percent of the <b>land</b> that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should be examined to answer this. [AM, SBM]

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10		E-e-2001, et de la constant de la co	0	
32		o to 20% or the fairu	o	
33		20 to 60% of the land	0	
34		60 to 90% of the land	0	
35		>90% of the land. SKIP to OF8.	1	
OF7	7 Type of Land Cover	Within a 2-mile radius measured from the center of the AA. the area that is not natural land cover or water is mostly:		JAM. SBM1
_	_			
37		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
38		bare pervious surface, e.g., recent (5 yrs ago) clearcut, dirt or gravel road, plowed fields, landslide.	0	
0F8		Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		Aerial imagery should be examined to help answer this, and land cover maps contained in the online
	Uniqueness	as being intersected by the AA, or a "2" next to ones which (a) are present in the AA and (b) ALSO comprise less than 10% of the landscape nutside of the AA but within 2 miles.		WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv, INVv, PHv, SRMv, POI, Sens]
39				
40		Fresh Water	2	
41		Wetland	1	
42		Muskeg	0	
43		Herbaceous	2	
4		Shrubland (Low)	0	
54		Shrubland (Tall)	_	
46		Deciduous/Mixed Forest	2	
47		Conifer Forest - Young or Small	1	
64		Onitar Forest - Marium	1	
δ <del>1</del> ξ		Continue Translation	- 0	
46		Colliel Fotes - Large	7	
20		Wetland Shrub Forest	1	
51		other	0	
52		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.	0	
}		no Level 3 cover type maps available for this area. but from aerial imagery it appears that the AA does NOT contain a cover type that is	0	
53		absent from 90% of the landscape outside of the AA and within 2 miles. Enter "I" in the next column.	,	
94 OF9		If any of the above were marked "Z", the distance from the AA edge to the closest one that was so marked is:		[INVv, AMv, SBMv, POLv, PHv, Sens]
55	oriconimon cover 1ype	<150 ft	1	
26		150 - 500 ft	0	
57		500 - 1000 ft	0	
28		1000 ft - 1 mile	0	
59		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10 61	10 Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or tidal system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
62		0	0	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
63		1 or 2	0	they are inundated and water is ponded at least seasonally. [AM, PH, SBM, Sens, WBF, WBN]
3 2		3 to 6	1	
65		7 to 9	0	
99		10 to 12	0	
29		>12	0	
OF11 68	11 Ponded Water Proximity	The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	Crassincation Level 1 layer and took for blue polygoris. It multiple stitutions water boulds are senarated by <150 ft they may be combined when evaluation acreage. [AM. PH. SBM. Sens. WBF.

¥	n	)	a c	п
71		300-1000 ft, and connected with a natural land corridor		WBN]
77		300-1000 ft. but no uninterrupted natural land corridor	0	
1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
73		>10UU ft, and connected with a natural land corridor	-	
74		>1000 ft. but no uninterrupted natural land corridor	0	
0E40	Oto Lot operation	The dictance from the AA adon to the alocaet (hat concept) lake (a non tidal body of under that is needed during most of the user and is		to the entires WIECDAM CE Methods Medule and the Land Classification Level 1 level 1 level
	חואומווכם וס במעם	interdiscipling interval organization of the properties of the pro		in the bolining were than 20 acres. If multiple smaller water hodies are separated by <150 ft they
C				may be combined when evaluating acreage. [Sens. WRF. WRN]
76		<1 mile	0	ingly be compared when evaluating dereage. [coins, weily]
77		1-5 miles	_	
28		>5 miles and on the mainland or the same island	0	
70		>5 miles and on a different island	0	
		The first of the f	Ì	SAME ON MAN TANK STATE OF STATE OF THE STATE OF
21 08	I idal Proximity	The distance from the AA edge to the closest tidal water body is:		AM, FA, FK, INV, NK, OEV, PH, PK, PU, OBM, OBPS, OK, OUDSIS, WBF, WBN, WS, WWV]
10		<300 ft	-	
10		מטע אינטיין מיני איני איני איני איני איני איני איני		
82		300-1-000 II	0	
83		1000 ft - 1 mile	0	
84		1-5 miles	0	
85		>5 miles	0	
OF14	Upland Edge Contact	Selectione:		other wetland" could be contiduous wetland that is classified differently by NWI, or the same wetland
	· -			but will be unaffected by proposed alteration. INR. SBM. Sens
87		The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	0	
		1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
88			,	
68		25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
06		50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	-	
		From Bookship more tenerable more ential inserts and/or entirely and sublic mode denomine IF.	c	Actabilities and scales and forest decreases will be been assured about the 400 secure and abilities
<u> </u>	Ploodable Property	From floodplan maps, topographic maps, aerial imagery, and/or contacts with FEIMA and public works departments, determine IF: downslope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillstope runoff, or sudden icefalls AND  (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams.  If this enter "i" in next column I false anter "i".	⊃	Ketchikan and perhaps a few other communities have maps showing the 10U-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]
92	_			AM TA TO INIV OF: DD. OFC. OD. MO. 1MO. 1MM.
93 01-16	Glacier Fed	Refer to the claciers map in the online WESPAR-SE Wetlands Module. Select the first applicable choice:		[AMI, FA, FK, INV, OEV, PKV, SFVV, WCV, WCV, WWV]
94		No upstream glacier feeds <b>surface</b> water to the AA, not even seasonally.	1	
95		A glacier feeds streamflow or other surface water to the AA and it obviously reduces water clarity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0	
96		A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water darity.	0	
OF17 97	Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:		Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86		a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0	Subsis, WBF, WBN]
66		<ul> <li>is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	0	
200		ic) is not accessible to anadromous fish but other resident fish are known (or can be assumed) present (Class 2)	c	
001		d) is fishless (i.e. not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3.4)	·	
101		e) fish presence and potential fish access are unknown and undeterminable	. 0	
102		Value in programme and programme and programme and programme of progra	T	Andershall Methods ( ) and
	Designated IDA	over list in fast countin. Then it is necessary then to the interpretation where we want is wounder, natural Layers > importain bits a Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.		mentanian wedanto (valreau), bernets beg (valreau), Ton Siteubstani (valreau), betakasanu oput (Yakutat), loy Bay (Yakutat), Chilkat Badd Eagle Preserve (Haines), St. Lazaria Island (Sitka), Fornester Island (Prince of Wales-Outer Ketchikan), Sitkine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WPNv]
103				

0	
within 1 mile downslope, and connected to the AA by a channel	

٨	В		٦	п
OF19	Deer Winter Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	0	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20 105	0 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
107		67-87 inches	1	and ratitude: [51.50, OE]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
111		>165 inches	0	
112		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
113	Allica.	modera as (rounce to the legres) whole mained).		cens covering ocululeast Alaska. The injuries data are not into diagon ocase onlyeisity Finish. Plimato Cocino and are based on the alimate normals for the pariod 1081 2010, as well as alevation.
114		<38 degrees F	0	Clinidae Group and are based on the clinidae normals for the period 1901-2010, as well as elevation and lattings. RM CS FR INV NR OF PH PR Sens SR WRF WC WS WMV.
115		38-40 degrees F	0	
116		41-42 degrees F	1	
117		43-44 degrees F	0	
118		> 44 degrees F	0	
119		no information available	0	
0F22	2 Basic pH or Karst	The AA (a) is in a karst area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>←</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adiantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa), [AM, FA, FR, INV, OE, PH]
120	_			
0F23	3 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Granitic Geology. The AA is underlain primarily by granitic formations or glacial till that is known to be granitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	if deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	4 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landsides.  Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or classifications intersect the AA.	0	Zones of past and possibly future elosion. [PT, PKV, Sens, SKV]
124		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
126		no information	1	
OF25	5 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first rue statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem; If no quality-controlled sampling has been done, then a statement or rating
128		within the AA	0	occurrier ining the problem and published in a recent agency report or onlicial correspondence may be counted. Also, if time allows, query and retrieve water quality data from:
129		in waters within 1 mile that flow into the AA.	0	http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
130		Sampling (not just absence of map symbols) indicates no problems.	0	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
131		insufficient data (no map symbols $\&$ no sampling, or >1 mile upstream).	1	STR, WBF, WBNJ
OF26	6 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters <b>downslope from</b> the AA. Or, other sampling has identified such a problem downslope. Select the <b>first</b> true statement. These conditions are present:		See above. [SRv]
132		within 1 mila downselone, and connected to the $\Delta A$ by a channel	c	
133		Within Thie downslope, and connected to the AA by a channel	>	

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134		within 1 mile downstope, but not connected to the AA by a channel	0	
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	1	
OF27	Drinking Water Source	Refer to the Drinking Water Protection Areas layer of the online WESPAK-SE Wetlands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone B Ground Water	0	
140		Zone A Surface Water	0	
141		Zone B Surface Water	0	
142		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	-	
0F28	Elevation in Multi-scale	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
		GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset>Watershed Boundary Dataset. Then in the ShedData worksheet (tab below) look up the AA's HUC codes and their cut-offs for upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	_	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	1	
150		In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	1	
OF29	Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the ShedData worksheet. Select column N, O, or P of that worksheet (whichever represents the cover type you accordangle) in the ShedData shall be cover by the column N. O, or P of that worksheet (whichever represents the cover type you	98.0	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups.
151		decoded predominates in you <i>rst</i> , and enter its value in the cent of the right. If you indiced in the directoral adder, change the cent on the right to <b>blank</b> —>		[YMW, TIV, CLC, GBMW, GGIS, WBFV, WDMV]
OF30 152	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the westand outlet (if any). Remember that if the westand is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the westand is on
154		1 to 10% of its CA	1	the fringe of a pond or lake, compare the area of that water body to its contributing area – not the
155		10 to 100% of its CA	0	area of the wettand compared to only the wettand's contributing area. For most wettands, and especially ones containing tributaries, the first choice will be the most appropriate. INR, PR, Sens,
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. <b>SKIP TO 0F34.</b>	0	SR, WSV]
OF31	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWv]
158		<10%	0	
159		10 to 25%	_	
160		>25%	0	

			Į	
Ą	В	2	D	E
0F32	Transport From Upslope		c	[NRv, PRv, SRv, WSv]
162		Mostly true	0	
163		Somewhat true	0	
164		Mostly untrue	1	
OF33	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:		If there are no inflowing streams: In what direction does most runoff or groundwater flow as it moves
166		Northward (N, NE). north-facing CA.	0	mrougn this AA? If necessary consider the Aspect Zum map in the online WESPAK-SE Wellands Module TAM NR PH POL SFS WC WS W/W/J
167		Southward (S, SW). south-facing CA.	1	moduce: ['Am', 'M', '   1', '   C', 'C', 'C', 'M', 'M', 'M', 'M', 'M',
168		other (E, SE, W, NW), or no detectable uphill slope or input channel (flat)	0	
OF34 169	Internal Gradient	The gradient along most of the flow path within the AA is:		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in pheely until way see numbers on the portion flows. Measure a line drawn from highest to lowest
170		<2%, or, no slope is ever apparent (i.e., flat). Includes most depressional sites and ponds.	0	elevation along the part of the wetlland polygon having the greatest width measured perpendicular to
171			_	contour lines. Then estimate elevational difference from the numbered contours and divide by the line
172		901-9	0	length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
173		>10%	0	[AM, CS, NK, UE, PK, SK, WBP, WBJ]
OF35	Internal Flow Distance (Path Length)	From measurement of wetland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column]		If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If wetland is flat or a pond, use the maximum width measured perpendicular to topographic lines ushill
175		<150 ft	1	from the wetland. Straight-line rather than channel distance is used here only for simplicity of measurement. The category breaks are based on the 10-25-50-75 and 00th percentiles of
176		150-300 ft	0	intersected stream length of all Southeast Alaska non-tidal wetlands. INR. OE. PR. SR. WS1
177		300-800 ft	0	
178		800-2000 ft	0	
179		2000 ft - 1 mile	0	
180		>1 mile	0	
OF36	Relative Hydrologic Distance to Anadromous Stream	Determine the AA's Wetland_ID using the Identify tool in the online WESPAK-SE Wetlands Module (see Manual). From column B of the HydroDist worksheet (tab below), enter its score in the next column. If Wetland_ID or HydroDist is lacking, use the value from the closest non-tidal wetland.	0.57	[OEv]
0F37	Salmonid Watershed	Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-49%), 0= all other.	0	The rating (from TNC) is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
0F38	Subsistence Focal Areas	The AA or waters that directly adjoin it:		Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by
184		is in Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries)	0	persons with subsistence permits. [TAV, TRV, Subsis]
185		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps)	0	
186		neither of the above	1	
187		no data (outside of the regions shown on the maps, and not listed in Table B-6)	0	
0F39	Geography	Mark ALL that are true. The AA is located:		[AMv, SBM, WBF, Sens]
189		in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains.	0	
190		in another mainland area or on an island larger than 20 square miles.	1	

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¢ .		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191 0F40	40 Unbrowsed Vegetation	waters. The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
OF41	41 Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42 198	42 Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. <u>However</u> : at least one of the following have been confirmed <b>nesting</b> in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
OF43 204	Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan — has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	1	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	0	
0F44	Songbird or Raptor Species of Conservation Concern	One or more of these species — Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird — n has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. However: at least one of the following have been confirmed nesting in the AA: Short-eared OM, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45	Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
7 1		more than 1 such feature or species is present in the AA	c	
217		more than 1 sourcedure or species to present in the AA only one such species or feature is present in the AA	0	
218		there are no recent observations of these in the AA by a qualified observer under conditions similar to what now occur, or no data.	1	
OF46 219	46 Cedar	The AA contains (a) more than 1 acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline (see layer in online WESPAK-SE Wetlands Module).	0	[PHv, SBM]
0F47	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[hd]
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OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animal to the public.		4	L
OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animals to the public,		n	E
The wetland (e) OF49 Sustained Scientific Use Plants, animals to the public	OF48 Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	0	voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites
OF49 Sustained Scientific Use Plants, animal to the public.	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	ισ	are shown online at: http://www.conservationregistry.org/ [PU]
to the public.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	0	ĺηd
are princinom	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends		
	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.		

<	В	3	D	tn
Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
indertransparent	CTIONS: Conduct an as: ) to a 1 (true) for the best rvations and interpretation where or other knowledgat listing of functions to whin ndix F of the accompanyin r Warming, SR= Sedimentebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (frue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	7]	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5 F1.1		Forested Peatland	∑ <u>S</u> 8 <u>⊏</u>	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0 9	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Si O is ur	Surface water is more extensive, at least seasonally. More emergent than tall (>3 tt) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, its largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4.		Floodplain Wetland	At dt the the the the the the the the the th	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are sit or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's dub. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
F1.5		Uplift Meadow	<u> </u>	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downout. Mostly sweetgale and/or herbaceous vegetation, e.g., silvenweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	In le 0 ar	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	<u>⊢</u>	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WWJ
13		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	
14		25-50'% of the AA level contains surface water.	0	

∀	В	S	D E
15		50-99% of the AA never contains surface water.	1
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
ţ		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to	0
17		130.	
<u>F3</u>	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obscured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	o remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	beaver, and muskrat. In the local soil survey, the NRCs descriptions of the predominant soil types may
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	III GALGE III OHII GALGI OHI SALGI DEI SALGE (AW), CS, LY, LY, INV, NNY, LOC, LY, SDIW, WDI, WDN)
22		25-50% of the AA	0
23		50-95% of the AA	0
24		595% of the AA	
F4	Summertime Shading of	_	Consider the aspect and surrounding topographic relief as well as vegetation height and density. IFA.
25	Water		WC, WWJ
26		<5% of the water is shaded	0
27		5-25% of the water is shaded	0
28		25-50% of the water is shaded	
20 00		50-75% of the water is shaded	
30		575% of the water is shaded	
_	L		t
5	Fringe Wetland	The AA adjoins a take, stream, or river whose wetted width (not counting the AA's wettand) during mean annual conditions is greater than 50 th and also more than 5 times the venetated wetland's average width (measured permendicular to inland). If this enter "1" and continue If false	[WBF, WBN, WC, WWW]
2.1		leave the 0 and continue.	
31 Pe	Langita M. Carinton and	The AA bearless of bodies of bearing a second and a second as a second as a second and a second and a second a	The little control of the little of the litt
32	Lacusmne vveuand	ine AA borets a body of ponded open water whose size (not counting the AA's welland) exceeds ∠u acres during most of the growing season. Enter "1" if true, "0" if false.	ine vegerated areas snouto not include submersed of noating-leaved aquatics. [FA, FK, PK, WBF, 0] WBN]
F7	% Flooded Only	The percentage of the AA soil that is covered by surface water <b>only</b> during the wettest time of year, and for >2 continuous weeks during that	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that
33	Seasonally	time, is:	flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are
		<1% or <0.01 acre, whichever is less. SKIP to F9.	orient evident when the truit and an unique control areas orient layer a ranger proportion or uplanta and annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
45		4.050/	
35		9°C2-1	1 Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
36		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
į į		90-95%	Saturation personate ce. The wettest times in Southeast Ataswa typically occur of the sate rail, ourling rail of the saturate after the ground is frozen, and/or during soning snowmelf. Near melting alaciers, surface water
70		%96%	
38			7
39 F8	Annual Water Fluctuation	The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
40	500	<0.5 ft	
41		0.5 - 1 ft	0
42		1.3.ft	0
43		>3ft	0
F9 14	Predominant Depth Class	During most of the growing season, surface water depth in most of the area where it is present is: [Note: This is not asking for the maximum depth.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the
F 37		() 5 fl dean (hirt > ()	spatial median depth that occurs during most of that time, even if inundation is only seasonal or
45		0.5. 1 Hopp (ut. v)	temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth
46		1.00 to the control of the control o	
/+		1.5. I deep 3.6. Hadan	well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
84 0		2-0 I Just for many friend underda	
49		Politide por many tringe wegands.	0

	-		-
A \		Miles - consent and constitute it a constitute A A constitute of Constit	The second secon
50 50		Deptir Class Distribution (when present, surface water in most of the AA usually consists of (select one).	Estimate triese proportions by considering the gradient and microtopography of the site. See diagram in
51		One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).	ile Iliandai. [I ry, INV, WDI , WDIV]
52		One depth class that comprises 50-90% of the AA's inundated area.	0
53		Neither of above. Multiple depth dasses; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It indudes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		50-75%	0
09		>75%	0
F13	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the AA that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant inclicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	Mai, CJ, NK, OE, PH, PK, SBM, Sens, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, do not consider herbaceous plants. Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so snould not be attempted. [AW, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15 71	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has ponded surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWJ]
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	0
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
76		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16 79	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WWJ
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	0
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17 86	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]

	В	C	_	ш
87		scattered in small clumps, islands, or patches throughout the surface water area.	0	1
88		intermediate	0	
68		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 sq ft and <1% of the AA.	0	
F18 90	8 Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	EC, PR, WBF]
F19 91	9 Ice Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the air-water exchange. If true, enter "1" in next column. If untrue, enter "0".	0	Available data suggest this ranking from shortest to longest ice duration based on location: Ketchikan, Annette, Sitka, Little Port Walter, Juneau, Yakutat, Annex Greek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
F20	0 Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	0	FR, OE, PR, WW]
F21	1 Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	0	[WBN]
F22	2 Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	0	
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0	
76		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But beaver occur in the region (i.e., within 10 miles, or on same island).	-	
86		none. Beaver are absent from the region and/or the island.	0	
F23 99	3 Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).	_	
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.	0	
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.	0	
103		5-30% of the AA.	0	
104		30-70% of the AA. 70-95% of the AA	0 0	
106		>95% of the AA.	0	
F24	4 Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ftlong, or from a lake or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and <b>SKIP to F28.</b>	0	NRV, PH, PRV, SRV]
F25	5 Input Water	Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	0	[WC, WWV]
108	T	years. Enter 1- yes, 0- 110.		
F26 109	6 Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:		Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		<1%	0	
111		1-5%	0	
112		5-50% 	0	
F27	Throughflow Complexity	During its travel through the AA at the time of peak annual flow, most of the flowing water [select ONE]:		[FA, FR, INV, NR, OE, PR, SR, WS]

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A	Possest terror into the category of the contest of the category of the categor	D E
115	Does not bump into plant stems. Nearly all the water travers in unvegerated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the closest off-site downslope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	near a channer. A channer is defined as an observably incised langiorm that transports surface water in a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur of uning the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Wajor runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
122	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that chose not annear to drain the usulfand artificially during most of the provision season	NA, OE, TR, Oells, UN, WO
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wetland artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lylodice 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	east-ocared with grounwater seeps first be frost houseable in the formations aroung streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul> <li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li> <li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li> <li>(d) AA is located at a geologic fault.</li> </ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	are saturated to several weeks or the growing season. The vegetated part should not include meaning 0 leaved or submersed aquatics. [NR, WBF, WBN]
136	5-25%. 75-50%	0
138	50-75%	2 4-
139	>75%	0
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the trees that are taller than 20 ft occupy:	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	or several weeks of the growing season. The vegetated part, should not include hoaling-reaved of submersed aquatics, IPH, SBM, Sensi
142	1-25% of the vegetated AA	0
143	25-50% of the vegetated AA	
144	50-95% of the vegetated AA	0
145	>95% of the vegetated part of the AA	0

Within the vegetated part of the AA, just the deciduous trees that are taller than 2 25-50% of the vegetated AA 25-50% of the vegetated AB 25-50% of the vegetated AB 25-50% of the vegetated AB 25-50% of the vegetated AA or (if a fringe welland) 5-25% of the water edgewhice 25-50% of the vegetated AA or (if a fringe welland) 5-25% of the water edgewhice 25-50% of the vegetated AA or (if a fringe welland) 5-25% of the vegetated AA or (if a fringe welland) 5-25% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated AA or the water edge, whichever is greater. 25-50% of the vegetated widely within herbaceous/moss vegetation, or few patches of herbaceous/moss cover EACH comprise 370% of the vegetated ve	D	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for soveral weeks of the promising season. The "neglated nath should not incline floating-based or	Surhmersed annatics [CS OF INV SBM PH]		0		- 0	>	The trees and shrubs need not be wetland species. Measurements are the d.b.h., the diameter of the tree measured at 4.5 ft above the ground. [AM, CS, POL, SBM, Sens, WBN]					_	0	0	0	Snags are standing trees at least 10 ft tall that are mainly without bark or foliage. [POL, SBM, WBN]	0	_	0	Exclude temporary "bum piles." [AM, INV, POL, SBM]	_	0	The "vegetated part" may include moss, but it should not include floating-leaved or submersed aquatics.	[AW, PH, SBW]	-	0	0	0	[EC, PH, SBM, Sens]	-	0		hes of whereas those that show "fine-grained" forests suggest more even-aged, even-sized forest with little thin 0 interspersion. [SBM, Sens]	ody hin 1	within 0	
	2	Within the vegetated part of the AA, just the <b>deciduous trees</b> that are taller than 20 ft occupy.	<1% of the vegetated AA	1-25% of the vegetated AA	25-50% of the vegetated AA	50-95% of the venetated AA	SOR(s), of the successive and of the AA	735% of the vegetated part of the AA		evergreen 1-4" diameter and >3 ft tall	deciduous 1-4" diameter and >3 ft tall	evergreen 4-9" diameter	deciduous 4-9" diameter	evergreen 9-21" diameter	deciduous 9-21" diameter	evergreen >21" diameter	deciduous >21" diameter	The number of large snags (diameter >8") in the AA plus the area within 100 ft uphill of the closest upland to the wetland edge is:	Several (>2/acre) and a pond or lake of at least 1 acre is within 1 mile.	Several (>2/acre) but above not true.	Few or none		Several (>5 if AA is>10 acres, or>2 for smaller AAs)	Few or none	Exposed Shrub Canopy Woody vegetation 3 to 20 ft tall that is not under the drip line of trees is:	<5% of the vegetated AA and (if a fringe wetland) <5% of its water edge. Or <0.01 acre. SKIP to F41.	5-25% of the vegetated AA or (if a fringe wetland) 5-25% of the water edgewhichever is greater.	25-50% of the vegetated AA or the water edge, whichever is greater.	50-95% of the vegetated AA or the water edge, whichever is greater.	>95% of the vegetated part of the AA or the water edge, whichever is greater.	Determine which two native shrub species (3 to 20 ft tall) comprise the greatest portion of the native shrub cover. Then choose one:	those species together comprise > 50% of the areal cover of native shrub species.	those species together do <b>not</b> comprise > 50% of the areal cover of native shrub species.	In "ducks-eye view", the distribution pattern of woody vegetation (including low shrubs) VS, unshaded herbaceous/moss vegetation wift AA is:	(a) Woody cover and herbaceous/moss cover EACH comprise 30-70% of the vegetated part of the AA, AND (b) There are many patches of woody vegetation scattered widely within herbaceous/moss vegetation, or many patches of herbaceous vegetation scattered widely within woody vegetation.	(a) Woody cover and herbaceous/moss EACH comprise 30-70% of the vegetated AA, AND (b) There are few patches ("islands") of woody vegetation scattered widely within herbaceous vegetation, or few patches of herbaceous/moss vegetation ("gaps") scattered widely within woody vecetation.	(a) Woody cover <b>OR</b> herbaceous/moss comprise >70% of the vegetated AA, AND (b) There are several patches of the other scattered within it (e.g. forested AAs with patches — not limited to corridors — of skinnk cabbace or misken with scattered shrubs)	

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101	Я	c1% of the AA's vanatated area or larnest natch norminies less than AAA set	
183		יווי איני איני וווי איני איני איני איני	
184		1-25% of the vegetated area	
185		25-50% of the vegetated area	0 Ifoodplains. [CS, INV, OE, PH, SBM]
186		50-75% of the vecetated area	
187		>75% of the vegetated area	
100 F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			lichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
191		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	0
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
200	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SR]
		little or no (<5%) bare ground is visible between erect stems or under canopy and ground surface is extensively blanketed by moss, lichens,	
201		graminoids with great stem densities, or plants with ground-hugging foliage.	0
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0
F44 206	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Wirotopography" refers mainly to the patchiness of vertical reflec of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
207		Few or none (minimal microtopography; <1% of that area)	Soil: Do not coult morse diametes and other made to reaches. It pais of the fact are not others of have substantial microtronoraphy hase voir answer on which condition predominates in the parts of
208		Intermediate	the A4 that lack persistent water. [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
209		Several (extensive micro-topography)	. 0
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	O meeting the size threshold. Upland inclusions may sometimes be created by fill. JAM. N.R. SBM.
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	"Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "O" horizon.  These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NK, OE, PH, PK, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, loam, sandy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	0
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	
220		Coarse: includes sand, Ioamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0

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F47	Shorebird Feeding	Within the AA, the extent of mudflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 - 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located
977	Patch	submerged and floating aquatics) <u>within</u> the AA is: [Note: <i>Do not include areas where the herbaceous canopy is so thin that moss is visible</i> beneath it during the height of the growing season].	extend the patch to include contiguous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
777		SKIP to E54	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
728		0.1 - 1 acre	
022		1 to 10 acras	
020		10 to 100 acres	
230		101 to 1000 accord	
231		TOUR DUMP sories	
	11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	/ 1000 datas	Ť
233	Unshaded Herbaceous	As <b>visible in birds-eye view</b> , herbaceous vegetation ( <b>excluding</b> mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes hardware transfer the property of the prop
234	באופווו	<5% of the vegetated part of the AA. Mark "1" here and SKIP to F54.	I let bacedus vegetation midden beneatif a tree of sindb candpy. [Wbr., Wbr., POL]
235		5-25% of the vegetated AA	
236		25-50% of the vegetated AA	0
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
022	100 C	The necessary of the vicenshed ensure that is feeten for a chinal and head have wildly many or annual manipular of	Т
239	rord Cover	i ne percent of the Vegetated ground cover that is <b>forbs</b> (e.g., skunk cabbage, buckbean, wildhowers) reaches an annual maximum of:	roras = nowering non-woody vascular plants (excludes grasses, sedges, rems, mosses). Exclude horsetail ( <i>Equisetum</i> ) even though technically it is a forb. [POL]
240		<5% of the vegetated ground cover	0
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	0
243		50-95% of the vegetated ground cover	
244		>95% of the vegetated ground cover. <b>SKIP to F52.</b>	0
F51	Sedge Cover	Sedges (Carex spp.) and/or cottongrass (Eriophorum angustifolium) occupy:	[CS]
24.0		<5% of the vanetated around cover or <0.01 acre	
240		5.70%, of the vagarieties ground nover.	
24/		ED CREW of the registrated ground account acco	
248		SUPER, at the uncondended memory of the unco	
249		Solve of the regerated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fern) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do <b>not</b> comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC, PH, POL, Sens]
253	Cover	grass, canadian tristle, field sow-thistle, Japanese knoweed, European mountain ash, write clover, aisike dover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

		-	
Ą	В	S	D
F54 259	Weed Source Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 10 ft of wetland) that is occupied by plant species that are considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	If the wetland has no upland edge, or upland edge is <10% of wetland's perimeter, then answer for the portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., winter portion).
260		none of the upland edge (invasives apparently absent)	Conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. If vacatation is so capacad that invasive species capacity a identified answer "none" IDHI
261		some (but <5%) of the upland edge	III VASIVE. II VEGETALIULI IS SU SCHESSCE LITALIII VASIVE SPECIES CALIITOLUE INCITIITEU, ALISWEL HOTE. [11]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55 264	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains natural (not necessarily native – see column E) land cover taller than 6 inches is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses,
265		45%	Trecreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
592		5 to 30%	Todos. Naturial taria cover is not the same as manye vegetation: it can include areas with invasive plants.  If the AA does not adjoin incland has a voir answer on the closest incland IAM_FA_FR_INV_NRv_PH.
267		30 to 60%	0 PRV. SBM. Sens. SRv. WBNI
268		%0 o 0.0	0
569		>90%. <b>SKIP to F58</b> .	
F56	Type of Cover in Buffer	Within 100 ft upstope of the wetland-upland edge dosest to the AA, the upland land cover that is NOT unmanaged vegetation or water is mostly (mark ONE):	[AM, FA, INV, NRv, PH, SBM, WBN]
0/7		immonitate enthon on natural road national let building avanced rock	c
271		Impervious surface, e.g., paveer road, parking tot, bullding, expuseer rock.	
272		bare or nearly bare pervious surface or managed vegetation, e.g., Iawn, mostly-unvegetated clearcut, landslide, unpaved road, dike.	0
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	dosest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	0 AA is only part of a wettand and does not have an upland edge, evaluate this along the upland edge
275		2-5%	
276		5-30%	0
277		>30%	0
F58	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	Do not include upturned trees as potential den sites. [POL, SBM]
E 7.2	New Wetland	The AA is (or is within or contains) a "new" welland resulting from human actions (e.g. excavation immoundment) or debris or lava flows	Do not include wellands created by beaver dams except for the part where flooding affected uplands
		rice of its warm, or contains) a new weaten a country from the country of e.g., characteron, impoundingly or doors or tava nows, receding glacier, sea level rise, or other factors affecting what once was <b>upland (non-hydric) soil.</b>	To not instance were not screened by begins a construction in part where incoming an extract operations (not just existing wetlands and streams). Determine this using historical aerial photography, old maps, soil mans or namit flies as available ICS. NR. OF PH. PRV. Sens. SRVI.
280		NO	
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	0
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	0
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[Pu, WBFv]
287		<55%	
288		25-50%	0
289		>20%	0
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
291		publidy owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles).	Todal (ax Iliaps II possible: [* o.]
292		publidy owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	0
293		owned by non-profit conservation organization or lease holder who allows public access.	0
294		other private ownership, including Tribes.	0

Y	В		D
295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Barnation laver a Barnation Earlities. [D1]
296	סומוומו סו סומווומו	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	die reduceation layer a reduceation a confident poly
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstrip, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nicitors on trails on trible of the AA unless more than half the undend is visible from the trails and they are within 100 ft of the undend order in	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		values of talks busined in the Ara unless inde trial frame wealth is walke from the train from the wealth eage. In that case add only the area occupied by the trail.]	depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SEM, WEY, WEN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-36%	0
306		>95% of the AA	1
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
		not include wisitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail].	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
700		AEQ. HEEQ3 una ananarad "SAED to EE7	-
308		You. II roo was alisweled 250%; <b>ANI to For.</b>	
309		200-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	0
310		90-98%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	[PH, PU]
F66	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "I" if true.	[AM, PU, WBF, WBN]
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of these consumptive uses may consist of direct observation, of presence of physical avidence (a presence of physical paydence) or might be obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	ocommunication with the land owner or manager. [FAv, FRv, PHv, Subsis, WBFv]
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	1
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	I leginounoud is known to not be connected to a municipal dimiking water system (e.g., is outside a 0 denselv settled area). INRv1
323		500-1000 ft	0
324		>1000 ft away, or none, or no information	

ressor (S) Data Form for Non-Tidal Wetlands	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
Wetter Water Regime - Internal Causes			1	
In the last column, place a check mark next to any item that is likely to have caused occurring within past 100 years or since wetland was created or restored (whicheve table beneath them). [CS]				
an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or down	gradient from the wetland, or raising of outlet culvert elevation			
excavation within the wetland, e.g., artificial pond, dead-end ditch				
excavation or reflooding of upland soils that adjoined the wetland, thus expanding	the area of the wetland			
plugging of ditches or drain tile that otherwise would drain the wetland (as part of i	ntentional restoration, or due to lack of maintenance, sedimer	station, etc.)		
vegetation removal (e.g., logging) within the wetland				
compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of	machinery, livestock, or off road vehicles			
If any items were checked above, then for each row of the table below, you may ass the "0's" for the scores in the following rows. To estimate effects, contrast the current				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the wetter conditions began within past 10 years,				
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
Average water level increase	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Wetter Water Regime - External Causes				
In the last column, place a check mark next to any item occurring in the welland's <b>c</b> without that item or activity. Consider only items occurring within past 100 years or		the wetland to be inundated more extensively, more frequent	lly, more deeply, and/or for longer duration than it would be	
subsidies from stormwater, wastewater effluent, or septic system leakage				
pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			
removal of timber in the CA or along the wetland's tributaries				
removal of a water control structure or blockage in tributary upstream from the we	tland			
If any items were checked above, then for each row of the table below, you may ass	ign points (3, 2, or 1 as shown in header) in the last column.	However, if you believe the checked items had no measural	ble effect in making any part of the AA wetter, then leave	
the "0's" for the scores in the following rows. To estimate effects, contrast the current				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the wetter conditions began within past 10 years,	and only for the part of the wetland that got wetter.			
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
Average water level increase	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Drier Water Regime - Internal Causes				
In the last column, place a check mark next to any item located within or immediatel without that item. Consider only items occurring within past 100 years or since well		of the wetland to be inundated less extensively, less deeply,	less frequently, and/or for shorter duration that it would be	
ditches or drain tile in the wetland or along its edge that accelerate outflow from the	e wetland			
lowering or enlargement of a surface water exit point (e.g., culvert) or modification	of a water level control structure, resulting in quicker drainag	e		
accelerated downcutting or channelization of an adjacent or internal channel (incis	sed below the historical water table level)			
placement of fill material				
withdrawals (e.g., pumping) of natural surface or ground water directly out of the w	vetland (not its tributaries)			
If any items were checked above, then for each row of the table below, you may ass	ign points in the last column. However, if you believe the che	cked items had no measurable effect in making any part of t	he AA drier, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the condition	if the checked items never occurred or were no longer prese	nt.		
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the drier conditions began within past 10 years, a	nd only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Drier Water Regime - External Causes				
In the last column, place a check mark next to any item within the wetland's CA (incl	, ,	caused a part of the wetland to be inundated less extensively	y, less deeply, less frequently, and/or for shorter duration	
that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the				
relocation of natural tributaries whose water would otherwise reach the wetland	o watland			1
instream water withdrawals from tributaries whose water would otherwise reach th	e weuditu			
groundwater withdrawals that divert water that would otherwise reach the wetland  If any items were checked above, then for each row of the table below assign points	that describe the combined maximum affect of those items in	creating a drier water regime in the AA. To estimate that a	ontract it with the condition if checked items never	
occurred or were no longer present. However, if you believe the checked items had				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	5 7/5 ugo	5 5 710 ago	10 100 y10 ago	<u>.                                    </u>

Score the following 2 rows only if the drier conditions began within past 10 year	rs, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	(
Water level decrease	>1 ft	1-12"	<1 inch	(
			Sum=	(
			Final Score=	0.
			Tillal GCOTE	0.
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have cau	sed the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more m	uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy (large				
flow regulation in tributaries or water level regulation in adjoining water body,	or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland	7, 0			_
				$\vdash$
increased pavement and other impervious surface in the CA				<b>├</b> ─
straightening, ditching, dredging, and/or lining of tributary channels in the CA				
If any items were checked above, then for each row of the table below, you may			part of the AA, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the cond	ition if the checked items never occurred or were no longer preser	nt.		
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	(
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	(
Score the following 2 rows only if the altered inputs began within past 10 years				
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	(
		·		_
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	(
			Sum=	(
			Final Score=	0.
Appalarated Innuts of Contembrants and Contembrants				
Accelerated Inputs of Contaminants and/or Salts				
In the last column, place a check mark next to any item occurring in either the	wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. [FA, NRv, PRv]		
stormwater or wastewater effluent (including failing septic systems), landfills, i				
		I)		₩
metals & chemical wastes from mining, shooting ranges, snow storage areas,	oii/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/ )		Щ
oil or chemical spills (not just chronic inputs) from nearby roads				L
spraying of pesticides, as applied to lawns, croplands, roadsides, or other are	as in the CA			
If any items were checked above, then for each row of the table below, you may	assign points. However, if you believe the checked items did not	cumulatively expose the AA to significantly higher levels of	contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condition				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	GOTOTO (O POINTO)	* * * *	mildly impacting (reclaimed minie, low density residential)	_
		active mine mid-sized town cronland		
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	many impacting (residence minic, for density residential)	(
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	(
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item – occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	resign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Ai In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from construction, in-channel machinery in the CA erosion from off-road vehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Ai In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from construction, in-channel machinery in the CA erosion from off-road vehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered last columns.	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	0.
AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from off-road vehicles in the CA erosion from off-road vehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, the crosion from off-road vehicles in the CA erosion from investock or foot traffic in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered to other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing An In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the storm of the scores in the following rows. To estimate efficiency and the score of the scores in the following rows. To estimate efficiency and the score of the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows.	frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  likely to have elevated the load of waterborne or windborne sedin fires  assign points (3, 2, or 1 as shown in header) in the last column. iects, contrast the current condition with the condition if the checked severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from for-road vehicles in the CA  erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil gas extraction accelerated channel downcutting or headcutting of tributaries due to altered to other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column. leds, contrast the current condition with the condition if the checkee	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients.  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRV]  However, if you believe the checked items did not cumulative di tems never occurred or were no longer present.  Medium (2 points)  potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing An In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the storm of the scores in the following rows. To estimate efficiency and the score of the scores in the following rows. To estimate efficiency and the score of the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows.	frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  likely to have elevated the load of waterborne or windborne sedin fires  assign points (3, 2, or 1 as shown in header) in the last column. iects, contrast the current condition with the condition if the checked severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0			
* high-intensity= extensive off-road vehicle use, plowing, grading, excar sediment	vation, erosion with or without veg removal; low-intensity= veg removal o	nly with little or no apparent erosion or disturbance of soil or	Sum=	0			
			Final Score=	0.0			
Soil or Sediment Alteration Within the Assessment Area							
In the last column, place a check mark next to any item present in the wetland that is likely to have compacted, eroded, or otherwise altered the wetland's soil. Consider only items occurring within past 100 years or since wetland was created or restored (whichever is less). [CS, INV, NR, PH]							
compaction from machinery, off-road vehicles, or mountain bikes, especially during wetter periods							
leveling or other grading not to the natural contour							
tillage, plowing (but excluding disking for enhancement of native plant	s)						
fill or riprap, excluding small amounts of upland soils containing organic amendments (compost, etc.) or small amounts of topsoil imported from another wetland							
excavation							
ditch cleaning or dredging in or adjacent to the wetland							
boat traffic in or adjacent to the wetland and sufficient to cause shore erosion or stir bottom sediments							
artificial water level or flow manipulations sufficient to cause erosion or stir bottom sediments							
If any items were checked above, then for each row of the table below, you may assign points. However, if you believe the checked items did not measurably alter the soil structure and/or topography, then leave the "0's" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.							
	Severe (3 points)	Medium (2 points)	Mild (1 point)				
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	•			
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	Ī			
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	-			
Timing of soil alteration frequent and year-round frequent but mostly seasonal infrequent & mainly during scattered events							
			Sum=				
			Final Score=	0.0			

## **GROUP 4**

WESPAK SE NON-TIDAL REPORT
Wetlands D, E, I

Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	2.70
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

		_,							F					
idal Wetla	and									Functi (nor	on Rating malized		Value (non	noids for e Rating malized core)
Function Score raw	Value Score raw	Function Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	FV Index (normalize d)	Median of Normalize d F Scores	Low is	High is >	Median of Normalized V Scores	Low is	High is >
3.96	0.00	3.16	Moderate	0.00	Lower	1.58	3.16	1.44	2.95	2.89	6.34	3.06	1.85	5.00
6.71	1.40	8.05	Higher	2.10	Moderate	5.08	8.05	8.05	3.17	2.67	6.13	3.33	1.45	4.48
7.25	3.75	7.25	Higher	4.95	Moderate	6.10	7.25	7.05	4.00	3.36	5.87	1.98	2.11	5.49
4.43	5.85	4.43	Moderate	10.00	Higher	7.22	7.22	6.68	5.42	3.33	6.80	2.78	2.78	6.63
4.94	2.46	3.56	Moderate	5.25	Moderate	4.41	4.41	2.56	3.13	3.36	6.52	0.84	2.05	5.86
6.61	3.38	4.92	Moderate	4.74	Moderate	4.83	4.92	4.51	3.34	3.06	6.17	1.27	2.45	5.73
5.35	6.17	2.86	Moderate	6.99	Higher	4.92	4.92	4.92	2.33	2.19	4.64	3.25	2.17	4.94
6.55		4.82	Moderate			4.82	4.82	4.82	6.53	3.66	6.43			
7.05	6.67	10.18	Higher	6.71	Moderate	8.44	10.18	10.00	7.68	0.00	7.59	7.00	0.00	7.00
0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
5.58	10.00	5.63	Higher	10.00	Higher	7.82	7.82	7.82	3.92	2.48	5.04	2.22	2.50	6.43
5.96	6.25	4.90	Moderate	7.72	Higher	6.31	6.31	5.83	4.40	3.59	6.74	4.21	2.43	5.19
0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
4.05	0.00	5.85	Moderate	0.00	Lower	2.93	5.85	5.85	4.58	0.00	6.44	6.90	1.67	8.70
7.32	10.00	9.04	Higher	10.00	Higher	9.52	9.52	9.49	8.05	0.00	7.35	4.22	2.50	5.63
8.11	7.15	12.07	Higher	9.58	Higher	10.83	12.07	10.00	4.94	2.45	5.38	4.15	2.65	5.83
6.66	9.53	9.22	Higher	9.44	Higher	9.33	9.33	9.68	5.24	4.52	6.51	3.78	3.78	6.46
	2.54			3.17	Moderate	3.17	3.17	3.17				2.91	2.32	5.59
	8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
	4.41			6.53	Moderate	6.53	6.53	10.00				5.91	5.03	7.46
	6.83			7.19	Higher	7.19	7.19	7.57				4.15	2.79	5.08
	5.40			8.42	Higher	8.42	8.42	10.00				6.43	3.31	5.73
							Group Score Not Normalized	Group Score Normalized	Group Rating					
							1.44	1.44	Lower	3.08	5.91			
							4.56	2.54	Lower	4.23	6.75			
WW)									Higher		6.60			
)							4.87 9.86	3.81 9.82	Lower Higher	4.04 3.61	6.82			
	Function Score raw 3.96 6.71 7.25 4.43 4.94 6.61 5.35 6.55 7.05 0.00 0.00 5.58 5.96 0.00 4.05 7.32 8.11 6.66	Score raw         Score raw           3.96         0.00           6.71         1.40           7.25         3.75           4.43         5.85           4.94         2.46           6.61         3.38           5.35         6.17           6.55         7.05         6.67           0.00         0.00           5.96         6.25           0.00         0.00           4.05         0.00           7.32         10.00           8.11         7.15           6.66         9.53           2.54         8.89           4.41         6.83           5.40	Function Score raw (normalized)  3.96 0.00 3.16 6.71 1.40 8.05 7.25 3.75 7.25 4.43 5.85 4.43 4.94 2.46 3.56 6.61 3.38 4.92 5.35 6.17 2.86 6.55 4.82 7.05 6.67 10.18 0.00 0.00 0.00 0.00 0.00 0.00 5.58 10.00 5.63 5.96 6.25 4.90 0.00 0.00 5.85 7.32 10.00 9.04 8.11 7.15 12.07 6.66 9.53 9.22  2.54 8.89 4.41 6.83	Function Score raw Score Rating 3.96  0.00  3.16  Moderate 6.71  1.40  8.05  Higher 7.25  3.75  7.25  Higher 4.43  5.85  4.43  Moderate 4.94  2.46  3.56  Moderate 6.61  3.38  4.92  Moderate 6.55  4.82  Moderate 7.05  6.67  10.18  Higher 0.00  0.00  0.00  Lower 0.00  0.00  1.00  Lower 0.00  0.00  1.00  Lower 0.00  0.00  1.0	Function Score raw Score r	Function   Score raw   Score	Function Score raw Rating (normalized) Rating (normalized) Rating (normalized) Rating (normalized) Rating (normalized) Rating (normalized) Rating raw Rating (normalized) Rating Rating raw Rating (normalized) Rating Ratin	Function Score raw Score r	Function Score raw (normalized) Function Score (normalized) Function Score raw (normalized) Function (normaliz	Function   Value   Function   Score   Function   Value   Score   Function   Score   Function   Score   Function   Value   Formalized   Rating   Formalized   Score   Function   Value   Formalized   Rating   Formalized   General   Formalized   General   Ge	Function   Score raw   Score	Function   Value   Score   Function   Functi	Function   Value   Score   Function   Score   Score   Function   Sco	Function   Value   Score raw   Score raw

7.18

Overall Score (see Manual for explanation of how the spreadsheet calculates it):	7.18
Overall Rating:	Higher

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Data Form OF (Off	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
DIRECTIONS: Conduct an a otherwise, in the Data colum questions primarily based on accurately may require confe office data form requires 1-2 descriptions of each WESPA Stream Flow Support, WC= \text{NC=} \text{Sequestration}, OE= Organic \text{Nesting Waterbirds}, SBM= \text{S}	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Except where instructed otherwise, in the Data column change the 0 (false) to a 1 (futue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this office data form requires 1-2 hours per site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WB= Feeding Waterbirds, WBn= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsis= Subsistence, EC=	Site Location: Angoon Alaska Investigator: ESA Staff Date: 13-22 Aug, 2013: 15-22 June, 2017: 6-14 June, 2018 Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
3 # Indicator	Condition Choices	Explanations, Definitions
4 OF1 Distance by Road to	Measured along the maintained road or boat landing that is nearest the AA, the distance to the nearest population center is:	"Population center" means a settled area with more than about 50 year-round residents per square
5 Center	<0.5 mile	0 IIIIIe: [FAV, TRV, TRV, TRV, TR, TU, ODIVI, OUDSIS]
9	0.5 - 2 miles	
	2-5 miles	0
∞ «	5-10 miles	0
	>10 miles	T
OF2 Wildlife Access	Draw a circle of <b>radius of 0.5 mile</b> from the center of the AA. If mammals and amphibians can move from the center of the AA to all other separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	0 Many roads are mapped in the online WESPAK-SE Wetlands Module: http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3 Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module: http://ecapkrie.alacka.advi/flackustlands/ IEAv EBv, AM DH DI SRM WRNI
12	< < < >100 ft	Implification and a second flow in the second flow
13	100-500 ft	0
14	500-1000 ft	
15	1000 ft - 0.5 mile	0
16	0.5-1 mile	0
		0
OF4 Distance to Natural Land Cover	In a minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native—see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and dearcuts harvested more than 10
91	<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
20	<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	o roads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21	150-300 ft, with or without interrupting features	online WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be loaning a site visit. Do not include naris of the natural power natch or contrider that are
22	300-1000 ft, with or without interrupting features	verified during a site visit. Do not involve paris of the radial cover patch of comor that are 0 harrower than 150 ft. [AM, SBM, Sens]
23	none of the above	0
OF5 Size of Largest Nearby Tract or Corridor of	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA (i.e., not completely separated by highways or channels that are uniformly wider than 150 ft), occupies:	View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of >150 ft, if the gap is comprised of impervious surface, bare
25 Natural Land Cover	<1 acre, or larger but with average width <150 ft	o dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
26	1-10 acres	1 The offine WESPAR-SE Wetlands module may be examined to answer mis, and to use its measure tool to determine acreage. [AM. SBM. Sens. WBN]
27	10-100 acres	
28	100-1000 acres	0
7	>1000 acres	
OF6 Natural Land Cover 30 Extent	Within a <b>2-mile</b> radius measured from the <b>center</b> of the AA, the percent of the <b>land</b> that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should be examined to answer this. [AM, SBM]

Form OF Non-tidal

_	0	C C	٥	<u> </u>
3.1		<5% of the land (excluding opean and bav)	0	1
		5 to 200% of the land		
25		יין איני איני איני איני איני איני איני א	> 0	
33		20 to 60% of the land	0	
34		60 to 90% of the land	0	
35		>90% of the land. SKIP to OF8.	1	
0F7	Type of Land Cover	Within a 2-mile radius measured from the center of the AA. the area that is not natural land cover or water is mostly:		AM. SBM1
	Alteration		ć	
37		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
38		bare pervious surface, e.g., recent (5 yrs ago) clearcut, dirt or gravel road, plowed fields, landslide.	0	
0F8		Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		Aerial imagery should be examined to help answer this, and land cover maps contained in the online
	Uniqueness	as being intersected by the AA, <u>or</u> a "Z" next to ones which (a) are present in the AA and (b) ALSO comprise <b>less than 10%</b> of the landscape		WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv, المربية] المربية والمربية المربية ال
39		OUISIDE OF UP AN OUR WITHIN 2 HINES.		INVV, FLIV, OBMV, FOL, GELIS]
40		Fresh Water	2	
41		Wetland	1	
42		Muskeg	0	
43		Herbaceous	2	
4		Shrubland (Low)	0	
45		Shrubland (Tall)	1	
46		Deciduous/Mixed Forest	2	
47		Conifer Forest - Young or Small	1	
. 01		Conifer Forest - Medium	1	
ţ Ę		Conign Forest - Jame	. 0	
44		MATTER AT LEGY	7	
20		Wetland Shrub Forest	- (	
51		other	0	
52		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.	0	
53		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NOT contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "I" in the next column.	0	
OF9				[INVV, AMV, SBMV, POLv, PHv, Sens]
t 5	Uncommon Cover Type	c450 th	1	
çç		1001	- 0	
56		130 - 300 TT	o 0	
/c		1001.000	> 0	
28		1000 It - 1 mile	0	
59		1-Z TIIIBS	0	
09		none of the above land cover classes were marked . Z.	0	
OF10 61	Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or tidal system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
62		0	0	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
63		10r2	0	they are inundated and water is ponded at least seasonally. [AM, PH, 5BM, 5ens, WBF, WBN]
\$ 4		306	1	
65		7 09	0	
99		10 to 12	0	
67		>12	0	
0F11 68	Ponded Water Proximity	r The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		"Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. "Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	Classification Level 1 layer and took for blue polygons. If multiple smaller water bodies are senarated by <150 ft they may be combined when evaluating acreane. [ AM PH SRM Sens WRF
				Selection of the first field for committee when evaluating a region of the SDM Selection of

¥	n	)	a c	п
71		300-1000 ft, and connected with a natural land corridor		WBN]
77		300-1000 ft. but no uninterrupted natural land corridor	0	
1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
73		>10UU ft, and connected with a natural land corridor	-	
74		>1000 ft. but no uninterrupted natural land corridor	0	
0E40	Oto Lot operation	The dictance from the AA edges to the alocaet (hat concept) lake (a non tidal body of under that is needed during most of the user and is		to the entires WIECDAM CE Methods Medule and the Land Classification Level 1 level 1 level
	חואומווכם וס במעם	interdiscipling interval organization of the properties of the pro		in the bolining were than 20 acres. If multiple smaller water hodies are separated by <150 ft they
C				may be combined when evaluating acreage. [Sens. WRF. WRN]
76		<1 mile	0	ingly be compared when evaluating dereage. [coins, weily]
77		1-5 miles	_	
28		>5 miles and on the mainland or the same island	0	
70		>5 miles and on a different island	0	
		The first of the f	Ì	SAME ON MAN TANK STATE OF STATE OF THE STATE OF
21 08 08	I idal Proximity	The distance from the AA edge to the closest tidal water body is:		AM, FA, FK, INV, NK, OEV, PH, PK, PU, OBM, OBPS, OK, OUDSIS, WBF, WBN, WS, WWV]
10		<300 ft	-	
10		מטע אינטיין מיני איני איני איני איני איני איני איני		
82		300-1-000 II	0	
83		1000 ft - 1 mile	0	
84		1-5 miles	0	
85		>5 miles	0	
OF14	Upland Edge Contact	Selectione:		other wetland" could be contiduous wetland that is classified differently by NWI, or the same wetland
	· -			but will be unaffected by proposed alteration. INR. SBM. Sens
87		The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	0	
		1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
88			,	
68		25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
06		50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	-	
		From Bookship more tenerable more ential inserts and/or entirely and sublice tenests determined.	c	Actabilities and scales and forest decreases will be been assured about the 400 secure and abilities
<u> </u>	Ploodable Property	From floodplan maps, topographic maps, aerial imagery, and/or contacts with FEIMA and public works departments, determine IF: downslope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillstope runoff, or sudden icefalls AND  (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams.  If this enter "i" in next column I false anter "i".	⊃	Ketchikan and perhaps a few other communities have maps showing the 10U-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]
92	_			AM TA TO INIV OF: DD. OFC. OD. MO. 1MO. 1MM.
93 01-16	Glacier Fed	Refer to the claciers map in the online WESPAR-SE Wetlands Module. Select the first applicable choice:		[AMI, FA, FK, INV, OEV, PKV, SFVV, WCV, WCV, WWV]
94		No upstream glacier feeds <b>surface</b> water to the AA, not even seasonally.	1	
95		A glacier feeds streamflow or other surface water to the AA and it obviously reduces water clarity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0	
96		A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water darity.	0	
OF17 97	Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:		Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86		a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0	Subsis, WBF, WBN]
66		<ul> <li>is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	0	
200		ic) is not accessible to anadromous fish but other resident fish are known for can be assumed) present (Class 2)	c	
001		d) is fishless (i.e. not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3.4)	·	
101		e) fish presence and potential fish access are unknown and undeterminable	. 0	
102		Value in programme and programme and programme and programme of progra	T	Andershall Methods ( ) and
	Designated IDA	over list in fast countin. Then it is necessary then to the interpretation where we want is wounder, natural Layers > importain bits a Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.		mentanian wedanto (valreau), bernets beg (valreau), Ton Siteubstani (valreau), betakasanu oput (Yakutat), loy Bay (Yakutat), Chilkat Badd Eagle Preserve (Haines), St. Lazaria Island (Sitka), Fornester Island (Prince of Wales-Outer Ketchikan), Sitkine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WPNv]
103				

0	
within 1 mile downslope, and connected to the AA by a channel	

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OF19	Deer Winter Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	0	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20 105	0 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
107		67-87 inches	1	and ratitude: [51.50, OE]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
111		>165 inches	0	
112		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
113	Allica.	modera as (rounce to the legres) whole mained).		cens covering ocululeast Alaska. The injudeted data are not interview 1940 ocused only environ. Principle of the control of the second on the chimate normals for the normal 1981 2040 ocused on the chimate normals for the normal 1981 2040 ocused on the chimate normals.
114		<38 degrees F	0	Clinidae Group and are based on the clinidae normals for the period 1901-2010, as well as elevation and lattings. RM CS FR INV NR OF PH PR Sens SR WRF WC WS WMV.
115		38-40 degrees F	0	
116		41-42 degrees F	1	
117		43-44 degrees F	0	
118		> 44 degrees F	0	
119		no information available	0	
0F22	2 Basic pH or Karst	The AA (a) is in a karst area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>←</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adiantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa), [AM, FA, FR, INV, OE, PH]
120	_			
0F23	3 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Granitic Geology. The AA is underlain primarily by granitic formations or glacial till that is known to be granitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	if deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	4 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landsides.  Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or classifications intersect the AA.	0	Zones of past and possibly future elosion. [PT, PKV, Sens, SKV]
124		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
126		no information	1	
OF25	5 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first rue statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem; If no quality-controlled sampling has been done, then a statement or rating
128		within the AA	0	documenting the problem and published in a recent agency report or official correspondence may be counted. Also, if time allows, query and retrieve water quality data from:
129		in waters within 1 mile that flow into the AA.	0	http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
130		Sampling (not just absence of map symbols) indicates no problems.	0	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
131		insufficient data (no map symbols $\&$ no sampling, or >1 mile upstream).	1	STR, WBF, WBNJ
OF26	6 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters <b>downslope from</b> the AA. Or, other sampling has identified such a problem downslope. Select the <b>first</b> true statement. These conditions are present:		See above. [SRv]
132		within 1 mila downselone, and connected to the $\Delta A$ by a channel	c	
133		Within Thie downslope, and connected to the AA by a channel	>	

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134			Within I mile downshippe, but not commerced to the AA by a channel	>	
135			sampling (not just absence of map symbols) indicates no problems	0	
136			insufficient data (no map symbols & no sampling, or >1 mile downslope)	_	
137	OF27 Drink	Drinking Water Source	Refer to the Drinking Water Protection Areas layer of the online WESPAK-SE Wetlands Module. Mark all that are true for the AA:		[NRv]
138			Zone A Ground Water	0	
139			Zone B Ground Water	0	
140			Zone A Surface Water	0	
141			Zone B Surface Water	0	
142			Zone C Surface Water	0	
143			Zone E Ground Water Surface Water Influence	0	
144			Zone F Ground Water Surface Water Influence	0	
145			Zone G Ground Water Surface Water Influence	0	
146			None of above	_	
	OF28 Eleva	Elevation in Multi-scale Watersheds	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset>		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
			watershieu boundary bataset. Then it is sheubata workshieut (ab below) box up the AA's not codes and then curous to upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		
147					
148			In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	-	
149			In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	-	
150			In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= Iower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	_	
151	OF29 Wetts in HU	Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the <b>Shedbata worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the Shedbata table, change the cell on the right to <b>blank</b> —>	0.86	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv, PHv, POLv, SBMv, Sens, WBFv, WBNv]
152	OF30 Cont Pero	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153			<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	-	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154			1 to 10% of its CA	0	the fringe of a pond or lake, compare the area of that water body to its contributing area – not the area of the wettend compared to only the wettend's contribution area. For most wettends and
155			10 to 100% of its CA	0	ered of the western compared to only the western's contributing area. For most westernes, and especially ones containing tributaries, the first choice will be the most appropriate. [NR, PR, Sens,
156			Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. SKIP TO 0F34.	0	SR, WSV]
157	OF31 Unve	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWv]
158			<10%	-	
159			10 to 25%	0	
160			o/.c2./	o	

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0F32	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following:  (a) input channel is present,  (b) input channels have been straightened,  (c) upslope wetlands have been straightened,  (d) land cover is mostly non-forest,  (e) CA slopes are steep, and/or  (f) most CA soils are shallow and/or have high runoff coefficients.  This statement is:  Mostly true	O	[NRv, PRv; SRv, WSv]
162	. 1	Somewhat true  Mostly untrue	0 -	
165 166 167 167 168	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:  Northward (N, NE). north-facing CA.  Southward (S, SW). south-facing CA.  other (E, SE, W, NW), or no detectable uphill slope or input channel (flat)	- 0 0	If there are no inflowing streams: In what direction does most runoff or groundwater flow as it moves through this AA? If necessary consider the Aspect 20m map in the online WESPAK-SE Wetlands Module. [AM, NR, PH, POL, SFS, WC, WS, WWv]
0F34 169 170 171 172 173	Internal Gradient	The gradient along most of the flow path within the AA is:  <2%, or, no slope is ever apparent (i.e., flat). Includes most depressional sites and ponds. 5-5% 5-10%		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in closely until you see numbers on the contour lines. Measure a line drawn from highest to lowest elevation along the part of the wetland polygon having the greatest width measured perpendicular to contour lines. Then estimate elevational difference from the numbered contours and divide by the line length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye. [AM, CS, NR, OE, PR, SR, WBF, WBN, WS]
0F35 175 176 177 178 180	Interna Flow Distance (Path Length)	From measurement of wetland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are facking, see guidance in fast column] <150-300 ft 300-800 ft 800-2000 ft - 1 mile >1 mile	0 0 0 0 0	If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If wetland is flat or a pond, use the maximum with measured perpendicular to topographic lines uphill from the wetland. Straight-line rather than channel distance is used here only for simplicity of measurement. The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of intersected stream length of all Southeast Alaska non-tidal wetlands. [NR, OE, PR, SR, WS]
OF36 181 OF37 182	Relative Hydrologic Distance to Anadromous Estream Salmonid Watershed	Determine the AA's Wetland_ID using the Identify tool in the online WESPAK-SE Wetlands Module (see Manual). From column B of the HydroDist worksheet (tab below), enter its score in the next column. If Wetland_ID or HydroDist is lacking, use the value from the closest non-tidal wetland.  Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-49%), 0= all other.		[OEv]  The rating (from TNC) is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
0F38 1183 1185 1186 1186 1187	Subsistence Focal Areas	The AA or waters that directly adjoin it:  is Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries)  is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps)  neither of the above  no data (outside of the regions shown on the maps, and not listed in Table B-6)	0 0 -0	Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by persons with subsistence permits. [FAv, FRv, Subsis]
OF39 189 190	Geography	Mark ALL that are true. The AA is located: in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains. in another mainland area or on an island larger than 20 square miles.	0	[AMv, SBM, WBF, Sens]

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<b>t</b>		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191 0F40	10 Unbrowsed Vegetation	waters. The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
OF41	11 Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42 198	Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
0F43 204	Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan — has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	-	
0F44	Species of Conservation Concern	One or more of these species — Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird — has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. However: at least one of the following have been confirmed nesting in the AA: Short-eared Owl, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45	15 Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
C17		To the tenth of the tenth of the tenth of the AA	c	
216		more than 1 such reature of species is present in the AA and only one such snacies or feature is present in the AA.	0	
21.7		Only otic species of reature is present in the AA. There are no recent observations of these in the AA hu a cualified observer under conditions similar to what now now in or no data	> -	
218 OF46	16 Cedar	trere are no recent coservations of treese in the AA by a qualified coserver under contained is written to write into occur, or no data.  The AA contains (a) more than 1 acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline	- 0	PHv. SBMI
219		(see layer in online WESPAK-SE Wetlands Module).		
0F47	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[PU]
777		-		

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OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animal to the public.		4	L
OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animals to the public,		n	E
The wetland (e) OF49 Sustained Scientific Use Plants, animals to the public	OF48 Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	0	voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites
OF49 Sustained Scientific Use Plants, animal to the public.	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	ισ	are shown online at: http://www.conservationregistry.org/ [PU]
to the public.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	0	ĺηd
are princinom	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends		
	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.		

<	В	3	D	tn
Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
interference in the control of the c	CTIONS: Conduct an as: ) to a 1 (true) for the best rvations and interpretation where or other knowledgat listing of functions to whin ndix F of the accompanyin r Warming, SR= Sedimentebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (frue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	7]	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5 F1.1		Forested Peatland	∑ <u>S</u> 8 <u>⊏</u>	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0 9	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Si O is ur	Surface water is more extensive, at least seasonally. More emergent than tall (>3 tt) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, its largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4.		Floodplain Wetland	At dt the the the the the the the the the th	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are sit or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's dub. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
F1.5		Uplift Meadow	<u> </u>	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downout. Mostly sweetgale and/or herbaceous vegetation, e.g., silvenweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	In le 0 ar	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	<u>⊢</u>	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WWJ
13		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	
14		25-50'% of the AA level contains surface water.	0	

A 15 16 16 19 19 19 19 19 19 19 19 19 19 19 19 19	m	50-99% of the AA never contains surface water.	Q F
		5L-99% of the AA never contains surface water	
		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to	0
8 1	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obscured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the <u>cumulative</u> acreage of all areas that have surface
10	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	Indude morniation on saudation persistence. [Aw, Cs, FA, FR, INV, INK, FOL, FR, 55M, W5F, W5N]
22		25-50% of the AA	0
2 5		50-95% of the AA	0
24		>95% of the AA	0
. ~	Summertime Shading of	_	Consider the aspect and surrounding topographic relief as well as vegetation height and density. FEA
25	Water		WC, WM]
î <sup>%</sup>		K5% of the water is shaded	
07 5		5-25% of the water is shaded	
17		O EDIV of the material principal	S (C)
78		Z>-ov/n of the water is shaded	0
29		50-75% of the water is shaded	
30		>75% of the water is shaded	0
F5	Fringe Wetland	The AA adjoins a lake, stream, or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ft	[WBF, WBN, WC, WWv]
		and also more than 5 times the vegetated wetland's average width (measured perpendicular to upland). If true, enter "1" and continue. If false,	
3.1		leave the 0 and continue.	•
F6	Lacustrine Wetland	The AA borders a body of bonded open water whose size (not counting the AA's welland) exceeds 20 acres during most of the growing	The "vegetated areas" should not include submersed or floating-leaved aguatics. IFA, FR. PR. WBF.
32		season. Enter "I if true, "O" if false.	WBN)
F7	% Flooded Only	The percentage of the AA soil that is covered by surface water only during the wettest time of year, and for >2 continuous weeks during that	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that
33	Seasonally	time, is:	flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are
3		<1% or <0.01 acre. whichever is less. SKIP to F9.	onen evident when not rully inundated. Also, such areas onen nave a larger proportion of upland and
34			u annida (vs. perennial) prant species. In them is systems, une extent of uns zone can be estimated by multiplying by 2 the baptful beight and visualizing where that would intercent the land along the river
35		1-25%	Indiappying by 2 time bankun negling in visualizing where that would intercept the rail along the fiver.  Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
,		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
30		בטיסבטי	
37		%G5-1-G	6 events after the ground is frozen, and/or during spring snowmelt. Near melting glaciers, surface water
38		%56<	may be present mainly in summer. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
7.0 F8	Annual Water Fluctuation	The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
£ 5	Range		
7		05-1#	× =
1+1		420	- (
42		11%	⊃ .
43		>31	0
44 F9	Predominant Depth Class	During most of the growing season, surface water depth in <b>most</b> of the area where it is present is: [Note: This is not asking for the maximum depth.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the
45		<0.5 ft deep (but >0)	o spatial median depth that occurs during most of that time, even if inundation is only seasonal or
46		0.5-1 ft deep	temporary. If indindation in most but not all of the wetland is brief, the answer will be based on the depth of the most participated part of the wetland. Inclinde surface water in channels and dischas as
47		1-2 ft deep	0 well as ponded areas. ICS. FA. FR. INV. OE. PH. PR. Sens. SFS. SR. WBF. WBN. WC. WWI
48		2-6 ft deep	0
49		>6 ft deep. True for many fringe wetlands.	0

		4	
A F10		Β Danth Clase Distribution Mhan masant surface water in most of the ΔΔ neually consists of (salar) one.	Estimate these proportions by considering the cradient and microtroportions of the site. See diagram in
50   10		when present, surface water in most of the Ary assaily contasts of (serect only).	Estimate tress proportions by constraining the gradient and introduced aprily of the site. See diagram in the manual IER INV WRE WRNI
51		One depth dass that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth dass that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		50-75%	0
09		>75%	0
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the <u>AA</u> that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AM, CS, NK, OE, PH, PK, SBM, Sens, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, <b>do not consider herbaceous plants</b> . Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so should not be attempted. [AM, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has ponded surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWI
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
92		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
20			

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87		scattered in small clumps, islands, or patches throughout the surface water area.		
88		intermediate		
68		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 so ft and <1% of the AA.	Γ	
F18		At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater	[EC, PR, WBF]	
06		substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".		
F19	lce Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	Available data suggest this rankin, Annette, Sitka, Little Port Walter, J elevation, water body depth, and f SFS, SR, WBF, WS]	Available data suggest this ranking from shortest to longest ice duration based on location: Ketchikan, Annette, Sitka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
71 F20	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if	[FR, OE, PR, WW]	
92				
F21	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	[WBN]	
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):	[FA, FR, PH, SBM, Sens, WBF, WBN]	VBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may indude: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.		
		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But		
76		beaver occur in the region (i.e., within 10 miles, or on same island).		
86		<b>none</b> . Beaver are absent from the region and/or the island.		
F23 99	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).		
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.		
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.		
103		5-30% of the AA.		
104		30-70% of the AA.		
105		70-95% of the AA.		
106		>95% of the AA.		
F24 107	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a take or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and <b>SKIP to F28.</b>	[NRV, PH, PRV, SRV]	
F25		Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	[WC, WWv]	
108	Temperature	years. Enter 1= yes, 0= no.		
F26 109	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:	Estimate gradient by dividing the e	Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		<1%		
111		1-5%		
112		%UE< %NP-G		
F27	Throughflow Complexity	_	IFA, FR, INV, NR, OE, PR, SR, WS	S
114	· ·			7

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115	Does not bump into plant stems. Nearly all the water travels in unvegetated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	-
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The <b>most persistent</b> <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the <b>AA</b> and the closest off-site downstope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	0 a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur oduring the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Wajor runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
137	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not annear to drain the welland artificially during most of the proving season	NA, OE, PR, Vells, VA, Woj
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wettand artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lyloding 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	eastwaret with grounwater seeps hay be most houseable in its formations along streams during early writer. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul><li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li><li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li><li>(d) AA is located at a geologic fault.</li></ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	
136	5-25%. 25-51%	0
138	50-75%	,
139	>75%	0
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the <b>trees</b> that are taller than 20 ft occupy.	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for sowers weeks of the provision season. The "venetated part" should not include floating based or
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	o submersed aquatics. [PH, SBM, Sens]
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% of the vegetated AA	
145	>95% or the vegetated part of the AA	0

ם	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated	for several weeks of the growing season. The "vegetated part" should not include floating-leaved or	submersed aquatics. [CS, OE, INV, SBM, PH]	0	0		0	The trees and shrubs need not be welland species. Measurements are the d.b.h., the diameter of the tree measured at 4.5 ff above the ground, IAM, CS, POL, SBM, Sens, WBNI			-						Snags are standing trees at least 10 ft tall that are mainly without bark or foliage. [POL, SBM, WBN]	-	0	0	Exclude temporary "burn piles." [AM, INV, POL, SBM]		0	The "vegetated part" may include moss, but it should not include floating-leaved or submersed aquatics.	0 [Aw, PT, 05w]	0		0	0	[EC, PH, SBM, Sens]	-	0		whereas those that show "tine-grained" forests suggest more even-aged, even-sized forest with little interspersion. [SBM, Sens]	0		0	4 0	F
	Within the vegetated part of the AA, just the <b>deciduous trees</b> that are taller than 20 ft occupy:	دان» of the venetated ۵.۵	1.00 of the vegetation may	1-25% of the vegetated AA	25-50% of the vegetated AA	50-95% of the vegetated AA	>95% of the vegetated part of the AA		evergreen 1-4" diameter and >3 ft tall	deciduous 1-4" diameter and >3 ft tall	evergreen 4-9" diameter	deciduous 4-9" diameter	evergreen 9-21" diameter	deciduous 9-21" diameter	evergreen >21" diameter	deciduous >21" diameter	The number of large snags (diameter>8") in the AA plus the area within 100 ft uphill of the closest upland to the wetland edge is:	Several (>2/acre) and a pond or lake of at least 1 acre is within 1 mile.	Several (>2/acre) but above not true.	Few or none	The number of downed wood pieces longer than 6 ft and with diameter >6", and not persistently submerged, is:	Several (>5 if AA is >10 acres, or >2 for smaller AAs)	Few or none	Woody vegetation 3 to 20 ft tall that is not under the drip line of trees is:	<5% of the vegetated AA and (if a fringe wetland) <5% of its water edge. Or <0.01 acre. SKIP to F41.	5-25% of the vegetated AA or (if a fringe wetland) 5-25% of the water edge whichever is greater.	25-50% of the vegetated AA or the water edge, whichever is greater.	50-95% of the vegetated AA or the water edge, whichever is greater.	>95% of the vegetated part of the AA or the water edge, whichever is greater.	Determine which two native shrub species (3 to 20 ft tall) comprise the greatest portion of the native shrub cover. Then choose one:	those species together comprise > 50% of the areal cover of native shrub species.	those species together do <b>not</b> comprise > 50% of the areal cover of native shrub species.	In "ducks-eye view", the distribution pattern of woody vegetation (including Iow shrubs) VS. unshaded herbaceous/moss vegetation within the AA is:	(a) Woody cover and herbaceous/moss cover EACH comprise 30-70% of the vegetated part of the AA, AND (b) There are many patches of woody vegetation scattered widely within herbaceous/moss vegetation, or many patches of herbaceous vegetation scattered widely within woody vegetation.	(a) Woody cover and herbaceous/moss EACH comprise 30-70% of the vegetated AA, AND (b) There are few patches ("islands") of woody vegetation scattered widely within herbaceous vegetation, or few patches of herbaceous/moss vegetation ("gaps") scattered widely within	woody vegetation.	<ul><li>(a) Woody cover OR herbaceous/moss comprise &gt;70% of the vegetated AA, AND (b) There are several patches of the other scattered within It. (e.g., forested AAs with patches – not limited to corridors – of skunk cabbage, or muskeg with scattered shrubs).</li></ul>	(a) Woody over OR herbaceous/moss comprise >70% of the vegetated AA, AND (b) The other is absent or is mostly in a single area or distinct zone with almost no intermixing of woody and unshaded herbaceous/moss vegetation.	Zone with aminorial meeting of the control of the c
	33 Deciduous Trees	<u> </u>	13		- 1	/		34 Woody Diameter Classes N	<u>.                                    </u>	, 3			. Ψ		<u>. w</u>	, 3	F35 Snags T	,	, 37		F36 Downed Wood T	,		37 Exposed Shrub Canopy N			- 71			F38 Shrub Species			Woody-Herbaceous In		,~ /			. ~ ~	

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10.1	Я	c1% of the AA's vanatated area or larnest natch occurrings less than AAA or	
183		יייייייייייייייייייייייייייייייייייייי	
184		1-25% of the vegetated area	
185		25-50% of the vegetated area	0 Ifoodplains. [CS, INV, OE, PH, SBM]
186		50-75% of the vecetated area	
187		>75% of the vegetated area	
100 F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			lichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	
191		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	0
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
200	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SR]
		little or no (55%) have amund is visible between erect stems or under canony and mound surface is extensivaly blanketed by moss lichens	
201		nace of no (1574) bare ground is visible between closed sention of an engineers of sentiments by most, nations, graminoids with great stem densities, or plants with ground-hugging follage.	
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obsoured by emergent plants) covers all of the AA all the time.	0
F44	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Microtopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
207		Few or none (minimal microtopography; <1% of that area)	Soil. Do not count incised channels and other "macro" features. If parts of the AA are flat but others  1 have eitherential miscratonomisably base your answer on which condition prodominates in the parts of
208		Intermediate	
209		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "Islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	Count as industrials the elevated roots of trees of roots unless supported by a mount of filler soil of meeting the size threshold Unland inclusions may sometimes be created by fill TAM_NR_SBMT.
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	'Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "O" horizon. These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NK, OE, PH, PK, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, candy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, Ioamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	

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F47	Shorebird Feeding	Within the AA, the extent of mudflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located,
311	ratch	Submerged and toating aquatics) within the AA is: [Vote: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the patch to include configuous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
077		C/1 acres CKID to FEA	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
177		10.1 - 1 arra	
977		1 to 1 August	2
229		10 U actes	
230		10 to 100 acres	0
231		100 to 1000 acres	0
232		>1000 acres	0
733 F49	Unshaded Herbaceous	As visible in birds-eye view, herbaceous vegetation (excluding mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
007	Extent	1500, of the venetated nort of the ΔΔ Mark "!" here and SKID to F54	herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
724		C ACM the registrate part of the contract o	<b>&gt;</b> (
235		5-25% of the vegetated AA	0
236		25-50% of the vegetated AA	
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
F50	Forb Cover	The percent of the vegetated ground cover that is forbs (e.g., skunk cabbage, buckbean, wildflowers) reaches an annual maximum of:	forbs = flowering non-woody vascular plants (excludes grasses, sedges, ferns, mosses). Exclude horsetal (Equiselun) even though technically it is a forb. IPQLI
739			
240		<5% of the vegetated ground cover	0
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	
243		50-95% of the vegetated ground cover	0
244		>95% of the vegetated ground cover. SKIP to F52.	0
F51	Sedae Cover	Sedoes (Carex sop.) and/or cottonorass (Frionhorum angustifolium) occupy:	
245	,		
246		<5% of the vegetated ground cover, or <0.01 acre	
247		5-50% of the vegetated ground cover	0
248		50-95% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fem) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do <b>not</b> comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
F53	Invasive & Non-native	Invasive plants in this region may include (for example); creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC. PH. POL. Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike clover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	-
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

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A F54	Weed Source Along	Abon the welland-inland boundary, the nercent of the inland edge (within 10 ft of walland) that is occupied by plant species that are	(If the wetland has no inland edge or inland edge is <10% of wetland's nerimeter then answer for the
259	Upland Edge	considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., winter
260		none of the upland edge (invasives apparently absent)	conditions) but its genus contains an invasive species, assume the unidentified plant to also be
261		some (but <5%) of the upland edge	invasive. Il vegatation is so seriesced transitions species carrior be transition, answer from a principal of
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains natural (not necessarily native - see	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of
264		column E.) land cover taller than 6 inches is:	perennial vegetation. It does not include water, glaciers, annual crops, residential areas, goir courses, recreational fields, fields mowed >1x per vear, pavement, bare soil, rock, bare sand, or gravel or dirt
265		0/C2	Ŧ
566		5 to 30%	
267		30 to 60%	0 PRv, SBM, Sens, SRv, WBN]
268		60 to 90%	
569		>90%. <b>SKIP to F58</b> .	0
F56	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge closest to the AA, the upland land cover that is NOT unmanaged vegetation or water is	[AM, FA, INV, NRv, PH, SBM, WBN]
270		mostly (mark ONE):	
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0
27.0		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated dearcut, landslide, unpaved road, dike.	
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	closest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge
275		2-5%	dusses to the AX. Estimate stope by dividing the elevation difference (between the wettain and disturbed area) by their horizontal distance apart. NRV. Sons. SRV.
276		5-30%	described and by their field described plant. [MIV), 1 MV, Corne, CIV.]
277		%0E<	0
F58	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 it nearly vertically, are unvegetated, and potentially contain requires or other suited for nearing or dangers. Enter 1 (use) or 0 (no)	Do not include upturned trees as potential den sites. [POL, SBM]
278		deviced of the constant of the first and the first of the first of the first	
F59	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows, receding glacier, sea level rise, or other factors affecting what once was upland (non-hydric) soil.	Do not include wetlands created by beaver dams except for the part where flooding affected uplands (not just existing wetlands and streams). Determine this using historical aerial photography, old maps, and a property of the part of the part where or promit files or ancietal ICS ND OF DU DD. See SD.
280		No	סטון ווומטט, טו ליפורוון ווופט מט מעמוומטופ (כט, ואר, כב, דרו, דרוץ, ספוס, טוען
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	0
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	0
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU, WBFv]
287		<25%	
288		25-50%	0
289		>20%	0
290 F61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
100		publicly owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road wahrdes)	Tocal (ax indps ii possible: [To]
200		noublidy owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	
293		owned by non-profit conservation organization or lease holder who allows public access.	
294		other private ownership, including Tribes.	0

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295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Bernastion layers Repression Facilities. [D1]
296		Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	ure i conceanor layer a recicanor i acimices. Pol
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstirp, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nighters on trails outside of the AA unless more than half the wedgend is visible from the trails and than see within 400 ft of the wedgend order. In	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		hatchs on trains dustice of the An almost more than the weather is habite from the dails and they are writing for it of the weather edge. In that case add only the area occupied by the trail.]	depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SEM, WBY, WBN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	0
306		>95% of the AA	1
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
100		not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail].	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
207		ACUL HERO	
308		COW. If Fo3 was answered 195%; SKIP to Fo1.	
309		9-90%	0
310		50-95%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	[PH, PU] 0
F66	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (excert during hunting seasons). Enter "1" if true	[AM, PU, WBF, WBN]
313 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply,	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g. selective flinning)	groups. Evidence of these consumptive uses may consist of direct observation, or presence of physical
316		Commercial or subsistence-based harvesting of native plants or mushrooms	<ul> <li>evidence (e.g., recently cut stumps, itsning jures, snell cases), or might be obtained from</li> <li>communication with the land owner or manager (FAy FRy PHy Subsis WREy)</li> </ul>
217		Hunina	
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	0
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	— itelignocificou is kitowit to not be conflicted to a municipal diffikilig water system (e.g., is ouiside a 0 Idenselv settled area). INRv1
323		500-1000 ft	
324		>1000 ft away, or none, or no information	0

Stre	ssor (S) Data Form for Non-Tidal Wetlands	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
S1	Wetter Water Regime - Internal Causes		Dute.	One Eccation.	
	In the last column, place a check mark next to any item that is likely to have caused occurring within past 100 years or since wetland was created or restored (whicheve				
	table beneath them). [CS]	is less). (The items you check are not used automatically in	subsequent calculations. They are included simply so they	may be considered when evaluating the factors in the	
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or downg	radient from the wetland, or raising of outlet culvert elevation			
	excavation within the wetland, e.g., artificial pond, dead-end ditch  excavation or reflooding of upland soils that adjoined the wetland, thus expanding	the area of the wetland			
	plugging of ditches or drain tile that otherwise would drain the wetland (as part of in		tation, etc.)		
	vegetation removal (e.g., logging) within the wetland	nonicona roccionation, or add to lack of maintenance, countries	10101		
	compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of	machinery, livestock, or off road vehicles			х
	If any items were checked above, then for each row of the table below, you may ass the "0's" for the scores in the following rows. To estimate effects, contrast the currer	ign points (3, 2, or 1 as shown in header) in the last column.		0 7,	
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	1
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Score the following 2 rows only if the wetter conditions began within past 10 years,	and only for the part of the wetland that got wetter.			
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	Average water level increase	>1 ft	6-12"	<6 inches	0
				Sum=	2
				Final Score=	0.17
S2	Wetter Water Regime - External Causes				
	In the last column, place a check mark next to any item occurring in the wetland's		he wetland to be inundated more extensively, more frequent	ly, more deeply, and/or for longer duration than it would be	
	without that item or activity. Consider only items occurring within past 100 years or s	since wetland was created or restored (whichever is less).			
	subsidies from stormwater, wastewater effluent, or septic system leakage				
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			х
	removal of timber in the CA or along the wetland's tributaries				х
	removal of a water control structure or blockage in tributary upstream from the wet	land			
	If any items were checked above, then for each row of the table below, you may ass			le effect in making any part of the AA wetter, then leave	
	the "0's" for the scores in the following rows. To estimate effects, contrast the currer	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Cookiel autori of annuline autori annuline	,			,
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	1
	When most of wetland's wetter condition began  Score the following 2 rows only if the wetter conditions began within past 10 years,	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
			6-12"		
					0
	Average water level increase	>1 ft	0-12	<6 inches	0
	Average water lever increase	2111	0-12	Sum=	2
S3		>1π	0-12		
S3	Drier Water Regime - Internal Causes			Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately	y adjacent to the wetland, that is likely to have caused a part c		Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells	vadjacent to the wetland, that is likely to have caused a part o and was created or restored (whichever is less).		Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the	vadjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less).  s wetland	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification	vadjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis	vadjacent to the welland, that is likely to have caused a part ond was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification	v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less). a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis) placement of fill material	v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainaged below the historical water table level)  etland (not its tributaries)	of the wetland to be inundated less extensively, less deeply,	Sum= Final Score=  Final Score=  ess frequently, and/or for shorter duration that it would be	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incisplacement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che	of the wetland to be inundated less extensively, less deeply, i e e cked items had no measurable effect in making any part of t	Sum= Final Score=  Final Score=  ess frequently, and/or for shorter duration that it would be	2
\$33	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che	of the wetland to be inundated less extensively, less deeply, i e e cked items had no measurable effect in making any part of t	Sum= Final Score=  Final Score=  ess frequently, and/or for shorter duration that it would be	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass	y adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer prese.	of the wetland to be inundated less extensively, less deeply, i e cked items had no measurable effect in making any part of t	Sum= Final Score= ess frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the	2
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  In wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  Wetland (not its tributaries)  Ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presences.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)	of the wetland to be inundated less extensively, less deeply, i e cked items had no measurable effect in making any part of t nt. Medium (2 points)	Sum= Final Score= ess frequently, and/or for shorter duration that it would be ess frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point)	2 0.17
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainaged below the historical water table level) etland (not its tributaries) gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any) <3 yrs ago and only for the part of the wetland that got drier.	of the welland to be inundated less extensively, less deeply, as deeply, less deepl	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago	0 0
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier. seldom vs. persistent	cked items had no measurable effect in making any part of the Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often	0 0
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainaged below the historical water table level) etland (not its tributaries) gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any) <3 yrs ago and only for the part of the wetland that got drier.	of the welland to be inundated less extensively, less deeply, as deeply, less deepl	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches	2 0.17
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier. seldom vs. persistent	cked items had no measurable effect in making any part of the Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Sum= Final Score=  Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier. seldom vs. persistent	cked items had no measurable effect in making any part of the Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches	2 0.17
S3 S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier. seldom vs. persistent	cked items had no measurable effect in making any part of the Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Sum= Final Score=  Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lunudation now vs. previously  Water level decrease	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer prese.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
53	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes.	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  In wetland of a water level control structure, resulting in quicker drainage and below the historical water table level)  Wetland (not its tributaries)  Ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence of the checked items never occurred or were no longer presence occurred or were no longer pres	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S3	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incident).	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise) placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a luundation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of the without those. Consider only items occurring within past 100 years of the condition of the without those.	r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  a wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level) etland (not its tributaries) tign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a nundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inclinat it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  iuding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  e wetland	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago  slightly shorter or less often <6 inches  Sum= Final Score=  r, less deeply, less frequently, and/or for shorter duration	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals that divert water that would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer prese.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  inding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  wetland  that describe the combined maximum effect of those items in	of the wetland to be inundated less extensively, less deeply, less dee	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0's" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  , less deeply, less frequently, and/or for shorter duration	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a nundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inclinat it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present that the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items in the wetland that got drier.  seldom vs. persistent  >1 ft  unding channels flowing into the wetland) that is likely to have the or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the folio	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  , less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lunudation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the verelocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points occurred or were no longer present. However, if you believe the checked items had	r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer prese.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  inding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any Severe (3 points)	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively  creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the folio  Medium (2 points)	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  i, less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.  Mild (1 point)	0 0 0 0 0 0 0 0 0 x
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals that divert water that would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present that the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items in the wetland that got drier.  seldom vs. persistent  >1 ft  unding channels flowing into the wetland) that is likely to have the or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	cked items had no measurable effect in making any part of th.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively creating a drier water regime in the AA. To estimate that, or part of the AA, then leave the "0's" for the scores in the folio	Sum= Final Score=  ess frequently, and/or for shorter duration that it would be  the AA drier, then leave the "0s" for the scores in the  Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum= Final Score=  , less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Score the following 2 rows only if the drier conditions began within past 10 ye	ears, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	
Water level decrease	>1 ft	1-12"	<1 inch	
			Sum=	
	-		Final Score=	0.
			i ilui ocorc	0.
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have co	aused the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more mu	ıted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy (I	arger or more frequent spikes but over shorter times). [FA, FR, INV,	PH]		
flow regulation in tributaries or water level regulation in adjoining water body	y, or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland				
increased pavement and other impervious surface in the CA				
straightening, ditching, dredging, and/or lining of tributary channels in the Co	۸			
		the first of the f	and of the A.A. there have the MOLEN for the assessing the	
If any items were checked above, then for each row of the table below, you me following rows. To estimate effects, contrast the current condition with the con-			ant of the AA, then leave the "U s" for the scores in the	
tollowing rows. To ostimate onests, contrast the current contains with the con-	9 7	Medium (2 points)	Mild (1 point)	
	Severe (3 points)	( 1	Mild (1 point)	
Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	-
Score the following 2 rows only if the altered inputs began within past 10 year	ars, and only for the part of the wetland that experiences those.			
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	(
•			Sum=	
			Final Score=	0.
Accelerated Inputs of Contaminants and/or Salts				
In the last column, place a check mark next to any item occurring in either t	he wetland or its CA that is likely to have accelerated the insule of	contaminants or salts to the AA IFA NPv PPv1		
		contaminants or saits to the AA. [FA, NAV, FAV]	1	
stormwater or wastewater effluent (including failing septic systems), landfills				
metals & chemical wastes from mining, shooting ranges, snow storage area	is, oil/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/)		
oil or chemical spills (not just chronic inputs) from nearby roads				
spraying of pesticides, as applied to lawns, croplands, roadsides, or other a	reas in the CA			
If any items were checked above, then for each row of the table below, you m	nav assign points. However, if you believe the checked items did not	cumulatively expose the AA to significantly higher levels of	contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condition				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	(		mildly impacting (reclaimed minie, low density residential)	
		active mine, mid-sized town, cropland		
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	military impacting (reclaimed milite, low defisity residential)	
·				
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	
			infrequent & during high runoff events mainly in other part of the CA	
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	:
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	frequent and year-round 0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either to	frequent and year-round 0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either to stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either to stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	frequent and year-round 0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either to stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands	frequent and year-round  0-50 ft  0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of s	frequent but mostly seasonal 50-300 ft or in groundwater nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either to stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you me stimate effects, contrast the current condition with the condition if the checked.  Type of loading	frequent and year-round  0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of s  avay assign points. However, if you believe the checked items did not ad items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	0.
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either to stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you mestimate effects, contrast the current condition with the condition if the checked that the condition of the checked that the condition of the co	frequent and year-round  0-50 ft  the wetland or its CA that is likely to have accelerated the inputs of states assign points. However, if you believe the checked items did not ad items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round 0-50 ft  Area  Its likely to have elevated the load of waterborne or windborne sedim	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0
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AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0
* high-intensity= extensive off-road vehicle use, plowing, grading, excaved sediment	ation, erosion with or without veg removal; low-intensity= veg removal or	nly with little or no apparent erosion or disturbance of soil or	Sum=	0
			Final Score=	0.0
Soil or Sediment Alteration Within the Assess	ment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	atland that is likely to have compacted, eroded, or otherwise altered the w	vetland's soil. Consider only items occurring within past 100	years or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	ecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plants	)			
fill or riprap, excluding small amounts of upland soils containing organi	c amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	rosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion or	stir bottom sediments			
If any items were checked above, then for each row of the table below, yestimate effects, contrast the current condition with the condition if the c	ou may assign points. However, if you believe the checked items did not necked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then	leave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	
			Sum=	
			Final Score=	0.

## **GROUP 5**

WESPAK SE NON-TIDAL REPORT Wetlands G1, G4, G6, G7, G16, G20, G22

Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	131.60
AA as percent of entire wetland (approx.)	100.00
	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the AA were you able to	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protoocl and certified in ORWAP
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

										F	UNCTIO			VALUE	
WESPAK-SE version 2 scores for this NON-t Assessment Area (AA):	tidal Wetla	and								Median of	Functi (non	noids for on Rating malized core)	Median of	Valu (noi	snoids for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	d F Scores	Low is	High is >	Normalized V Scores	Low is < or =	High is >
Surface Water Storage (WS)	6.28	1.11	5.79	Moderate	1.11	Lower	3.45	5.79	4.73	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	8.33	2.80	10.00	Higher	4.21	Moderate	7.11	10.00	10.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	10.00	3.00	10.00	Higher	3.96	Moderate	6.98	10.00	10.00	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	10.00	5.24	10.00	Higher	9.75	Higher	9.88	10.00	10.00	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	6.11	0.28	5.05	Moderate	0.25	Lower	2.65	5.05	4.12	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	7.67	1.54	6.51	Higher	1.79	Lower	4.15	6.51	6.23	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	5.38	3.17	2.90	Moderate	3.34	Moderate	3.12	3.12	3.12	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	8.12		7.88	Higher			7.88	7.88	7.88	6.53	3.66	6.43			
Organic Nutrient Export (OE)	4.93	5.70	7.12	Moderate	5.73	Moderate	6.43	7.12	7.12	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	5.21	6.67	7.21	Moderate	6.67	Moderate	6.94	7.21	7.21	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.98	10.00	6.45	Higher	10.00	Higher	8.22	8.22	8.22	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	4.79	6.25	2.77	Lower	7.72	Higher	5.25	5.25	4.62	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	5.14	10.00	6.34	Moderate	10.00	Higher	8.17	8.17	8.08	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	6.67	7.15	9.76	Higher	9.58	Higher	9.67	9.76	9.74	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	4.93	9.53	3.79	Lower	9.44	Higher	6.61	6.61	6.17	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		1.98			2.16	Lower	2.16	2.16	2.16				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		7.78			7.78	Higher	7.78	7.78	7.78				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		5.14			9.05	Higher	9.05	9.05	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.17			5.44	Higher	5.44	5.44	5.72				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.70			6.84	Higher	6.84	6.84	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								4.73	4.73	Moderate	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)								6.61	5.87	Moderate	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC,	WW)							9.53	10.00	Higher	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								5.41	5.41	Moderate	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								3.08	1.57	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, POL SOCIAL GROUP (max+avg/2 of PU, Subsis)	)							8.87 7.78	8.50 8.91	Higher	3.61	6.32			
SOCIAL GROUP (Illax+avg/2 of PU, Subsis)					selected higher			1.18	8.91	Higher	3.00	6.58			

Overall Score (see Manual for explanation of how the spreadsheet calculates it):	7.89
Overall Rating:	Higher

AVG w/o Social with Social selected higher normalized

8.01 8.21 8.21 7.89

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Data Form OF (Offi	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
DIRECTIONS: Conduct an a otherwise, in the Data column questions primarily based on accurately may require conference office data form requires 1-2 l descriptions of each WESPAI Stream Flow Support, WC= V Sequestration, OE= Organic Nesting Waterbirds, SBM= Si	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Except where instructed otherwise, in the Data column change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this office data form requires 1-2 hours per site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsistence, EC=	Site Location: Angoon Alaska Investigator: ESA Staff Date: 13-22 Aug, 2013: 15-22 June, 2017: 6-14 June, 2018 Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
3 # Indicator	Condition Choices	Explanations, Definitions
4 OF1 Distance by Road to	Measured along the maintained road or boat landing that is nearest the AA, the distance to the nearest population center is:	"Population center" means a settled area with more than about 50 year-round residents per square
S Center	<0.5 mile	0 IIIIIe: [FAV, TRV, TRV, TRV, TR, TU, ODIVI, OUDSIS]
9	0.5 - 2 miles	
	2-5 miles	0
∞ «	5-10 miles	0
T	710 Miles	
OF2 Wildlife Access	Draw a circle of <b>radius of 0.5 mile</b> from the center of the AA. If mammals and amphibians can move from the center of the AA to all other separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	0 Many roads are mapped in the online WESPAK-SE Wetlands Module: http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3 Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
12		Intp://scangis.alasna.edu/illes/iwetlailus/ [I Av, I I V, Aw, F I , I O, ODW, WDN]
13	100-500 ft	
14	S00-1000 ft	0
115	1000 ft - 0.5 mile	
16	0.5-1 mile	0
17		0
OF4 Distance to Natural Land 18 Cover	In a minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native—see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and clearcuts harvested more than 10
61	<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not indude water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
20	<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	orads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21	150-300 ff, with or without interrupting features	online WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be loaning a site visit. Do not include naris of the natural power natch or contrider that are
22	300-1000 ft, with or without interrupting features	verified during a site visit. Do not involve paris of the radial cover patch of comor that are 0 harrower than 150 ft. [AM, SBM, Sens]
23	none of the above	0
OF5 Size of Largest Nearby Tract or Corridor of		View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of >150 ft, if the gap is comprised of impervious surface, bare
Natural Land Cover	<1 acre, or larger but with average width <150 ft	o dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
26	1-10 acres	1 the online WESPAR-SE Wetlands Module may be examined to answer this, and to use its measure from the defermine acreane TAM SRM Sens WRNI
27	10-100 acres	
28	100-1000 acres	0
	>1000 acres	
OF6 Natural Land Cover 30 Extent	Within a <b>2-mile</b> radius measured from the <b>center</b> of the AA, the percent of the <b>land</b> that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should be examined to answer this. [AM, SBM]

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10		E-e-2001, et de la constant de la co	0	
32		o to 20% or the fairu	o	
33		20 to 60% of the land	0	
34		60 to 90% of the land	0	
35		>90% of the land. SKIP to OF8.	1	
OF7	7 Type of Land Cover	Within a 2-mile radius measured from the center of the AA. the area that is not natural land cover or water is mostly:		JAM. SBM1
_	_		4	
37		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
38		bare pervious surface, e.g., recent (5 yrs ago) clearcut, dirt or gravel road, plowed fields, landslide.	0	
0F8		Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		Aerial imagery should be examined to help answer this, and land cover maps contained in the online
	Uniqueness	as being intersected by the AA, or a "2" next to ones which (a) are present in the AA and (b) ALSO comprise less than 10% of the landscape nutside of the AA but within 2 miles.		WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv, INIV, PHv. SRMv, POI. Sens]
39				
40		Fresh Water	2	
41		Wetland	_	
42		Muskeg	0	
43		Herbaceous	2	
4		Shrubland (Low)	0	
54		Shrubland (Tall)	_	
46		Deciduous/Mixed Forest	2	
47		Conifer Forest - Young or Small	1	
64		Onitar Forest - Marium	1	
δ <del>1</del> ξ		Continue Translation	- 0	
46		Colliel Fotes - Large	7	
20		Wetland Shrub Forest	1	
51		other	0	
52		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.	0	
		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NOT contain a cover type that is	0	
53		absent from 90% of the landscape outside of the AA and within 2 miles. Enter "1" in the next column.		
954 OF9	Distance to Locally	If any of the above were marked "Z", the distance from the AA edge to the closest one that was so marked is:		[INVv, AMv, SBMv, POLv, PHv, Sens]
55	oncommon cover 1ype	<150 ft	1	
95		150 - 500 ft	0	
57		500 - 1000 ft	0	
28		1000 ft - 1 mile	0	
59		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10 61	10 Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or tidal system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
C9		0	0	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
1 5		1 or 2	0	they are inundated and water is ponded at least seasonally. [AM, PH, SBM, Sens, WBF, WBN]
3		3 to 6	1	
65		7 to 9	0	
99		10 to 12	0	
29		>12	0	
OF11 68	11 Ponded Water Proximity	The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	Crassincation Level 1 layer and took for blue polygons. In multiple smaller water boures are senarated by <150 ft they may be combined when evaluation acreane I AM_PH_SBM_Sens_WBF

OF12 Distance to Lake OF13 Tidal Proximity OF16 Glacier Fed OF16 Glacier Fed OF18 Designated IBA		
OF12 Distance to Lake OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF12 Distance to Lake OF13 Tidal Proximity OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	and connected with a natural land corridor	WBN]
OF12 Distance to Lake OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	but no uninterrupted natural land corridor	0
OF12 Distance to Lake OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	connected with a natural land corridor	
OF12 Distance to Lake OF13 Tidal Proximity OF16 Glacier Fed OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	Tourillected with a rigidial failu contidor	
OF12 Distance to Lake OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	no uninterrupted natural land corridor	0
OF13 Tidal Proximity OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	from the AA edge to the closest (but separate) lake (a non-tidal body of water that is ponded during most of the year and is	In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 laver and look
OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	20 acres or about 1000 ft on a side) during most of a normal year is:	for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they
OF13 Tidal Proximity  OF16 Floodable Property  OF16 Glacier Fed  OF17 Fish Access or Use  OF18 Designated IBA		may be combined when evaluating acreage. [Sens, WBF, WBN]
OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF13 Tidal Proximity OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	on the mainland or the same island	0
OF13 Tridal Proximity OF16 Upland Edge Contact OF16 Glacier Fed OF16 Fish Access or Use OF18 Designated IBA	on a different island	0
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	from the AA edge to the closest <b>tidal water</b> hody is:	TAM FA FR INV NR OF PH PR PH SRM Sens SR Subsis WRF WRN WS WWV
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		0
OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	11	
OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	2	
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		0
OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		0
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		"other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland
OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		but will be unaffected by proposed alteration. [NR, SBM, Sens]
OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	
OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0
OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	A A la conjucción de contrata de contrata de contrata contrata de contrata de contrata de contrata de contrata	c
OF15 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	e AA's permeter aduits ubland. The rest adjoins other wedands of water that is mostly wider than the AA.	
OF16 Floodable Property OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	e AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
OF16 Glacier Fed OF16 Fish Access or Use OF18 Designated IBA	More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	0
OF16 Glacier Fed  OF17 Fish Access or Use OF18 Designated IBA	ain mane tonorrankin mane aarial imagaan, and/or contacte with EEMA and nublic worke danartmante datarmina IE	O Katchiban and parhane a few other communities have mane chawing the 100 year probability
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA	downsloped from the AA and within 2 by a substitution of the connects with Texin and plant, works uspatinitions, greatining in a downslope from the AA and within 2 billies, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillslope runoff, or sudden icefalls AND  (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams.	Natural and penaba a ray other communities have maps showing the Too-year procaumy floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process dassified as "Flood Plain" channel. [WSv]
OF16 Glacier Fed OF17 Fish Access or Use OF18 Designated IBA		
OF17 Fish Access or Use OF18 Designated IBA		[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]
OF17 Fish Access or Use OF18 Designated IBA	glacier feeds <b>surface</b> water to the AA, not even seasonally.	
OF17 Fish Access or Use OF18 Designated IBA	A glacier feeds streamflow or other surface water to the AA and it obviously reduces water darity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0
OF17 Fish Access or Use OF18 Designated IBA	ds streamflow or other surface water to the AA, but there is little or no resultant reduction in water clarity.	0
OF18 Designated IBA	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:	Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
OF18 Designated IBA	o support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0 Subsis, WBF, WBN]
OF18 Designated IBA	b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).	
OF18 Designated IBA	sssible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	
OF18 Designated IBA	(i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)	
OF18 Designated IBA	nce and potential fish access are unknown and undeterminable.	0
	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird	0 Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit
	). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	(Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forrester Island (Prince of Wales-Outer Ketchikan), Stikine River Delta (Wrangell-Petersburg). ISBMv. WREV. WRNM
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OF19	19 Deer Winter Habitat Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	The rating, assigned by the 2007 South lower elevations with more southerly exinterception and thermal cover, constitutions severe winter weather. [SBM, Subsis]	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southedly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20	20 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):	The category breaks are b cells covering Southeast A	The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
L \ C		<67 inches	Climate Group and are bas	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation المساقية الم
_		67-87 inches	allu lallilude. [STSV, OE]	
1 ∞		88-112 inches	0	
		113-139 inches	0	
_		140-165 inches	0	
1		>165 inches	0	
I ~		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was	The category breaks are b	The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
···	Annua	modeled as (rounded to the nearest whole number):	cells covering Southeast A	cells covering Southeast Alaska. The modeled data are from the Oregon State University PKISM Climate Cours and any broad on the dimeter accorded for the popular 1984 2040.
		<38 degrees F		Climate Group and are based on the climate normals for the period 1961-2010, as well as elevation and lattitude 14M CS FR INV NR OF PH PP Sens SR WRF WC WS WMM.
10		38-40 degrees F	ס מום ומונתכה. נרואי, כס, דוי,	1147, 1414, CE, 1-1, 1-4, CG13, CI, WEI, WC, WC, WC,
		41-42 degrees F		
<u></u>		43-44 degrees F	0	
- ~		> 44 degrees F	0	
1~		no information available		
	т	T	t	
O+ 22	22 Basic pH or Karst	I he AA (a) is in a <b>kars</b> t area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be undertain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	In Karst landscapes, the be sinkholes, and presence o holly ferns ( <i>Adiantum peda oppositifolia</i> ), columbine (	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns ( <i>Adiantum pedatum, Polystichum braunii</i> ), purple mountain saxifrage ( <i>Saxifraga oppositifolia</i> ), columbine ( <i>Aquilegia formosa</i> ). [AM, FA, FR, INV, OE, PH]
OF23	23 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Grantitic Geology. The AA is underlain primarily by grantitic formations or glacial till that is known to be grantitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0 If deep glacial till overlays	If deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	24 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upstope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.	Base this on observations online WESPAK-SE Wette Consider steep upslope an	Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landslides.  Consider steep upslope areas with shallow depth to befrock and/or dominated by alder to be likely
~ ا		yes, and such conditions or classifications intersect the AA.	0 Zones or past and possibly	Zones of past and possibly future erosion. [Pri, Prv, cens, orv]
I →		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
O I		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
ζ.		no information		
OF25	25 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first true statement. These conditions are present:	Check to be sure the probl sediment, turbidity, TSS, b tool to click on the line seg type of problem. If no quality	Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem. If no quality-controlled sampling has been done, then a statement or rating
<u>⊤~</u>		within the AA	0 counted Also if time allow	documenting the problem and published in a recent agency report of official correspondence may be counted. Also if time allows, query and retrieve water quality data from:
16		in waters within 1 mile that flow into the AA.	0 http://www.waterqualitydat	observed, and a mineral group, they have been a second and a many against the second potential http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
Ι ~		Sampling (not just absence of map symbols) indicates no problems.	0 pollution sources. The wat	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
1_		insufficient data (no map symbols & no sampling, or >1 mile upstream).	STR, WBF, WBN]	
OF26	26 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters downslope from the AA. Or, other sampling has identified such a problem downslope. Select the first true statement. These conditions are present:	See above. [SRv]	
01 m		within 1 mile downslope, and connected to the AA by a channel	0	

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1115 1116 1117 1118

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134		within 1 mile downslope, but not connected to the AA by a channel	0	נ
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	1	
OF27	27 Drinking Water Source	Refer to the <b>Drinking Water Protection Areas</b> layer of the online WESPAK-SE Wetlands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone & Surface Water Zone A Surface Water	0	
141		Zone B Surface Water	0	
142		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	-	
0F28	28 Elevation in Multi-scale Watersheds	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset> Watershed Boundary Dataset. Then in the ShedData worksheet (tab below) look up the AA's HUC codes and their cut-offs for upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	1	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	_	
150		In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	-	
OF29 151	29 Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the <b>ShedData worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the ShedData table, change the cell on the right to <b>blank</b> —>	98.0	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv. PHv, POLv, SBMv, Sens, WBFv, WBNv]
OF30	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154		1 to 10% of its CA	0	the minge of a pond or take, compare the area of that water body to its contributing area – not the area of the waterick compared to only the wetland's contribution area. For most wetlands, and
155			1	area of the weaten't compared to only the weaten't s contributing area. For most weaten's, and especially ones containing tributaries, the first choice will be the most appropriate. [NR, PR, Sens,
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. <b>SKIP TO OF34.</b>	0	SR, WSv]
0F31	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWV]
158		<10%	_	
159		10 to 25%	0	
160		%C7~	0	

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0632	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following:  (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA slopes are shallow and/or have high runoff coefficients.  This statement is:		[NRv, PRv, SRv, WSv]
162		Mostly true	0	
163		Somewhat true	0	
164		Mostly untrue	1	
165 OF33	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:		If there are no inflowing streams: In what direction does most runoff or groundwater flow as it moves
166		Northward (N, NE). north-facing CA.	0	through this AA? If necessary consider the Aspect ZUM map in the online WESPAK-SE Wetlands Module TAM NR PH POL SFS WC WS W/W/J
167		Southward (S, SW). south-facing CA.	0	module: ['Yan', 'In', '   'I', '   'CE, 'O' 'G', 'TO',
168		other (E, SE, W, NW), or no detectable uphill slope or input channel (flat)	_	
OF34 169	Internal Gradient	The gradient along most of the flow path within the AA is:		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in placely until two see numbers on the portion files. Measure a line drawn from highest to puwest
170		<2%, or, no slope is ever apparent (i.e., flat). Includes most depressional sites and ponds.	0	elevation along the part of the wetlland polygon having the greatest width measured perpendicular to
171			_	contour lines. Then estimate elevational difference from the numbered contours and divide by the line
172		9-10%	0	length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
173		>10%	0	[AMI, CS, NK, UE, PK, SK, WBF, WBN, WS]
OF35	Internal Flow Distance (Path Length)	From measurement of welland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column]		If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If wetland is flat or a pond, use the maximum width measured perpendicular to topographic lines uphill
175		<150 ft	0	from the wetland. Straight-line rather than channel distance is used here only for simplicity of massingment. The retenon, breaks are based on the 10.25. 50.75, and 00th percentiles of
9/1		150-300 ft	0	integrationing in the caregory preass are based on the 10, 20, 50, 70, and 500 percentiles of intersected stream length of all Southeast Alaska non-tidal wetlands. INR. OE. PR. SR. WS1
177		300-800 ft	0	
178		800-2000 ft	1	
179		2000 ft - 1 mile	0	
180		>/ mile	0	
OF36	Relative Hydrologic Distance to Anadromous Stream	Determine the AA's Wetland_ID using the Identify tool in the online WESPAK-SE Wetlands Module (see Manual). From column B of the HydroDist worksheet (tab below), enter its score in the next column. If Wetland_ID or HydroDist is lacking, use the value from the closest non-tidal wetland.	0.57	[OEv]
OF37	Salmonid Watershed	Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-49%), 0= all other.	0	The rating (from TNC) is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
OF38	Subsistence Focal Areas	The AA or waters that directly adjoin it:		Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by
184		is in Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries)	0	persons with subsistence permits. [TAV, TTV, Subsis]
185		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps)	0	
186		neither of the above	1	
187		no data (outside of the regions shown on the maps, and not listed in Table B-6)	0	
188 OF39	Geography	Mark ALL that are true. The AA is located:		[AMv, SBM, WBF, Sens]
189		in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains.	0	
190		in another mainland area or on an island larger than 20 square miles.	1	

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<b>t</b>		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191 0F40	10 Unbrowsed Vegetation	waterio.  The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
OF41	11 Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42 198	Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
0F43 204	Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan — has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	-	
0F44	Species of Conservation Concern	One or more of these species — Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird — has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. However: at least one of the following have been confirmed nesting in the AA: Short-eared Owl, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45	15 Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
C17		To the tenth of the tenth of the tenth of the AA	c	
216		more than 1 such reature of species is present in the AA and only one such snacies or feature is present in the AA.	0	
21.7		Only otic species of reature is present in the AA. There are no recent observations of these in the AA hu a cualified observer under conditions similar to what now now in or no data	> -	
218 OF46	16 Cedar	trere are no recent coservations of treese in the AA by a qualified coserver under contained is written to write into occur, or no data.  The AA contains (a) more than 1 acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline	- 0	PHv. SBMI
219		(see layer in online WESPAK-SE Wetlands Module).		
0F47	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[PU]
777		-		

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OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animal to the public.		4	L
OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animals to the public,		n	E
The wetland (e) OF49 Sustained Scientific Use Plants, animals to the public	OF48 Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	0	voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites
OF49 Sustained Scientific Use Plants, animal to the public.	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	ισ	are shown online at: http://www.conservationregistry.org/ [PU]
to the public.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	0	ĺηd
are princinom	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends		
	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.		

4	ш	C	٦	T.
Dat	ta Form F (Field	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
DIRECTOR (Talse) (baser landor landor Por a Apper Water 2 Invert	icTIONS: Conduct an assistance of true	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3 #	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	2	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
S F1.1		Forested Peatland	0	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water. Includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	- - -	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of fall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
7		Fen/ Marsh	0	Surface water is more extensive, at least seasonally. More emergent than tall (>3 ft) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, it is largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
× 2. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.		Floodplain Wetland	0	Al least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are silt or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's club. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
6 5.		Uplif Meadow	0	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downcut. Mostly sweetgale and/or herbaceous vegetation, e.g., silverweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	0 aa	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
111 12 13	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is: less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WW]
14		25-50% of the AA never contains surface water.	0	

	_	-	
A	В	S	J E
15		50-99% of the AA never contains surface water.	0
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
į,		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to	_
1.7			
£	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obscured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
10		less than 1%, or <0.01 acre (whichever is less). SKIP to F7,	remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
2 6		1.25% of the AA and mostly in narrow channels and/or small scattered nods	
07		1 DEUL of the U.S. and amountain to a control to the U.S. and I would be added a control to the U.S. and I would be a cont	include information on saturation persistence. [AM, CS, FA, FR, INV, NR, POL, PR, SBM, WBF, WBN]
21		1-23 % of the AA, and filosity in a single large poor, point, argin crainer.	P
22		25-50% of the AA	
23		50-95% of the AA	0
i č		- 20ΕV, of the ΛΛ	c
<del>1</del> 7	:	_	
4-T	Summertime Shading of	_	Consider the aspect and surrounding topographic reliet as well as vegetation height and density. [FA,
25	Water	channels, streambanks, or other features also present <u>within</u> the AA is:	WC, WWJ
26		<5% of the water is shaded	0
7.0		5-25% of the water is shaded	
/7		25 ERW of the under in sheded	
28		25-20% of the water is shaded	
59		50-75% of the water is shaded	0
30		>75% of the water is shaded	0
F5	Fringe Wetland	The AA adjoins a lake, stream, or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ft	[WBF, WBN, WC, WWv]
	)	and also more than 5 times the vegetated wetland's average width (measured perpendicular to upland). If true, enter "1" and continue. If false,	
3.1		leave the 0 and continue.	
9 <u>1</u>	haeltoW edition	The AA hardere a hadu of nandad onan water whose size find rounting the AA's welland) arrest during most of the arrawing	The "vacatated areas" should not info ultimars and an incompanied TEA EP DP WIRE
32	רמכתמווות	the Andreas a body or princed upon water whose size (not continuity the Andreas) exceeds by actes during those of the growing season. Enter "I" if thus, "O" if false.	WBN]
E7	% Flooded Only	The nerronizate of the AA exilitatis covered by surface water and during the wettest time of year and for >2 continuous weeks during that	0.01 acra is about 20.11 on a side if square. This is the cumulative acreane of all areas in the AA that
-	Seasonally	in processing or more control of the	flood ONI Y seasonally. Flood marks (algal mats, adventitions mots, debris lines, ice source).
33	(III)	2	often evident when not fully inundated. Also such areas often have a larger proportion of upland and
;		<1% or <0.01 acre, whichever is less. SKIP to F9.	annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
34			
35		1-25%	O Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
3.6		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
00		בססבוו	Т
37		%56-76	0 events after the ground is frozen, and/or during spring snowmelt. Near melting glaciers, surface water
38		%56<	may be present mainly in summer. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
8 <u>H</u>	Annual Water Fluctuation	Annual Water Fluctuation The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
95	Range	, ne 4	
04 :		7	
41		0.5-1 11	0
42		13 ft	0
43		>3ft	0
F9 44	Predominant Depth Class	During most of the growing season, surface water depth in <b>most</b> of the area where it is present is: [Note: This is not asking for the maximum depth.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the
15		() 5 fl dean (hut >0)	spatial median depth that occurs during most of that time, even if inundation is only seasonal or
<del>(</del> 4		or a large transfer of	
46		I deep	of the most persistently inundated part of the wetland. Include surface water in channels and ditches as
47		1-∠ π deep	well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
48		2-6 ft deep	0
49		>6 ft deep. True for many fringe wetlands.	0

		4	
A E10		B Danth Clase Distribution Mhan nascant surface water in most of the AA neually consists of (calent one):	Estimate these proportions by considering the gradient and migrateonomicably of the site. See discreen in
50   10		when present, surface water in most of the AA usually contasts of (serect only).	Estimate tress proportions by constraining the gradient and introduced aprily of the site. See diagram in the manual IEE INV WRE WRNI
51		One depth dass that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth dass that comprises 50-90% of the AA's inundated area.	0
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
26		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		50-75%	0
09		>75%	0
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the AA that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AM, CS, NK, OE, PH, PK, SBM, Sens, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, <b>do not consider herbaceous plants</b> . Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so should not be attempted. [AM, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has <b>ponded</b> surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is <b>either open or shaded by emergent vegetation</b> is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWI
7.		<1% or none, or occupies <100 so, if cumulatively. Enter "1" and SKIP to F19.	
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
92		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16 79	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	0
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
200			

87 88 89 89 F18		scattered in small clumps, islands, or patches throughout the surface water area.	-	
		_		
		intermediate	0	
		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 sq ft and <1% of the AA.	0	
	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	EC, PR, WBF]
F19 91	Ice Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	0	Available data suggest this ranking from shortest to longest ice duration based on location: Ketchikan, Annette, Sitka, Little Port Walter, Juneau, 'Yakutat, Annex Creek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	_	FR, OE, PR, WWJ
F21	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	0	[WBN]
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	0	
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0	
76		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But beaver occur in the region (i.e., within 10 miles, or on same island).	-	
86		none. Beaver are absent from the region and/or the island.	0	
F23 99	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).	0	
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.	_	
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.	0	
103		5-30% of the AA.	0	
104		30-70% of the AA. 70 05%, of this AA.	0	
106		295% of the AA.	0	
F24	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a lake or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and SKIP to F28.	0	NRV, PH, PRV, SRV]
F25		Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	С	[WC, WWv]
108	l emperature	years. Enter 1= yes, U= no.		
F26 109	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:		Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		<1%	0	
111		1-5%	0	
112		5-30% >30%	o 0	
F27	Throughflow Complexity	During its travel through the AA at the time of peak annual flow, most of the flowing water [select ONE]:		[FA, FR, INV, NR, OE, PR, SR, WS]

	-	-
A	Possest terror into the category of the contest of the category of the categor	D E
115	Does not bump into plant stems. Nearly all the water travers in unvegerated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the closest off-site downslope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	0 a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur during the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
137	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not annear to drain the welfand artificially during most of the proving season	NA, OE, PR, Oelis, UA, WO
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wetland artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lylodice 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul> <li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li> <li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li> <li>(d) AA is located at a geologic fault.</li> </ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	of teaved or submersed aquatics. [NR, WBF, WBN]
136	5-25%. 25-51%	
138	50-75%	
139	>75%	0
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the trees that are taller than 20 ft occupy.	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for cavaral weeks of the proving cases. The "vanctated part" should not include floating based or
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	1 submersed aquatics. IPH, SBM, Sensi
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% of the vegetated AA	0
145	SSO% of the Vegetated part of the AA	0

Ľ.		for several weeks of the growing season. The "vegetated part" should not include floating-leaved or	submersed aquatics. [CS, OE, INV, SBM, PH]	0	0	0	0	The trees and shrubs need not be wetland species. Measurements are the d.b.h., the diameter of the	LEE HEAGUIEU AL 4.3 IL ADOVE IITE GLOUIU. [AM, CO, T OE, SDM, SELIS, WEIN]					0	0		Snags are standing trees at least 10 ft tall that are mainly without bark or foliage. [POL, SBM, WBN]				Exclude temporary "burn piles." [AM, INV, POL, SBM]		0		AM, PH, SBM]	0	0	1	0	[EC, PH, SBM, Sens]	-	0		whereas those that show "fine-grained" forests suggest more even-aged, even-sized forest with little interspersion. [SBM, Sens]	0	-	0	
J	Within the vegetated part of the AA, just the <b>deciduous trees</b> that are taller than 20 ft occupy.	<1%, of the venetated ΔΔ	1 Ord of the vogential of the	1-25% or me vegerated AA	25-50% of the vegetated AA	50-95% of the vegetated AA	>95% of the vegetated part of the AA		uees ina adjoin out ale not whall the Ax.	evergreen 1-4" diameter and >3 ft tall	deciduous 1-4" diameter and >3 ft tall	evergreen 4-9 diameter	deciduous 4-9" diameter	evergreen 9-21" diameter	deciduous 9.2.1" diameter	evelgleen /z Lainneter Aboidunis >31" diamatar	The number of large snags (diameter >8") in the AA plus the area within 100 ft uphill of the closest upland to the wetland edge is:	Several (>2)acre) and a pond or lake of at least 1 acre is within 1 mile.	Several (>2/acre) but above not true.	Few or none	The number of downed wood pieces longer than 6 ft and with diameter >6", and not persistently submerged, is:	Several (>5 if AA is >10 acres, or >2 for smaller AAs)	Few or none	Woody vegetation 3 to 20 ft tall that is not under the drip line of trees is:	<5% of the vegetated AA and (if a fringe wetland) <5% of its water edge. Or <0.01 acre. SKIP to F41.	5-25% of the vegetated AA or (if a fringe wetland) 5-25% of the water edgewhichever is greater.	25-50% of the vegetated AA or the water edge, whichever is greater.	50-95% of the vegetated AA or the water edge, whichever is greater.	>95% of the vegetated part of the AA or the water edge, whichever is greater.	Determine which two native shrub species (3 to 20 ft tall) comprise the greatest portion of the native shrub cover. Then choose one:	those species together comprise $> 50\%$ of the areal cover of native shrub species.	those species together do <b>not</b> comprise $> 50\%$ of the areal cover of native shrub species.	In "ducks-eye view", the distribution pattern of woody vegetation (including low shrubs) VS. unshaded herbaceous/moss vegetation within the AA is:	(a) Woody cover and herbaceous/moss cover EACH comprise 30-70% of the vegetated part of the AA, AND (b) There are many patches of woody vegetation scattered widely within herbaceous/moss vegetation, or many patches of herbaceous vegetation scattered widely within woody vegetation.	(a) Woody cover and herbaceous/moss EACH comprise 30-70% of the vegetated AA, AND (b) There are <u>few</u> patches ("slands") of woody vegetation scattered widely within herbaceous vegetation, or few patches of herbaceous/moss vegetation ("gaps") scattered widely within woody veneration.	(a) Woody cover <b>OR</b> herbaceous/moss comprise >70% of the vegetated AA, AND (b) There are several patches of the other scattered within it. (b) woody cover <b>OR</b> herbaceous/moss comprise > 70% of the vegetated AA, AND (b) There are several patches of the other scattered within the forested AA within the control of the other scattered within the forested AA within the control of the other scattered within the forested AA within the control of the other scattered within the control of the o	in (v.g., tarested the min parameter to annual according to a minimal according to a minimal according to a single area or distinct (a) Woody over OR herbaceous/moss complicits 70% of the vegetated Androise (a) The other is absent or is mostly in a single area or distinct and another according to the control of the cont	zone with almost no intermixing of woody and unstraded nerbaceous/moss vegetation.
a	ses							34 Woody Diameter Classes	•						_ 1		F35 Snags				F36 Downed Wood			37 Exposed Shrub Canopy						F38 Shrub Species			9 Woody-Herbaceous Interspersion					

		ζ	t
A 701	Я	c1% of the AA's vanatated area or larnest natch occurrings less than AAA or	
183		A DRV of the served ratios and served by the	
184		1-25% of the vegetated area	beaver flowages, areas of recent glacial rebound or deglaciation, heavily grazed or drained lands, and
185		25-50% of the vegetated area	0 Ifoodplains. [CS, INV, OE, PH, SBM]
186		50-75% of the vegetated area	
187		>75% of the vegetated area	0
100 F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
189			ichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	
191		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	0
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	0
199		>95% of the vegetated ground cover.	
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
200	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SR]
707		little or no (45%), have around is wishle helween ereat stems or under renow and around surface is extensively handeled by masse lichans	
201		inded in (~5.0) bate ground is visible between efect stems of under carbby <u>and ground sunded</u> is extensively blaineded by moss, indiens, graminoids with great stem densities, or plants with ground-hugging foliage.	
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obsoured by emergent plants) covers all of the AA all the time.	0
706	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Microtopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
202		Few or none (minimal microtopography; <1% of that area)	soli. Do not count incised channels and other "macro" features. If parts of the AA are flat but others  1 have a barbarial misselength been used to be a contraction with condition and the parts of
208		Intermediate	The As that lack persistent water TAM. EC. INV, NR. PH. POL. PR. SBM. SR. WSI
209		Several (extensive micro-topography)	0
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	meeting the size threshold. Upland inclusions may sometimes be created by fill. IAM. NR. SBMI
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	'Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Oi" horizon. These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NR, OE, PH, PR, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, candy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	0
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	
220		Coarse: includes sand, Ioamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0

<	В	O	E   Q
F47	Shorebird Feeding	Within the AA, the extent of mudflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sg. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs – excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wettand within which it is located
200	Patch	submerged and floating aquatics) within the AA is: [Note: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the patch to include contiguous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
077		THE THIRD TO	those visible in aerial imagery [PH, SBM, Sens, WBF, WBN]
227		<u.1 acre.="" f54.<="" skip="" td="" to=""><td></td></u.1>	
228		0.1 - 1 acre	0
229		1 to 10 acres	0
230		10 to 100 acres	0
73.1		100 to 1000 acres	
232		>1000 acres	) 0
F49	Unshaded Herbaceous	As <b>visible in hirds-ave view</b> herhareans venetation ( <b>excludinn</b> mosses and suhmerned and floatinn anuatics) commisses	Birds-eve view means vertical view from about 500 ff above the wetland surface and thus excludes
233	Extent	רים <b>ומוסבר זו טוועס כלים זוכא</b> , ומוסמכנסטט יכשמתחות ( <b>האכשמות)</b> וומספכט מום ממתווק של ממתחים של מתחמונים להתחקום מס	herbaceolis venetation hidden beneath a free or shall canony. IMBE WRN POLI
234		<5% of the vegetated part of the AA. Mark "1" here and <b>SKIP to F54.</b>	
235		5-25% of the vegetated AA	
236		25-50% of the vegetated AA	0
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
		مينظ مسمططم واستدام مما مطبيعة والمطلا يمينهم لمستوسد لم	Т
F50 239	Forb Cover	I ne percent of the vegetated ground cover that is <b>torbs</b> (e.g., skunk cabbage, buckbean, wildtowers) reaches an annual maximum of:	fores = nowering non-woody vascular plants (excludes grasses, sedges, ferns, mosses). Exclude horsetail ( <i>Equisetum</i> ) even though technically it is a forb. [POL]
240		<5% of the vegetated ground cover	
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	0
1 6		50-95%, of the venetated crowner	
243		OCCUPATION OF CONTRACT OF CONT	
244		255% of the Vegetated ground cover. SNIP to F32.	O
245 F51	Sedge Cover	Sedges (Carex spp.) and/or cottongrass (Eriophorum angustifolium) occupy:	
246		<5% of the vegetated ground cover, or <0.01 acre	
247		5-50% of the vegetated ground cover	0
248		50-95% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fern) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do not comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
F53	Invasive & Non-native	Invasive plants in this region may include (for example); creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC. PH. POL. Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike dover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present in the AA.	
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

V	В	S	D
F54 259	Weed Source Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 10 ft of wetland) that is occupied by plant species that are considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	If the wetland has no upland edge, or upland edge is <10% of wetland's perimeter, then answer for the portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., writer
260		none of the upland edge (invasives apparently absent)	Conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. If variation is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction i
261		some (but <5%) of the upland edge	III VASIVETI I VEGETATIOTI IS SO SCHESSCE LITAL III VASIVE SPECIES CALITIOL DE L'ACTURINE, ALISWEL 1101E : [11]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55 264	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains <b>natural</b> (not necessarily native – see column E) land cover taller than 6 inches is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses,
265		<b>₹</b> %	Trecreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
566		5 to 30%	Todos: Naturia rario cover is not the same as manye vegetation: it can include areas with invasive prants.  If the AA does not adjoin in land has a voir answer on the closest incland TAM FA FR INV NRy PH
267		30 to 60%	0 PRV. SBM. Sens. SRv. WBNI
268		%06 ot 09	0
569		>90%. <b>SKIP to F58</b> .	
F56	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge dosest to the AA, the upland land cover that is NOT unmanaged vegetation or water is mostly (mark ONE):	[AM, FA, INV, NRv, PH, SBM, WBN]
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0
272		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated clearcut, landslide, unpaved road, dike.	0
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	closest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	o AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge المحافظة المجافزة
275		2-5%	
276		5-30%	
277		>30%	0
F58 278	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	Do not include upturned trees as potential den sites. [POL, SBM]
F59	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows,	Do not include wellands created by beaver dams except for the part where flooding affected uplands
6/.7		Toccoming gladoot, and noted making medical greater and appared (noted pains) and	soil maps, or permit files as available [CS, NR, OE, PH, PRv, Sens, SRv]
761		wo. Ves and most recently created denlaciated or indiffed 20 - 100 years and	
107		yes and most recently, restated ideal assistance or uniffied 3.20 years and	
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU. WBFv.]
287		<55%	
288		25-50%	0
289		>20%	0
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
291		publidy owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles).	
292		publidy owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	0
293		owned by non-profit conservation organization or lease holder who allows public access.	0
294		other private ownership, including Tribes.	0

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295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Berneation bases - Recreation Eacilities (DLI)
296	סנמונים	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	tire i veu equioni layer a iveu equioni a cultures. [1 o]
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstrip, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		visions or italis outside of the AA diress more training the wealing is visible from the data and they are writing for the free wealing edge. The that case add only the area occupied by the train.]	population centers, loads, traits, accessioning or the wetland to the pount, wetland size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SBM, WBP, WBN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	
306		>95% of the AA	0
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
i c		not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edoe. In that case add only the area occupied by the trail 1.	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
307			
308		<5%. If F63 was answered ">95%", SKIP to F67.	
309		5-50%	0
310		50-95%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	0 [PH, PU]
313	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	[AM, PU, WBF, WBN]
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of these consumptive uses may consist of direct observation, or presence of physical outdance (a.g. recently out strimms, fishing lines, shall asses), or might he obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	0
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	Treignbornood is known to not be connected to a municipal dimiking water system (e.g., is outside a departed settled area). INRvI
323		500-1000 ft	
324		>1000 ft away, or none, or no information	0

tressor (S) Data Form for Non-Tidal Wetlands	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
Wetter Water Regime - Internal Causes			1	
In the last column, place a check mark next to any item that is likely to have caused occurring within past 100 years or since wetland was created or restored (whichever table beneath them). [CS]				
an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or down	gradient from the wetland, or raising of outlet culvert elevation			
excavation within the wetland, e.g., artificial pond, dead-end ditch				
excavation or reflooding of upland soils that adjoined the wetland, thus expanding	the area of the wetland			
plugging of ditches or drain tile that otherwise would drain the wetland (as part of	intentional restoration, or due to lack of maintenance, sedimer	ntation, etc.)		
vegetation removal (e.g., logging) within the wetland				
compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of	f machinery, livestock, or off road vehicles			0
If any items were checked above, then for each row of the table below, you may as the "0's" for the scores in the following rows. To estimate effects, contrast the curre				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the wetter conditions began within past 10 years			T	0
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
Average water level increase	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Wetter Water Regime - External Causes				
In the last column, place a check mark next to any item occurring in the wetland's owithout that item or activity. Consider only items occurring within past 100 years or		the wetland to be inundated more extensively, more frequent	lly, more deeply, and/or for longer duration than it would be	
subsidies from stormwater, wastewater effluent, or septic system leakage				
pavement, ditches, or drain tile in the CA that incidentally increase the transport of	f water into the wetland			
removal of timber in the CA or along the wetland's tributaries				
removal of a water control structure or blockage in tributary upstream from the we	etland			
If any items were checked above, then for each row of the table below, you may as	sign points (3, 2, or 1 as shown in header) in the last column.	However, if you believe the checked items had no measural	ble effect in making any part of the AA wetter, then leave	
the "0's" for the scores in the following rows. To estimate effects, contrast the curre	ent condition with the condition if the checked items never occurs  Severe (3 points)	urred or were no longer present.  Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	,	5-20% of the wetland	<5% of the wetland	0
Spatial extent of resulting wetter condition	>20% of the wetland			0
When most of wetland's wetter condition began  Score the following 2 rows only if the wetter conditions began within past 10 years	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	U
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	>1 ft	6-12"	<6 inches	0
Average water level increase	2111	0-12	Sum=	0
			I	
			Final Score=	0.00
Drier Water Regime - Internal Causes				
In the last column, place a check mark next to any item located within or immediate without that item. Consider only items occurring within past 100 years or since wel.		of the wetland to be inundated less extensively, less deeply,	less frequently, and/or for shorter duration that it would be	
ditches or drain tile in the wetland or along its edge that accelerate outflow from the	ne wetland			
lowering or enlargement of a surface water exit point (e.g., culvert) or modification	n of a water level control structure, resulting in quicker drainag	e		
accelerated downcutting or channelization of an adjacent or internal channel (inci	sed below the historical water table level)			
placement of fill material				
withdrawals (e.g., pumping) of natural surface or ground water directly out of the	wetland (not its tributaries)			
If any items were checked above, then for each row of the table below, you may as			he AA drier, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the condition			Man (company)	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the drier conditions began within past 10 years,		anneand in a contatent	aliability about	^
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Drier Water Regime - External Causes				
In the last column, place a check mark next to any item within the wetland's CA (inc that it would be without those. Consider only items occurring within past 100 years	, ,	caused a part of the wetland to be inundated less extensively	y, less deeply, less frequently, and/or for shorter duration	
a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the				
relocation of natural tributaries whose water would otherwise reach the wetland				
instream water withdrawals from tributaries whose water would otherwise reach the	he wetland			<del>                                     </del>
groundwater withdrawals that divert water that would otherwise reach the wetland				1
If any items were checked above, then for each row of the table below assign point		o creating a drier water regime in the AA. To estimate that of	ontrast it with the condition if checked items never	
occurred or were no longer present. However, if you believe the checked items ha				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	. ,	,	,	

Score the following 2 rows only if the drier conditions began within past 10 year	rs, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	(
Water level decrease	>1 ft	1-12"	<1 inch	(
			Sum=	(
			Final Score=	0.
			Tillal GCOTE	0.
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have cau	sed the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more m	uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy (large				
flow regulation in tributaries or water level regulation in adjoining water body,	or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland	7, 0			_
				$\vdash$
increased pavement and other impervious surface in the CA				<b>├</b> ─
straightening, ditching, dredging, and/or lining of tributary channels in the CA				
If any items were checked above, then for each row of the table below, you may			part of the AA, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the cond	ition if the checked items never occurred or were no longer preser	nt.		
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	(
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	(
Score the following 2 rows only if the altered inputs began within past 10 years				
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	(
		·		
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	(
			Sum=	(
			Final Score=	0.
Appalarated Innuts of Contembrants and Contembrants				
Accelerated Inputs of Contaminants and/or Salts				
In the last column, place a check mark next to any item occurring in either the	wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. [FA, NRv, PRv]		
stormwater or wastewater effluent (including failing septic systems), landfills, i				
		I)		—
metals & chemical wastes from mining, shooting ranges, snow storage areas,	oii/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/ )		Щ
oil or chemical spills (not just chronic inputs) from nearby roads				L
spraying of pesticides, as applied to lawns, croplands, roadsides, or other are	as in the CA			
If any items were checked above, then for each row of the table below, you may	assign points. However, if you believe the checked items did not	cumulatively expose the AA to significantly higher levels of	contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condition				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
	GOTOTO (O POINTO)	* * * *	mildly impacting (reclaimed minie, low density residential)	_
		active mine mid-sized town cronland		
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	many impacting (residence minic, for density residential)	(
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	(
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item – occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	resign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Ai In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from construction, in-channel machinery in the CA erosion from off-road vehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Ai In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from construction, in-channel machinery in the CA erosion from off-road vehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered last columns.	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	0.
AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from off-road vehicles in the CA erosion from off-road vehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, the crosion from off-road vehicles in the CA erosion from firestock or foot traffic in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered to other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	(
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing An In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the storm of the scores in the following rows. To estimate efficiency are set to the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows.	frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  likely to have elevated the load of waterborne or windborne sedin fires  assign points (3, 2, or 1 as shown in header) in the last column. iects, contrast the current condition with the condition if the checked severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, it erosion from for-road vehicles in the CA  erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil gas extraction accelerated channel downcutting or headcutting of tributaries due to altered to other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft  rea  ilikely to have elevated the load of waterborne or windborne sedin fires  rassign points (3, 2, or 1 as shown in header) in the last column. leds, contrast the current condition with the condition if the checkee	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients.  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRV]  However, if you believe the checked items did not cumulative di tems never occurred or were no longer present.  Medium (2 points)  potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing An In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the storm of the scores in the following rows. To estimate efficiency are set to the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows. To estimate efficiency and the scores in the following rows.	frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  likely to have elevated the load of waterborne or windborne sedin fires  assign points (3, 2, or 1 as shown in header) in the last column. iects, contrast the current condition with the condition if the checked severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0
* high-intensity= extensive off-road vehicle use, plowing, grading, excar sediment	vation, erosion with or without veg removal; low-intensity= veg removal o	nly with little or no apparent erosion or disturbance of soil or	Sum=	0
			Final Score=	0.0
Soil or Sediment Alteration Within the Assess	sment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	retland that is likely to have compacted, eroded, or otherwise altered the w	vetland's soil. Consider only items occurring within past 100	years or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	necially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plant	s)			
fill or riprap, excluding small amounts of upland soils containing organ	ic amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	erosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion of	r stir bottom sediments			
If any items were checked above, then for each row of the table below, estimate effects, contrast the current condition with the condition if the c	you may assign points. However, if you believe the checked items did not checked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then	leave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	•
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	Ī
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	-
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	Ī
			Sum=	
			Final Score=	0.0

## **GROUP 6**

## WESPAK SE NON-TIDAL REPORT

Wetlands G2, G3, G5, G9, G10, G11, G12, G13, G14, G15, G17, G18, G19, G21, G23, G24, G25

F	
Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	147.70
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protoocl and certified in ORWAP
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Scores will appear below after data are efficied in works					,			•		F	UNCTIO	N		VALUE	
WESPAK-SE version 2 scores for this NON- Assessment Area (AA):	tidal Wetla	1								Median of	Functi (non	nolas for on Rating malized core)	Median of	Valu (noi	nolas for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	d F Scores	Low is	High is >	Normalized V Scores	Low is	High is >
Surface Water Storage (WS)	3.96	1.11	3.16	Moderate	1.11	Lower	2.13	3.16	1.44	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	6.50	4.01	7.80	Higher	6.05	Higher	6.92	7.80	7.80	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	7.53	5.84	7.53	Higher	7.70	Higher	7.62	7.62	7.44	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	4.03	4.63	4.03	Moderate	8.61	Higher	6.32	6.32	5.61	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	5.33	2.85	4.06	Moderate	6.14	Higher	5.10	5.10	4.24	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	6.99	4.68	5.48	Moderate	6.82	Higher	6.15	6.15	5.84	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	5.39	6.00	2.91	Moderate	6.78	Higher	4.85	4.85	4.85	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.66		5.04	Moderate			5.04	5.04	5.04	6.53	3.66	6.43			
Organic Nutrient Export (OE)	6.86	5.70	9.92	Higher	5.73	Moderate	7.83	9.92	9.92	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	5.01	4.71	6.53	Moderate	4.71	Moderate	5.62	6.53	6.53	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	5.93	6.67	8.20	Higher	6.67	Moderate	7.44	8.20	8.20	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.12	10.00	4.70	Moderate	10.00	Higher	7.35	7.35	7.35	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.72	6.25	4.45	Moderate	7.72	Higher	6.09	6.09	5.57	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	3.63	0.00	5.24	Moderate	0.00	Lower	2.62	5.24	5.24	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	7.37	10.00	9.10	Higher	10.00	Higher	9.55	9.55	9.53	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	7.94	7.15	11.81	Higher	9.58	Higher	10.69	11.81	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.48	9.53	8.65	Higher	9.44	Higher	9.04	9.04	9.31	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		1.98			2.16	Lower	2.16	2.16	2.16				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		7.78			7.78	Higher	7.78	7.78	7.78				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		4.46			6.72	Moderate	6.72	6.72	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		6.42			6.75	Higher	6.75	6.75	7.11				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.90			7.29	Higher	7.29	7.29	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								1.44	1.44	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)								5.41	3.93	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC	WW)							8.77	8.54	Higher	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								7.79	7.79	Higher	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								4.59	3.45	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, POL SOCIAL GROUP (max+avg/2 of PU, Subsis)	)							9.81 7.78	9.74 8.91	Higher Higher	3.61	6.32 6.58			
SOCIAL GROUP (Max+avg/2 of PU, Subsis)			AVG w/o Social					1.10	0.91	nigrier	3.00	0.30			

Overall Score (see Manual for explanation of how the spreadsheet calculates it):	7.64
Overall Rating:	Higher

 AVG w/o Social with Social selected higher normalized

 7.78
 8.00
 8.00
 7.64

В	C	п
Data Form OF (Offi	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
DIRECTIONS: Conduct an a otherwise, in the Data column questions primarily based on accurately may require conference office data form requires 1-2 l descriptions of each WESPAI Stream Flow Support, WC= V Sequestration, OE= Organic Nesting Waterbirds, SBM= Si	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Except where instructed otherwise, in the Data column change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this office data form requires 1-2 hours per site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsistence, EC=	Site Location: Angoon Alaska Investigator: ESA Staff Date: 13-22 Aug. 2013: 15-22 June, 2017; 6-14 June, 2018 Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
3 # Indicator	Condition Choices	Explanations, Definitions
4 OF1 Distance by Road to	Measured along the maintained road or boat landing that is nearest the AA, the distance to the nearest population center is:	"Population center" means a settled area with more than about 50 year-round residents per square
S Center	<0.5 mile	0 IIIIIe. [FAV, TRV, TRV, TRV, TR, TU, OBIN, OUDSIS]
9	0.5 - 2 miles	
	2-5 miles	0
8	5-10 miles	0
T	> 10 Miles	
OF2 Wildlife Access	Draw a circle of <b>radius of 0.5 mile</b> from the center of the AA. If mammals and amphibians can move from the center of the AA to all other separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	0 Many roads are mapped in the online WESPAK-SE Wetlands Module: http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3 Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
12	< < >100 ft	Intp://secanglis.alasha.cuu/ileA/weulainds/ [I AV, I IV, AW, T I, T O, ODIV), VVDIV]
13	100-500 ft	
14	500-1000 ft	0
15	1000 ft - 0.5 mile	0
16	0.5-1 mile	0
		0
OF4 Distance to Natural Land Cover	In the minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native— see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and clearcuts harvested more than 10
91	<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses, lecreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
20	<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	o roads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21	150-300 ff, with or without interrupting features	online WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be located driving a site visit. Do not incline norts of the natural cover natch or consider that are
22	300-1000 ft, with or without interrupting features	Verified during a site visit. De not involve paris of the natural cover patch of control tractate 0 narrower than 150 ft. [AM, SBM, Sens]
23	none of the above	0
OF5 Size of Largest Nearby Tract or Corridor of		View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of >150 ft, if the gap is comprised of impervious surface, bare
25 Natural Land Cover	<1 acre, or larger but with average width <150 ft	o dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
26	1-10 acres	1 the online WESPAR-SE Wettands Module may be examined to answer this, and to use its measure from the defermine acreane TAM SRM Sens WRNI
27	10-100 acres	
28	100-1000 acres	0
	>1000 acres	
OF6 Natural Land Cover 30 Extent	Within a <b>2-mile</b> radius measured from the <b>center</b> of the AA, the percent of the <b>land</b> that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should be examined to answer this. [AM, SBM]

Form OF Non-tidal

1.2   Strict S	F		Ú	-	Ц
Second Process of the Band   100 Second Process	3.1			0	ಎ
The first of the following control of the fo	, ,		5 to 20% of the land		
707 Type of Lant Cover  Welland Cove	37		ייני אייני ווייני וווייני מווייני מווייני מווייני מווייני מוווייני מווייני מווייני מווייני מווייני מווייני מווייני מווייני מוווייני מווייני מווייני מווייני מווייני מווייני מווייני מווייני מוווייני מווייני	o 0	
Type of Land Cover   Wildling a 2-mile reckins measured from the center of the AA, the area field is not recursal lend coner or water is mostly.   Affection measured from the center of the AA, the area field is not recursal lend coner or water is mostly.   Affection measured from the center of the AA, the area field is not recursal lend to one or water is mostly.   Affection measured from the center of the AA, the area field is lend affective the area field is lend affective.   One of the present in the AA and (i) ALSO comprise less than 10% of the limitosope and see see y interested by the AA, and a 2" read to ones when (i) are present in the AA and (ii) ALSO comprise less than 10% of the limitosope and see see y interested by the AA, and a 2" read to ones when (i) are present in the AA and (ii) ALSO comprise less than 10% of the limitosope and see are y interested by the AA, and a 2" read to ones when (i) are present in the AA and (ii) ALSO comprise less than 10% of the limitosope and see are y interested by the AA, and a 2" read to ones when (i) are present in the AA does NOT comprise less than 10% of the limitosope and see are y interested by the AA, and a 2" read to ones when (i) are present in the AA does NOT comprise a cover type (iii) a the AA and without Shiring	33		20 to 60% of the land	0	
Type of Land Cover   Septiment SMR to ORS.   Septiment SMR to ORS.   Advanced by the At the area fails is not recurs all to cover or water is mostly.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the Cover of Septiment SMR to ORS.   Advanced by the At the ORS.	34		60 to 90% of the land	0	
Within a 2-mile actions measured from the center of the AA, the area that is not natural land cover or water is mostly.    Allection   Proceed Microsian   Proceed M	35		>90% of the land. <b>SKIP to OF8.</b>	_	
Milesalion   Impervious surface, e.g., preved road, parking lot building exposed road, and the policy surface, e.g., preved road, parking lot building exposed road, cheer lot he building exposed road, building exposed road, building late of the follower building as the policy surface, e.g., preved road, building late of the follower building late build			Within a 2-mile radius measured from the center of the AA, the area that is not natural land cover or water is mostly:	]	AM, SBM]
Delay periods surface at all and the second (systes approximated and selection the uniformatical selection the uniform transition of the selection that are mapped uniqueness and the selection that white which should be found that a "2" treat to ones which (a) are present in the AA and (b) ALSO comprise has than 10% of the indicapped selection that which the selection of the s	37	Alteration	impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
Uniqueness   Uni	38		bare pervious surface, e.g., recent (5 yrs ago) clearcut, dirt or gravel road, plowed fields, landslide.	0	
outside of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Fresh Water of the AA but within 2 miles.  Confile Forest - Lago  Water of the Mark of the Mark of the AA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the Mark of the Mark of the MA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the Mark of the MA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "2" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles. Einst "1" in the next column.  Confile Forest - Lago  Water of the Mark of the MA and within 2 miles for the MA and within 3 miles for the MA and within 4 miles for the MA and w			Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		verial imagery should be examined to help answer this, and land cover maps contained in the online
Fresh Water   Wetland	ç	Uniqueness	as being intersected by the AA, <u>or</u> a "2" next to ones which (a) are present in the AA and (b) ALSO comprise <b>less than 10%</b> of the landscape outside of the AA but within 2 miles.		WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit. [AMv, NVv, PHv, SBMv, POL, Sens]
Mister of Mist	59		Fresh Miss		
Mustego Musteg	40		Fresh Water	7	
Muskage   Horizoneans   Horizoneans   Extra delated (Low)	41		Wetland	_	
Perchaboration   Perchapted (Low)	42		Muskeg	0	
Structband (1 km)   Stru	43		Herbaceous	2	
Shrubtard (Tail)   Shrubtard (Tail)	4		Shrubland (Low)	0	
Decidous/Mixed Forest  Confiler Forest - Varing or Small  Confiler Forest - Varing or Small  Confiler Forest - Varing or Small  Confiler Forest - Maclum  Confiler Forest - Maclum  Confiler Forest - Large  Wheten of Shrub Forest Large  The Lead Stower Vary maps available for this area, but from aerial imagery if appears that the AA contains a cover type (list above) that is absent from 90% of the lardscape outside of the AA and within Zmiles. Einler "I" in the next column.  OFFI  Distance to Locally  If any of the above were marked "Z", the distance from the AA edge to the closest one that was so marked is:  100	45		Shrubland (Tall)	_	
Conflet Forest - Young or Small Conflet Forest - Weldum Conflet Forest - Weldum Conflet Forest - Weldum Conflet Forest - Ligge Welfard Shub Forest  On Level 3 cover type maps available for this area but from aerial imagery if appears that the AA confains a cover type (list above) that is no level 3 cover type maps available for this area but from aerial imagery if appears that the AA confains a cover type that is absent from 90% of the landscape outside of the AA and within Z miles. Enter -Z' in the next column.  In clevel 3 cover type maps available for this area but from aerial imagery if appears that the AA does NOT contain a cover type that is no Level 3 cover type maps available for this area but from aerial imagery if appears that the AA confains a cover type that is not a search from 90% of the landscape custod of the AA and within Z miles. Enter -Z' in the next column.  Uncommon Cover Type  150 - 500 ft 150 miles	46		Deciduous/Mixed Forest	2	
Configer Forest - Medium  Configer Forest - Large  Welland Shrub F	47		Conifer Forest - Young or Small	-	
Welland Shrub Forest - Large Welland Shrub Forest - Large Welland Shrub Forest Welland Shrub Forest Welland Shrub Forest Welland Shrub Forest  One Level 3 cover type maps available for this area, but from aerial imagery it appears that the Advortain a cover type (list above) that is one but from serial imagery it appears that the Advost NOT contain a cover type that is one to be a search from 90% of the landscape outside of the Advortain and within 2 miles. Enter 1" in the next column.  OFB  Distance to Locally If any of the above were marked "2", the distance from the AA edge to the dosest one that was so marked is:  150 - 1500 ft  150 - 1500	84		Conifer Forest - Medium	-	
Weltand Shrub Forest  OFFI  Distance to Locally  If any of the above vige maps available for this area, but from aerial imagery it appears that the AA contains a cover type that is  absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.  To Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type that is  absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.  To Level 3 cover type that is  absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.  If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:  150 – 500 t  1500 f - 1000 ft  150 – 500 t  1500 f - 1 mile  150 – 500 t  150 – 1000 ft  150 – 1000 ft	49		Conifer Forest - Large	2	
Off of the control of the above were marked "2", the distance from the AA and within 2 miles. Enter "7" in the next column.  Off of the above were marked "2", the distance from the AA and within 2 miles. Enter "7" in the next column.  Off of the above were marked "2", the distance from the AA and within 2 miles. Enter "7" in the next column.  Off of the above were marked "2", the distance from the AA and within 2 miles. Enter "7" in the next column.  Included Water in 1000 ft 1000	50		Wetland Shrub Forest	-	
Distance to Locally   An over type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is a besen from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.    OFB   Distance to Locally   If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:   1	5 15		other	0	
OF11   Ponded Water Proximity   Distance from the AA and within 2 miles. Enter "2" in the next column.    OF11   Ponded Water Proximity   The distance from the AA and within 2 miles. Enter "2" in the next column.    OF11   Ponded Water Proximity   The distance from the AA and within 2 miles. Enter "4" in the next column.    OF11   Ponded Water Proximity   The distance from the AA and within 2 miles   Distance from the AA is and within 2 miles   Distance from the AA is ponded (standing) during most of the year ris:    OF10   Donded Water in The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to			no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is	0	
Distance to Locally   If any of the above were marked "2", the distance from the AA does NOT contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "1" in the next column.    If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:   If any of the above were marked "2", the distance from the AA including water ponded to the that so more of the above land cover classes were marked 2"   Donded Water in	52		absent from 90% of the landscape outside of the AA and within 2 miles. Enter "Z" in the next column.		
OF9         Distance to Locally Uncommon Cover Type         If any of the above were marked "2", the distance from the AA edge to the dosest one that was so marked is:         1           Uncommon Cover Type         150 - 500 ft         0           500 - 1000 ft         0         0           1.2 miles         1.2 miles         0           I and scape         1.2 miles amount of water that is ponded (standing) during most of the year is:         0           I or 2         1 or 2         1.0 miles         0           1 to 7         2 to 6         1.0 to 1.2         0           1 to 1.2         2 to 6         1.0 to 1.2         0           1 to 1.2         2 to 6         1.0 to 1.2         0           2 to 6         2 to 7.2         2 to 2.2         2 to 2.2           2 to 1.2         2 to 3.0 ti, and connected with a natural land corridor         2 to 3.0 ti, but no uninterrupted natural land corridor         0	53		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NOT contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "I" in the next column.		
The common Cover   19pe   4150 ft   150 - 500 ft   150 ft   150 - 500 ft   150 ft	)		If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:	]	INVv, AMv, SBMv, POLv, PHv, Sens]
150 - 500 ft   150 - 500 ft   150 - 1000 ft	55	Uncommon Cover Lype	<150 ft	_	
1000 ft. 1 mile   1.2 miles   1.3 mone of the above land cover classes were marked "2"   1.2 mone of the above land cover classes were marked "2"   1.2 mone of the above land cover classes were marked "2"   1.2 mount of water that is ponded (standing) during most of the year is:	95		150 - 500 ft	0	
12 miles   1-2 m	57		500 - 1000 ft	0	
1-2 miles none of the above rachesses were marked "2" 0F10 Ponded Water in Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:  1 or 2 2 to 9 2 to 9 3 to 6 7 to 9 10 to 12 5	28		1000 ft - 1 mile	0	
OF10   Ponded Water in   Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:    Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:    1 or 2	59		1-2 miles	0	
OF10 Ponded Water in a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:  1 cor 2 2 to 3 3 to 6 7 to 9 10 to 12 2 to 9 10 to 12 2 To 9 10 to 12 3 to 6 10 to 12 3 to 10 to 12 3 to 10 to 12 4 to 20 the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:  3 3 to 6 to 12 3 to 6 to 12 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	09		none of the above land cover classes were marked "2"	0	
0 1 or 2 2 to 9 2 to 6 2 to 7 3 to 6 2 to 9 3 to 6 3 to 6 3 to 6 4 to 9 4 to 12 5 to 9			Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the veer is:		<b>onded water</b> = any surface water greater than 1 acre that is not obviously part of a river, stream, or dat system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
1 or 2   3 to 6   1 or 12   10 to 12   1	5	-			ayer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
1	70		1 0.7 3		hey are inundated and water is ponded at least seasonally. [AM, PH, SBM, Sens, WBF, WBN]
7 to 9   10 to 12	60		3.00 to 0.00 t	•	
OF11 Ponded Water Proximity The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to have the configuration of the same wetland, pond, or lake to soft and connected with a natural land corridor can be a same wetland, bond, or lake to can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to connected with a natural land corridor can be a same wetland, pond, or lake to can be a same wetland, pond, or lake to can be a same wetland, pond, or lake to can be a same wetland, pond, or lake to can be a same wetland, but no uninterrupted natural land corridor can be a same wetland, but no uninterrupted natural land corridor can be a same wetland, but no uninterrupted natural land corridor can be a same wetland.	<b>5</b> 5		710		
OF11 Ponded Water Proximity The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:	G S		10.50	o c	
OF11 Ponded Water Proximity The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:  -300 ft, and connected with a natural land corridor -300 ft, but no uninterrupted natural land corridor 0	90		21 0.0 1.2	o c	
OP-11 Ponded Water Proximity I he distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, or lake to lake to which the AA is configuous is:    Sa00 ft, and connected with a natural land corridor   Canonic truncation   Ca			71<	T	
<300 ft, and connected with a natural land corridor <300 ft, but no uninterrupled natural land corridor			The distance from the AA edge to the closest pond or lake that is larger that which the AA is contiguous is:		Uninterrupted means no roads, other unvegetated lands, or lawns – regardless of their width.  Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
<300 ft, but no uninterrupted natural land corridor	69		<300 ft, and connected with a natural land corridor		o locate ponded waters, in the online WESPAR-SE Wetlands Module, enable the Land Naceification Layer 1 Jayer and Inch for hire notwone. If multiple emallar water hodies are
	70		<300 ft, but no uninterrupted natural land corridor		province to the control of the control of the combined when evaluating acreane. TAM IPH SBM Sens WBF

	-	
A	λου Δασο ε	
71	ouc- tour it, and connected with a natural land confidor	WBN]
72	300-1000 ft, but no uninterrupted natural land corridor	0
73	>1000 ft, and connected with a natural land corridor	
74	>1000 ft, but no uninterrupted natural land corridor	0
OF12 Distance to Lake	The distance from the AA edge to the closest (but separate) lake (a non-tidal body of water that is ponded during most of the year and is	In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 laver and look
		for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they
92	<1 mile	may be combined when evaluating acreage. [Sens, WBF, WBN]
27	1-5 miles	
78	>5 miles and on the mainland or the same island	0
79	>5 miles and on a different island	0
OF13 Tidal Proximity	The distance from the AA edge to the closest tidal water body is:	[AM, FA, FR, INV, NR, OEv, PH, PR, PU, SBM, Sens, SR, Subsis, WBF, WBN, WS, WWv]
00	2300 ft	Ta
81	300 11	
82	1000 ± 000	
83	vout - I mile	
84	1-5 miles	0
85	>5 miles	0
OF14 Upland Edge Contact	Select one:	"other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland
87	The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	but will be unaffected by proposed alteration. [NR, SBM, Sens]
/o	1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0
88		
68	25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
06	50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
91	More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	
27,10		Ī
OF15 Floodable Property 92	From floodplain maps, topographic maps, aerial imagery, and/or contacts with FEMA and public works departments, determine IF: downstope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are thus the structures are within a mapped 100-year floodplain or flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillstope unoff, or sudden roefalls AND  (b) Between the AA and the downstope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams. If thue, enter "1" in next column. If false, enter "0".	Ketchikan and perhaps a few other communities have maps showing the 100-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]
OF16 Glacier Fed	Refer to the Glaciers map in the online WESPAK-SE Wetlands Module. Select the first applicable choice:	[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]
94	No upstream glacier feeds <b>surface</b> water to the AA, not even seasonally.	-
95	A glacier feeds streamflow or other surface water to the AA and it obviously reduces water clarity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tribulary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0
96	A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water darity.	0
OF17 Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:	Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86	a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0 Subsis, WBF, WBN
66	<ul> <li>b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	-
100	c) is not accessible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	0
101	d) is fishless (i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)	0
102	e) fish presence and potential fish access are unknown and undeterminable.	0
OF18 Designated IBA	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	0 Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit (Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forrester Island (Prince of Wales-Outer Ketchikan), Stikine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WBNv]
103		

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Ì	_			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
OF19	19 Deer Winter Habitat Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	The rating, assigned by the 2007 South lower elevations with more southerly exinterception and thermal cover, constitutions severe winter weather. [SBM, Subsis]	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southedly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20	20 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):	The category breaks are bacells covering Southeast A	The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
L \ C		<67 inches	Climate Group and are bas	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation المساقية الم
_		67-87 inches	allu lalliuue. [Sr Sv, OE]	
1 ∞		88-112 inches	0	
		113-139 inches	0	
_		140-165 inches	0	
1		>165 inches	0	
I ~		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was	The category breaks are ba	The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
···	Annua	modeled as (rounded to the nearest whole number):	cells covering Southeast A	cells covering Southeast Alaska. The modeled data are from the Oregon State University PKISM Climate Cours and any broad on the dimeter accorded for the posited 1001 2010.
		<38 degrees F		Climate Group and are based on the climate normals for the period 1961-2010, as well as elevation and lattitude 14M CS FR INV NR OF PH PP Sens SR WRF WC WS WMM.
10		38-40 degrees F	0 and rantage. [Aw, 60, 113,	inv., inv., OE, 1 1, 1 1, Odis, OI, WEI, WO, WO, WWV.
		41-42 degrees F		
<u></u>		43-44 degrees F	0	
- ~		> 44 degrees F	0	
1~		no information available		
	т	T	t	
O+ 22	22 Basic pH or Karst	I he AA (a) is in a <b>kars</b> t area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be undertain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	In karst landscapes, the be sinkholes, and presence of holly ferns (Adiantum peda oppositifolia), columbine (	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns ( <i>Adiantum pedatum, Polystichum braunii</i> ), purple mountain saxifrage ( <i>Saxifraga oppositifolia</i> ), columbine ( <i>Aquilegia formosa</i> ). [AM, FA, FR, INV, OE, PH]
OF23	23 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Grantitic Geology. The AA is underlain primarily by grantitic formations or glacial till that is known to be grantitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0 If deep glacial till overlays	If deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	24 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upstope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.	Base this on observations online WESPAK-SE Wetla Consider steep upslope an	Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landslides. Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
~ ا		yes, and such conditions or classifications intersect the AA.	0 Zones or past and possibly	Zones of past and possibly future erosion. [Pri, Priv, Sens, Sriv]
I →		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
O I		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
ζ.		no information		
OF25	25 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first true statement. These conditions are present:	Check to be sure the probl sediment, turbidity, TSS, b tool to click on the line seg type of problem. If no quali	Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem. If no quality-controlled sampling has been done, then a statement or rating
<u>⊤~</u>		within the AA	0 counted Also if time allow	documenting the problem and published in a recent agency report of official correspondence may be counted. Also if time allows, query and retrieve water quality data from:
16		in waters within 1 mile that flow into the AA.	0 http://www.waterqualitydata	observed, and a mineral specification of the property of the property of the presence of potential http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
Ι ~		Sampling (not just absence of map symbols) indicates no problems.	0 pollution sources. The water	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
1_		insufficient data (no map symbols & no sampling, or >1 mile upstream).	STR, WBF, WBN]	
OF26	26 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters downslope from the AA. Or, other sampling has identified such a problem downslope. Select the first true statement. These conditions are present:	See above. [SRv]	
01 m		within 1 mile downslope, and connected to the AA by a channel	0	

106 109 111 111 111

1115 1116 1117 1118

123 124 125 126

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134	,	within 1 mile downslope, but not connected to the AA by a channel	0	נ
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	1	
OF27 137	27 Drinking Water Source	Refer to the <b>Drinking Water Protection Areas</b> layer of the online WESPAK-SE Wetlands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone & Ground Water Zone A Surface Water	0	
141		Zone B Surface Water	0	
142		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	_	
0F28	28 Elevation in Multi-scale Watersheds	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset> Watershed Boundary Dataset. Then in the ShedData worksheet (tab below) look up the AA's HUC codes and their cut-offs for upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	1	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	-	
150		In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	1	
OF29 151	Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the <b>Shedbata worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the ShedData table, change the cell on the right to <b>blank</b> —>	98.0	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv., PHv, POLv, SBMv, Sens, WBFv, WBNv]
OF30	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154		1 to 10% of its CA	0	the fringe of a pond of lake, compare the area of that water body to its contributing area – not the area of the wetland compared to only the wetland's contributing area. For most wetlands, and
155				esea of the weaten't compared to only the weaten't so contributing area. For those weateness, and especially ones containing tributaries, the first choice will be the most appropriate. [NR, PR, Sens,
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. <b>SKIP TO OF34.</b>	0	SR, WSv]
OF31	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upstope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWV]
158		<10%	_ (	
159		10 to 25%	0	
160		0,037	o	

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Non-tid	
OF	
Form	

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Y	В	C	П	E
0F32 161 163 163 163 165 166 167 168	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslop indicated by the following:  (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) land cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow and/or have high runoff coefficients.  This statement is:  Mostly true  Somewhat true  Mostly untrue  The overland flow direction of most surface water (in streams or runoff northward (N, NE). north-facing CA.		[NRv, PRv, SRv, WSv]  If there are no inflowing streams: In what direction does most runoff or groundwater flow as it moves through this AA? If necessary consider the Aspect 20m map in the online WESPAK-SE Wetlands Module. [AM, NR, PH, POL, SFS, WC, WS, WWV.]
167		Southward (S, SW), south-facing CA. other (E, SE, W, NW), or no detectable uphill slope or input channel (flat)	1	
0F34 169	Internal Gradient	The gradient along most of the flow path within the AA is:  2%, or, no slope is ever apparent (i.e. flat). Includes most depressional sites and ponds.	0	For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in closely until you see numbers on the contour lines. Measure a line drawn from highest to lowest plevation along the part of the wetlland notworn having the greatest width measured negree interesting to the control page.
171				devance and you go not to the weatland purigon having the greatest what infectious perpendicular to contour lines. Then estimate elevational difference from the numbered contours and divide by the line length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
173		>10%	0	[AM, CS, NR, OE, PR, SR, WBF, WBN, WS]
0F35 174 175	Internal Flow Distance (Path Length)	From measurement of wetland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column] <150 ft.	0	If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If wetland is a pond, use the maximum width measured perpendicular to topographic lines uphill from the wetland. Straight-line rather than channed distance is used here only for simplicity of most constraints. The catalogy and the contraction of the con
176		150-300 ft 300-800 ft	0	inecounterient. The caregory breats are based on the Tu, EJ, 30, 13, and 30th percentues of intersected stream length of all Southeast Alaska non-tidal wetlands. [NR, OE, PR, SR, WS]
178 179 180		800-2000 ft 2000 ft - 1 mile >1 mile	0 - 0	
OF36	Relative Hydrologic Distance to Anadromous Stream		0.57	[0Ev]
OF37		Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-49%), 0= all other.	0	The rating (from TNC) is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
0F38		Subsistence Focal Areas The AA or waters that directly adjoin it:  is in Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence lise Areas for exact boundaries)	0	Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by persons with subsistence permits. [FAv, FRv, Subsis]
185		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps) neither of the above no data (outside of the regions shown on the maps, and not listed in Table B-6)	0 - 0	
OF39 188 189	Geography	Mark ALL that are true. The AA is located: in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains.	0	[AMv, SBM, WBF, Sens]
190		in another mainland area or on an island larger than 20 square miles.	-	

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<b>t</b>		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191 0F40	40 Unbrowsed Vegetation	waters. The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
OF41	41 Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42	42 Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
OF43	43 Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species – Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Homed Grebe, Trumpeter Swan – has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	1	
OF44	Songbird or Raptor Species of Conservation Concern	One or more of these species – Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird – has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. However: at least one of the following have been confirmed nesting in the AA: Short-eared Owl, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
0F45	45 Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
215			í	
216		more than 1 such feature or species is present in the AA	0	
217		only one such species or feature is present in the AA	0	
218		there are no recent observations of these in the AA by a qualified observer under conditions similar to what now occur, or no data.	1	
OF46 219		The AA contains (a) more than't acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline (see layer in online WESPAK-SE Wetlands Module).	0	[PHv, SBM]
0F47	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[hd]
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OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animal to the public.		4	L
OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animals to the public,		n	E
The wetland (e) OF49 Sustained Scientific Use Plants, animals to the public	OF48 Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	0	voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites
OF49 Sustained Scientific Use Plants, animal to the public.	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	ισ	are shown online at: http://www.conservationregistry.org/ [PU]
to the public.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	0	ĺηd
are princinom	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends		
	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.		

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Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
interference of the control of the c	CTIONS: Conduct an as: ) to a 1 (true) for the best rvations and interpretation where or other knowledgat listing of functions to whin ndix F of the accompanyin r Warming, SR= Sedimentebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (frue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	7]	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5 F1.1		Forested Peatland	∑ <u>S</u> 8 <u>⊏</u>	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0 9	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Si O is ur	Surface water is more extensive, at least seasonally. More emergent than tall (>3 tt) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, its largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4.		Floodplain Wetland	At dt the the the the the the the the the th	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are sit or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's dub. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
F1.5		Uplift Meadow	<u> </u>	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downout. Mostly sweetgale and/or herbaceous vegetation, e.g., silvenweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	In le 0 ar	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	<u>⊢</u>	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WWJ
13		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	
14		25-50'% of the AA level contains surface water.	0	

V	В	0	D E
15		50-99% of the AA never contains surface water.	1
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
1		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to	0
1/			
<u>E</u>	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obscured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	o remain wet longer into the summer. Indicators of persistence may include fish, some dragonfiles,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	Deaver, and muskrat. In the local soil survey, the INKC's descriptions of the predominant soil types may include information on activities and Indiana INV NID DOL DE SEM MENT
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	Indude Information on saturation personalize [Prin, Co., 17, 117, 117, 117, 117, Ob., 117, Ob., 177, Ob.,
22		25-50% of the AA	0
23		50-95% of the AA	0
24		>95% of the AA	0
 F4	Summertime Shading of	_	Consider the aspect and surrounding topographic relief as well as vegetation height and density. IFA.
25	Water		WC, WMJ
96		<5% of the water is shaded	0
27		5-55% of the water is shaded	
<sup>1</sup> °C		25-50% of the water is shaded	
07		ED 7200 of the current of borders	
29		OU-10% of the maker is shaded	
30		2/3% of the Water is shaded	0
F2	Fringe Wetland	The AA adjoins a lake, stream, or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ft	[WBF, WBN, WC, WWv]
		and also more than 5 times the vegetated wetland's average width (measured perpendicular to upland). If true, enter "1" and continue, If false,	0
31		leave the 0 and continue.	
94	Lacustrine Wetland	The AA borders a body of ponded open water whose size (not counting the AA's wetland) exceeds 20 acres during most of the growing	
32		season. Enter "1" if true, "0" if false.	[NBM] 0
F7	% Flooded Only	The percentage of the AA soil that is covered by surface water only during the wettest time of year, and for >2 continuous weeks during that	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that
33	Seasonally	tme, is:	flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of inland and
3.7		<1% or <0.01 acre, whichever is less. SKIP to F9.	annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
†		1 050/	multiplying by 2 the bankful height and visualizing where that would intercept the land along the river.
35		0/.07-1	Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
36		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and certification of the wetter times in Southeast Aberta trained to the world during rain
ţ		90-95%	Saturation pot sistence: The wettest times in Southeast Again a typically occur will grate rail, until grater 101, until grater fair, until grater fair and/or during some t. Near melting alaciers, surface water
2/		%56<	
38			
39 F8	Annual Water Fluctuation	The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
40	אַפווּאָב	<0.5 ft	0
41		05-1ft	_
42		1.3 ft	0
43		>3#	0
F9	Predominant Depth	During most of the growing season, surface water depth in most of the area where it is present is: [Note: This is not asking for the maximum	
44	Class	depth, ]	safety allow, depths may be measured by drilling through winter ice. This question is asking about the
45		<0.5 ft deep (but >0)	spaula median deput triat occurs during most or triat unte, even in mutdation is only seasonal of ———famorizary l'fin indation in most but not all of the walland is brief the answer will be based on the denth
46		0.5-1 ft deep	of the most persistently inundated part of the wetland. Include surface water in channels and ditches as
47		1-2 ft deep	well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
48		2-6 ft deep	
49		>6 ft deep. True for many fringe wetlands.	0

		4	
A F10		Β Danth Clase Distribution Mhan masant surface water in most of the ΔΔ neually consists of (salar) one.	Estimate these proportions by considering the cradient and microtroportions of the site. See diagram in
50   10		when present, surface water in most of the Ary assaily contasts of (serect only).	Estimate tress proportions by constraining the gradient and introduced aprily of the site. See diagram in the manual IEE INV WRE WRNI
51		One depth dass that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth dass that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		50-75%	0
09		>75%	0
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the <u>AA</u> that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AM, CS, NK, OE, PH, PK, SBM, Sens, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, <b>do not consider herbaceous plants</b> . Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so should not be attempted. [AM, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has ponded surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWI
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
92		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
20			

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87		scattered in small clumps, islands, or patches throughout the surface water area.		
88		intermediate		
68		clumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 so ft and <1% of the AA.		
F18	S Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	[EC, PR, WBF]	
F19	lce Cover	lce (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "4" in next column. If untrue, enter "0".	Available data suggest this rank Annette, Sitka, Little Port Walter elevation, water body depth, and SFS, SR, WBF, WS]	Available data suggest this ranking from shortest to longest ice duration based on location: Ketchikan, Annette, Sirka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly most and/or evergreens.	[FR, OE, PR, WW]	
F21	1 Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	[WBN]	
F22	2 Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):	[FA, FR, PH, SBM, Sens, WBF, WBN]	WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).		
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may indude: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	ı	
97		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But beaver occur in the region (i.e., within 10 miles, or on same island).		
86		none. Beaver are absent from the region and/or the island.		
F23	3 Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).		
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.		
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.		
103		5-30% of the AA.		
104		30-70% of the AA.		
105		70-95% of the AA. >95% of the AA.		
F24	finflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a take or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and SKIP to F28.	[NRv, PH, PRv, SRv]	
10.7 F25	5 Input Water	Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	[WC, WWv]	
108		years. Enter 1= yes, 0= no.	[, 'o]	
F26 109	3 Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:	Estimate gradient by dividing the	Estimate gradient by dividing the elevation difference by honzontal distance over 300 ft. [PRv, SRv]
110		<1%		
111		-2%  -3%		
113		>30%		
F27	Throughflow Complexity	During its travel through the AA at the time of peak annual flow, <u>most</u> of the flowing water [select ONE]:	[FA, FR, INV, NR, OE, PR, SR, WS]	ws]

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A		D E
115	Does not bump into plant stems. Nearly all the water travels in unvegetated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	-
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The <b>most persistent</b> <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the <b>AA</b> and the closest off-site downstope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	0 a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur oduring the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Wajor runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
137	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not annear to drain the welland artificially during most of the proving season	NA, OE, PK, Oelis, OA, Woj
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wettand artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lyloding 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	eastwaret wirtig journwaret seeps nay be most nouceable in ice formatous along streams during early writer. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very close to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul><li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li><li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li><li>(d) AA is located at a geologic fault.</li></ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	
136	5-25%. 25-51%	0
138	50-75%	,
139	>75%	0
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the <b>trees</b> that are taller than 20 ft occupy.	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for sowers weeks of the provision season. The "venetated part" should not include floating based or
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	o submersed aquatics. [PH, SBM, Sens]
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% of the vegetated AA	
145	>95% or the vegetated part of the AA	0

V	В		()
183		<1% of the AA's vegetated area, or largest patch occupies less than 400 sq. ft	0 soils with little moss ground cover, such as burns, clearcuts, landslides, avalanche paths, abandoned
184		1-25% of the vegetated area	0 beaver flowages, areas of recent glacial rebound or deglaciation, heavily grazed or drained lands, and
185		25-50% of the vegetated area	0 floodplains. [CS, INV, OE, PH, SBM]
186		50-75% of the vectated area	
187		>75% of the vegetated area	
F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
189			irchens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	
191		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42 I	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	0
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
700	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SR]
007		little or no (<5%) bare ground is visible between erect stems or under canoov and ground surface is extensively blanketed by moss. lichens.	
201		graminoids with great stem densities, or plants with ground-hugging foliage.	
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0
F44 (	Ground Irregularity	Consider the parts of the A4 that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Microtopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
207		Few or none (minimal microtopography; <1% of that area)	Soli. Do not count incised channels and other mado reatures, if parts of the AA are flat out official to have substantial microhopography base volir answer on which condition predominates in the parts of
208		Intermediate	the AA that lack persistent water: [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
209		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "Islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	Count as industrials the elevated roots of trees of roots will east soft meeting the size threshold. Upland inclusions may sometimes be created by fill. IAM. NR. SBMI
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	"Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Oi" horizon.  These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NK, UE, PH, PK, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay loam, sandy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0

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F47	Shorebird Feeding	Within the AA, the extent of mudiflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located
977	Patch	submerged and tloating aquatics) <u>within</u> the AA is: [Note: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the parch to include contiguous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
222		40 1 arra SKIP to F54	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
177		0.1 - 1 agre	
077		1 to 10 areas	
677		TO TO ACCES	
230		TO TO UU acres	0
231		100 to 1000 acres	0
232		>1000 acres	0
733 F49	Unshaded Herbaceous	As visible in birds-eye view, herbaceous vegetation (excluding mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
727	Extent	<5% of the venetated nart of the AA Mark "1" here and SKIP to F54.	——herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
107		F. 250, of the vaccitated ΔΔ	
733		7 COU. of the required An	
236		23-30% of the vegetated AA	
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
F50	Forb Cover	The percent of the vegetated ground cover that is forbs (e.g., skunk cabbage, buckbean, wildflowers) reaches an annual maximum of:	forbs = flowering non-woody vascular plants (excludes grasses, sedges, fems, mosses). Exclude Innsettal (Fauisetum) even though technically it is a firth. IPOL.1
739			
240		<5% of the vegetated ground cover	0
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	
243		50-95% of the vegetated ground cover	
244		>95% of the vecetated around cover. SKIP to F52.	0
ш	Sodge Couer	Sadas (Cara en ) and a standard (Erindada)	1921
245	DANGE COAG	Sedges (Carex Spp.) androi coucoliglass (Eriophoram angustioniam) occupy.	<u> </u>
246		<5% of the vegetated ground cover, or <0.01 acre	
247		5-50% of the vegetated ground cover	0
248		50-95% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fem) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do <b>not</b> comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC, PH, POL, Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike dover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	0
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

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A E54	Mond Source Along	Abone the westand-infand poundary, the nervent of the infand adva (within 10 ft of westand) that is occurring by infant sneares that are	U    He well and has no incland adds or incland adds is < 10% of well and's nationals. Then are wer for the
259	Upland Edge	considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., winter
260		none of the upland edge (invasives apparently absent)	——conditions) but its genus contains an invasive species, assume the unidentified plant to also be 0 invasive if vootbijon is so sonoscod that invasive species, assume the infantified answer "nears" IDH1
261		some (but <5%) of the upland edge	ווועמאיעבי זו עפטפומוטוו זא אס אפוופאספט ווומן ווועמאיעפ אףפטפא עמווווטן על ועפווווופט, מוואיעפן זוטוופי. [דיו]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upstope, the percentage of the upland that contains natural (not necessarily native - see	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of
264		column E) land cover taller than 6 inches is:	perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed >1x per year, payement, bare soil rock, bare sand, or gravel or dirt
265		52%	T
566		5 to 30%	
267		30 to 60%	0 PRv, SBM, Sens, SRv, WBN]
268		%06 ot 09	
569		>90%. <b>SKIP to F58</b> .	0
F56	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge closest to the AA, the upland land cover that is NOT unmanaged vegetation or water is	[AM, FA, INV, NRv, PH, SBM, WBN]
270		mostly (mark ONE):	
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0
770		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated dearcut, landslide, unpaved road, dike.	
512 F57	Slone from Disturbed	The average nervent slove of the land measured from the AA's welland indeed and extending in the most extensive and/or	Disturbance feature = hulding payed area recently cleared area districted lawn annually-harvested
273	Lands	The average patents appear the tank, measured from the AAS wetternessing uping to the most extensive analysis dosest disturbance feature within 100 ft, is:	constitution of the control of the c
274		<1% (flat – almost no noticeable slope)	0 AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge
275		2-5%	crosest to the AA. Estimate stope by dividing the elevation difference (between the welland and
276		5-30%	disturbed area) by meir nonzonial distance apair. [NRV, PRV, Sens, SRV]
277		>30%	0
F58	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain	Do not include upturned trees as potential den sites. [POL, SBM]
278		crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	
F59 279	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows, receding glacier, sea level rise, or other factors affecting what once was upland (non-hydric) soil.	Do not include wetlands created by beaver dams except for the part where flooding affected uplands (not just existing wetlands and streams). Determine this using historical aerial photography, old maps,
280		ON	soil maps, or permit files as available [CS, NK, OE, PH, PKv, Sens, SKv]
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	0
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	0
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU, WBFv]
287		<25%	
288		25-50%	0
289		>20%	0
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
100		publicly owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road	
167		verindes). Intibliciv owned resource use lands (allowed activities such as timber harvest minion or intensive recreation) or unknown	
267		power by non-profit conservation organization or lease holder who allows public accesss.	
294		other private ownership, including Tribes.	0

Y	В		D
295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Barnation layers Regression Earlities. [D1]
296	סומוומו סו סומווומו	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	Ture i vegication tayer a recication i acinicos. Pi o J
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstirp, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nighter on trails outside of the AA unless more than half the undend is visible from the trails and than an within 100 ft of the undend order. In	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		value of the season are not the first that had not be weathers which the dails and they are within 100 to the weather edge. In that case add only the area occupied by the trail.]	depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SBM, WBT, WBN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	
306		>95% of the AA	0
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
100		not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail].	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, Pu, SBM, WBF, WBN]
700		ZEV. KEE22 una anaunacad "SOEV". E <b>XID 14. E67</b>	
308		COS. II TOO WAS Allswelled 250%, <b>2NIT to Fot.</b>	
309		200%	0
310		90-92%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	[PH, PU]
F66	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	[AM, PU, WBF, WBN]
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of these consumptive uses may consist of direct observation, or presence of physical authoria (a.g. recently out stumps, fishing lines, shell asses), or might be obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	0
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	I reignibornood is known to not be connected to a municipal dinnking water system (e.g., is ouiside a 0 densety settled area). INRv1
323		500-1000 ft	
324		>1000 ff away, or none, or no information	0

Stre	ssor (S) Data Form for Non-Tidal Wetlands	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
S1	Wetter Water Regime - Internal Causes		Date.	one cocanon.	
	In the last column, place a check mark next to any item that is likely to have caused				
	occurring within past 100 years or since wetland was created or restored (whichever is less). (The items you check are not used automatically in subsequent calculations. They are included simply so they may be considered when evaluating the factors in the lable beneath them). [CS]				
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or downgradient from the wetland, or raising of outlet culvert elevation.				
	excavation within the wetland, e.g., artificial pond, dead-end ditch				
	excavation or reflooding of upland soils that adjoined the wetland, thus expanding				
	plugging of ditches or drain tile that otherwise would drain the wetland (as part of intentional restoration, or due to lack of maintenance, sedimentation, etc.)				
	vegetation removal (e.g., logging) within the wetland				
	compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of	machinery, livestock, or off road vehicles			Х
	If any items were checked above, then for each row of the table below, you may ass the "0's" for the scores in the following rows. To estimate effects, contrast the currer				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	1
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Score the following 2 rows only if the wetter conditions began within past 10 years,	and only for the part of the wetland that got wetter.			
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	Average water level increase	>1 ft	6-12"	<6 inches	0
				Sum=	2
				Final Score=	0.17
S2	Wetter Water Regime - External Causes				
	In the last column, place a check mark next to any item occurring in the wetland's	ontributing area (CA) that is likely to have caused a part of t	the wetland to be inundated more extensively, more frequent	lv, more deeply, and/or for longer duration than it would be	
	without that item or activity. Consider only items occurring within past 100 years or s		no notation to be mandated more extensively, more negation	y, more deeply, and or for longer duration triain a read be	
	subsidies from stormwater, wastewater effluent, or septic system leakage				
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			х
	removal of timber in the CA or along the wetland's tributaries				х
	removal of a water control structure or blockage in tributary upstream from the wet	land			
	If any items were checked above, then for each row of the table below, you may ass	ion points (3, 2, or 1 as shown in header) in the last column.	However, if you believe the checked items had no measural	ole effect in making any part of the AA wetter, then leave	
	the "0's" for the scores in the following rows. To estimate effects, contrast the currer			one check in maining any part of the 7th Notice, then leave	
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	1
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
	Score the following 2 rows only if the wetter conditions began within past 10 years,	· ·	, ,	, ,	
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	Inundation now vs. previously  Average water level increase	persistent vs. seldom >1 ft	persistent vs. seasonal 6-12"	slightly longer or more often <6 inches	0
				<6 inches	0
S3	Average water level increase			<6 inches	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes	· >1ft	6-12"	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately	>1 ft	6-12"	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells	>1 ft  vadjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).	6-12"	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the	>1 ft  vadjacent to the welland, that is likely to have caused a part of and was created or restored (whichever is less).  e welland	6-12"  of the wetland to be inundated less extensively, less deeply,	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification	>1 ft  vadjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage	6-12"  of the wetland to be inundated less extensively, less deeply,	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis	>1 ft  vadjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage	6-12"  of the wetland to be inundated less extensively, less deeply,	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material	>1 ft  vadjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainaged below the historical water table level)	6-12"  of the wetland to be inundated less extensively, less deeply,	<6 inches Sum= Final Score=	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incisplacement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wetled to the surface or ground water directly	>1 ft  v adjacent to the welland, that is likely to have caused a part of and was created or restored (whichever is less). e welland of a water level control structure, resulting in quicker drainaged below the historical water table level) etland (not its tributaries)	6-12"  of the wetland to be inundated less extensively, less deeply,	<6 inches Sum= Final Score=  (ess frequently, and/or for shorter duration that it would be	0 2
\$33	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material	>1 ft  / adjacent to the welland, that is likely to have caused a part of the welland and was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che	6-12"  of the wetland to be inundated less extensively, less deeply, l	<6 inches Sum= Final Score=  (ess frequently, and/or for shorter duration that it would be	0 2
\$3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass	>1 ft  / adjacent to the welland, that is likely to have caused a part of the welland and was created or restored (whichever is less).  welland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present.	6-12"  of the wetland to be inundated less extensively, less deeply, i e  cked items had no measurable effect in making any part of t	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the	0 2
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that filem. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition	>1 ft  v adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer prese.  Severe (3 points)	6-12"  of the wetland to be inundated less extensively, less deeply, i e  cked items had no measurable effect in making any part of t nt.  Medium (2 points)	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point)	0 2 0.17
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition spatial extent of wetland's resulting drier condition	>1 ft  / adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)	6-12*  of the wetland to be inundated less extensively, less deeply, if the wetland to be inundated less extensively.	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any)	0 2 0.17
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that filem. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preservers.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago	6-12"  of the wetland to be inundated less extensively, less deeply, i e  cked items had no measurable effect in making any part of t nt.  Medium (2 points)	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point)	0 2 0.17
SS3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wiff any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition spatial extent of wetland's resulting drier condition	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preservers.  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago	6-12*  of the wetland to be inundated less extensively, less deeply, if the wetland to be inundated less extensively.	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any)	0 2 0.17
\$3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will fany items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence to the checked items of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.	6-12"  of the welland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often	0 2 0.17
53	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the ilowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will fany items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began within past 10 years, a	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0s" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will fany items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	6-12"  of the welland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= fess frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lunudation now vs. previously  Water level decrease	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	6-12"  of the welland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S3	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will fany items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a hundation now vs. previously	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	6-12"  of the welland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= fess frequently, and/or for shorter duration that it would be he AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incident).	>1 ft  r adjacent to the wetland, that is likely to have caused a part of the wetland was created or restored (whichever is less).  In wetland of a water level control structure, resulting in quicker drainage and below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preserved to the checked items never occurred or were no longer preserved or	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawats (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of	>1 ft  v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainaged below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  viding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously.  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the	>1 ft  v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  e wetland  of a water level control structure, resulting in quicker drainaged below the historical water table level)  etland (not its tributaries)  gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presence (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  viding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wells ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  When most of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland	>1 ft  v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less). s wetland of a water level control structure, resulting in quicker drainaged below the historical water table level)  etland (not its tributaries) gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presenses of wetland even of the wetland that got drier.  seldom vs. persistent  >1 ft  uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less). wetland	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the weltand or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise) placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the wif any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  When most of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the welland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the velocation of natural tributaries whose water would otherwise reach the welland instream water withdrawals from tributaries whose water would otherwise reach the	>1 ft  v adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less). s wetland of a water level control structure, resulting in quicker drainaged below the historical water table level)  etland (not its tributaries) gin points in the last column. However, if you believe the che if the checked items never occurred or were no longer presenses of wetland even of the wetland that got drier.  seldom vs. persistent  >1 ft  uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less). wetland	6-12"  of the wetland to be inundated less extensively, less deeply, l	*6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the weltand or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a nundation now vs. previously.  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inclinat it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	>1 ft  r adjacent to the welland, that is likely to have caused a part of and was created or restored (whichever is less).  s wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  retland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to be severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the welland that got drier.  seldom vs. persistent  >1 ft  inding channels flowing into the wetland) that is likely to have or since welland was created or restored (whichever is less).  wetland  e wetland	6-12"  of the wetland to be inundated less extensively, less deeply, l	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score= y, less deeply, less frequently, and/or for shorter duration	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a lunudation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points.	>1 ft  r adjacent to the welland, that is likely to have caused a part of and was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items of the welland or >95% of its upland edge (if any) <a href="#"><a href="#">&lt;</a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a>	6-12"  of the wetland to be inundated less extensively, less deeply, l	<6 inches Sum= Final Score= less frequently, and/or for shorter duration that it would be the AA drier, then leave the "0's" for the scores in the Mild (1 point) <5% of wetland and <5% of its upland edge (if any) 10-100 yrs ago slightly shorter or less often <6 inches Sum= Final Score= I, less deeply, less frequently, and/or for shorter duration contrast it with the condition if checked items never	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Average water level increase  Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since welled ditches or drain tile in the weltand or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a nundation now vs. previously.  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inclinat it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	>1 ft  r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items never occurred or were no longer present to the checked items or 25% of its upland edge (if any)  3 yrs ago  ad only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  unding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	6-12"  of the wetland to be inundated less extensively, less deeply, l	Sum=   Final Score=   Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incis placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a landation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the verelocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points occurred or were no longer present. However, if you believe the checked items had	>1 ft  r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items never occurred or were no longer present if the checked items in occurred items in the last occurred items in or weather that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any Severe (3 points)	6-12"  of the wetland to be inundated less extensively, less deeply, l	Sum=   Final Score=   Final Score=	0 2 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
S3 S4	Drier Water Regime - Internal Causes  In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since well ditches or drain tile in the wetland or along its edge that accelerate outflow from the lowering or enlargement of a surface water exit point (e.g., culvert) or modification accelerated downcutting or channelization of an adjacent or internal channel (incise placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the will any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition.  Spatial extent of wetland's resulting drier condition.  When most of wetland's drier condition began.  Score the following 2 rows only if the drier conditions began within past 10 years, a lunudation now vs. previously.  Water level decrease.  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incit that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points.	>1 ft  r adjacent to the wetland, that is likely to have caused a part of and was created or restored (whichever is less).  a wetland  of a water level control structure, resulting in quicker drainage ed below the historical water table level)  etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer present to the checked items never occurred or were no longer present to the checked items or 25% of its upland edge (if any)  3 yrs ago  ad only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  unding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	6-12"  of the wetland to be inundated less extensively, less deeply, l	Sum=   Final Score=   Final Score=	0 2 0.17 0.17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Score the following 2 rows only if the drier conditions began within past 10 year	ars, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	(
Water level decrease	>1 ft	1-12"	<1 inch	(
			Sum=	2
	-		Final Score=	0.1
_			i ildi doore-	0.
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have cau	ised the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more me	uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy (lar	ger or more frequent spikes but over shorter times). [FA, FR, INV,	PH]		
flow regulation in tributaries or water level regulation in adjoining water body,	or control structure at water entry points that regulates inflow to the	ewetland		
snow storage areas that drain directly to the wetland				
increased pavement and other impervious surface in the CA				
straightening, ditching, dredging, and/or lining of tributary channels in the CA				
If any items were checked above, then for each row of the table below, you may	y assign points. However if you haliave the checked items had no	massurable offset on the timing of water conditions in any	part of the AA, then leave the "O's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the cond			ant of the AA, then leave the US for the Scores in the	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent within the wotland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	(
Spatial extent within the wetland of timing shift				
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	(
Score the following 2 rows only if the altered inputs began within past 10 years		T	T	
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	(
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	(
			Sum=	(
			Final Score=	0.0
Accelerated branch (A. C.			000TC	
Accelerated Inputs of Contaminants and/or Salts				
In the last column, place a check mark next to any item occurring in either the	wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. [FA, NRv, PRv]		
stormwater or wastewater effluent (including failing septic systems), landfills, i				
metals & chemical wastes from mining, shooting ranges, snow storage areas,		anns/)		,
	oiii gas extraction, other sources (see. http://map.dec.state.ak.usia	арры )		
oil or chemical spills (not just chronic inputs) from nearby roads				
spraying of pesticides, as applied to lawns, croplands, roadsides, or other are	as in the CA			
If any items were checked above, then for each row of the table below, you may			contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condition	with the condition if the checked items never occurred or were no			
<del>/</del>	Severe (3 points)	Medium (2 points)	Mild (1 point)	
			mildly impacting (reclaimed minie, low density residential)	
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	initially impacting (reclaimed millie, low density residential)	
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics			
Usual toxicity of most toxic contaminants Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly	
				2
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	2
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	1
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	2
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	1
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	1
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of years of the control of	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of years of the control of	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of years of the control of	frequent but mostly seasonal 50-300 ft or in groundwater  inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	:
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of y assign points. However, if you believe the checked items did not items never occurred or were no longer present.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To	0.0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item - occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of a wetland or its CA that is likely to have accelerated the inputs of its case of of its	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of the inputs of the inputs of the inputs of its case o	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	frequent and year-round 0-50 ft  o wetland or its CA that is likely to have accelerated the inputs of yeasign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  o wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  o wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  o wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	frequent and year-round  0-50 ft  a wetland or its CA that is likely to have accelerated the inputs of the wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing And in the contribution of input And in the con	frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of a welland or its CA that is likely to have accelerated the inputs of a years of the inputs of a years of the inputs of a years of the inputs of a year of the inputs of the inputs of the inputs of a year of the inputs of the input of	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered is other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate eff	frequent and year-round  0-50 ft  a wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  Tea  Slikely to have elevated the load of waterborne or windborne sedim fires  and use  y assign points (3, 2, or 1 as shown in header) in the last column. Felects, contrast the current condition with the condition if the checked.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked.  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Ali in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from off-road vehicles in the CA erosion from firm off-road vehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil gas extraction accelerated channel downcutting or headcutting of tributaries due to altered to other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  o wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  likely to have elevated the load of waterborne or windborne sedim fires  and use  y assign points (3, 2, or 1 as shown in header) in the last column. Feets, contrast the current condition with the condition if the checker.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	0,4
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered is other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate eff	frequent and year-round  0-50 ft  a wetland or its CA that is likely to have accelerated the inputs of items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  Tea  Slikely to have elevated the load of waterborne or windborne sedim fires  and use  y assign points (3, 2, or 1 as shown in header) in the last column. Felects, contrast the current condition with the condition if the checked.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative di tems never occurred or were no longer present.  Medium (2 points)  potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  The final Score in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0
* high-intensity= extensive off-road vehicle use, plowing, grading, excaved sediment	ation, erosion with or without veg removal; low-intensity= veg removal or	nly with little or no apparent erosion or disturbance of soil or	Sum=	0
			Final Score=	0.0
Soil or Sediment Alteration Within the Assess	ment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	atland that is likely to have compacted, eroded, or otherwise altered the w	vetland's soil. Consider only items occurring within past 100	years or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	ecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plants	)			
fill or riprap, excluding small amounts of upland soils containing organi	c amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	rosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion or	stir bottom sediments			
If any items were checked above, then for each row of the table below, yestimate effects, contrast the current condition with the condition if the c	ou may assign points. However, if you believe the checked items did not necked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then	leave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	
			Sum=	
			Final Score=	0.

## GROUP 7

## WESPAK SE NON-TIDAL REPORT Wetland G8

Site Name or ID #:	Angoon Airport
	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520*
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	1.20
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the AA were you able to	100.00
Have you attended a training session for this protocol?	No. Familiar with protoocl and certified in ORWAP
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

			•							F	UNCTIO			VALUE	
WESPAK-SE version 2 scores for this NON- Assessment Area (AA):	tidal Wetl	and								Median of	Functi (non	noids for on Rating malized		Valu	snoids for le Rating rmalized
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	Normalize d F Scores	Low is	High is >	Median of Normalized V Scores	Low is	High is >
Surface Water Storage (WS)	2.13	0.56	1.08	Lower	0.56	Lower	0.82	1.08	0.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	8.06	4.35	9.67	Higher	6.55	Higher	8.11	9.67	9.67	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	4.69	5.89	4.69	Moderate	7.77	Higher	6.23	6.23	5.96	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	6.90	5.29	6.90	Higher	9.84	Higher	8.37	8.37	8.05	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	4.09	3.75	2.48	Lower	8.20	Higher	5.34	5.34	4.81	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	4.46	5.24	1.71	Lower	7.71	Higher	4.71	4.71	4.27	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	5.62	5.88	3.26	Moderate	6.63	Higher	4.95	4.95	4.95	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	5.23		2.23	Lower			2.23	2.23	2.23	6.53	3.66	6.43			
Organic Nutrient Export (OE)	3.80	6.67	5.50	Moderate	6.71	Moderate	6.10	6.10	6.10	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	5.11	6.80	6.67	Moderate	6.80	Higher	6.73	6.73	6.73	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	6.69	6.80	9.26	Higher	6.80	Moderate	8.03	9.26	9.26	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.59	10.00	5.66	Higher	10.00	Higher	7.83	7.83	7.83	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	7.02	6.25	6.83	Higher	7.72	Higher	7.27	7.27	6.92	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	6.80	4.22	9.37	Higher	5.48	Higher	7.42	9.37	10.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	7.01	8.60	10.12	Higher	8.60	Moderate	9.36	10.12	10.00	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	4.77	10.00	5.88	Moderate	10.00	Higher	7.94	7.94	7.84	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	6.10	7.15	8.84	Higher	9.58	Higher	9.21	9.21	9.15	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	6.19	9.53	7.74	Higher	9.44	Higher	8.59	8.59	8.73	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		2.12			2.41	Moderate	2.41	2.41	2.41				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		3.21			2.40	Lower	2.40	2.40	0.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		5.58			5.88	Higher	5.88	5.88	6.19				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		4.66			6.77	Higher	6.77	6.77	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								0.00	0.00	Lower	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)								4.51	2.45	Lower	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC,	WW)							8.60	8.15	Higher	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								8.63	8.63	Higher	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								9.49	9.56	Higher	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, POL	)							8.86	8.49	Higher	3.61	6.32			
SOCIAL GROUP (max+avg/2 of PU, Subsis)								8.89	10.00	Higher	3.66	6.58			

Overall Score (see Manual for explanation of how the spreadsheet calculates it):

Overall Rating:

Higher

 G w/o Social
 with Social selected higher normalized

 7.89
 8.38
 8.38
 8.09

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4			
Data 1 Shelf o	a Form OF (Office) oil and gas revenues by the	Data Form OF (Office) for Non-tidal Wetlands. WESPAR-SE VERSION 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
ì			
URE.	CIIONS: Conduct an as	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. Except where instructed	
other	wise, in the Data column	otherwise, in the Data column change the 0 (talse) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these	Investigator: ESA Staff
duesti	ions primarily based on y	questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions	<b>Date:</b> 13-22 Aug. 2013: 15-22 June. 2017: 6-14 June. 2018
accur	ately may require conferr	accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this	Cito Notes: The city with a photocolin photocolin photocolin 2013 2017
office	data form requires 1-2 h	office data form requires 1.2 hours ner site. For a listing of functions to which each question pertains, see bracketed codes in column F. For detailed	Site Notes. The site was defined to the fined mid vals spanning 2010, 2017, and
3			2018. Field observations for the wetland assessment were taken durring the 2018
Cesci	ptions of each WESPAN	descriptions of each vest-AR-SE model, see Appendix F of the accompanying manual. Codes to functions and values are, was water storage, SES-	SIITVEV
Strear	m Flow Support, WC= W	Stream How Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon	
Sedue	estration, OE= Organic E	Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN=	
2 Nestin	ng Waterbirds, SBM= So	Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsis= Subsistence, EC=	
Ļ	Indicator	Conditional maising	Prophenical Publications
# c	IIIdicatol	CONTRIBUTION CHOICES	Explanations, Delinitions
- P	Distance by Road to	Measured along the maintained road or boat landing that is nearest the AA, the distance to the nearest <b>population center</b> is:	"Population center" means a settled area with more than about 50 year-round residents per square
	Nearest Population		mile. [FAv, FRv, NRv, WBFv, PH, PU, SBM, Subsis]
5	Center	<u.5 mile<="" td=""><td>O</td></u.5>	O
9		0.5 - 2 miles	
1		2-5 milas	
_			
∞		5-10 miles	
6		>10 miles	0
OF2	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other	0 Many roads are mapped in the online WESPAK-SE Wetlands Module:
		separate wetlands located within the circle without being forced to cross maintained roads (any width). lawns, bare ground, marine waters.	http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct - it may be
		and/or steen (>30%) shones mark 1= ves can move or no other wetlands within that distance or 0= no	
10			SBMI
	2	From the contract of the contr	M. I. WEDDAK OF WELL
11 C-5	Distance to Nearest	From the <b>center</b> of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
1,	Maillailleu Road	<100 ft	IIII.p.//seakyis.alaska.euu/iiex/weilanus/ [rAv, rRv, Aivi, rn, ru, Jbivi, vvbiv]
		יין אינט דעט דעט דעט דעט דעט דעט דעט דעט דעט דע	
13		TI 005-001	
14		500-1000 ft	0
15		1000 ft - 0.5 mile	0
1		05-1 mile	
01 5		of male	
17			
OF4	Distance to Natural Land	The minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native - see definition on	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of
18	Cover	right) land cover <b>larger than 100 acres</b> , is:	perennial cover. It includes low-intensity timber harvest areas and clearcuts harvested more than 10
		<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses,
FI		11 1 2 11 1 2027	
		<15U II, but completely Separated from the 10U-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or immensions enriche. And these not contain 2400 agrees of viscastificial.	Unoads. Natural land cover is not the same as native vegetation. It can include areas dominated by non include an areas dominated by non-
07		Importation and and the Annual term of the Annual t	
21		130L-300 ft, with or without interrupting features	Until WESPAN-SE Wellands Module Silouid be examined to answer tils, and preferably Silouid be worted during a cita vicit. Do not include page of the natural cover patch or corridor that are
رر		300-1000 ft, with or without interrupting features	0 Inarrower than 150 ft. [AM. SBM. Sens]
1 6		none of the shove	
_			1
OF5	Size of Largest Nearby	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA (i.e., not completely constrained by highways or channels that are instrumly wider than 150 ft), commisses	View aerial imagery. Disquality any patch or corridor of natural land cover where it becomes consisted from the AA hu a linear ran of 5150 # if the ran is commised of immenious surface, hare
47	Natural Land Cover	וויסן וויס כמווייסן סיסיים בייס מו וויסן מיס מיסיים	
25	ממומו במומו במומו	<1 acre, or larger but with average width <150 ft	ority or rawn; or it the read and control randoms to test that the online WESPAK-SE Wetlands Module may be examined to answer this and to use its measure
26		1-10 acres	10 Itool to determine acreace. TAM. SBM. Sens. WRNI
27		10-100 acres	
28		100-1000 acres	0
29		>1000 acres	_
0F6	Natural Land Cover	Within a 2-mile radius measured from the center of the AA, the percent of the land that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should
30	Extent		be examined to answer this. [AM, SBM]

Form OF Non-tidal

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ξ ;	q	ZEW, Af this land (swaltuding against and ban)	٥ د	a
31		SOW OF THE PATROLL (EXCHANGE) OCCURRENCE ON (SOME PATROLL)	·	
32		5 to 20% of the land	0	
33		20 to 60% of the land	0	
3.4		60 to 90% of the land	U	
35		>90% of the land. SKIP to OF8.	_	
	Tymo of Lond Court	from the contract of the AA the core		AM CBM1
36 057	lype of Land Cover	Willing <b>Zhine</b> Iadhas ingasungu nonn ung <b>Ceine</b> i of Mes, ung arga utatis <b>no</b> t iadha iann coyer of water is mosily.		[Aw, John]
37		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0	
38		bare pervious surface, e.g., recent (5 yrs ago) clearcut, dirt or gravel road, plowed fields, landslide.	0	
OF8	Wetland Local	Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped		Aerial imagery should be examined to help answer this, and land cover maps contained in the online
	Uniqueness	as being intersected by the AA, or a "2" next to ones which (a) are present in the AA and (b) ALSO comprise less than 10% of the landscape	4	WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv,
39		outside of the AA but within 2 miles.		INVv, PHv, SBMv, POL, Sens]
5		Fresh Water	2	
7		Mathan	· F	
4		e e e e e e e e e e e e e e e e e e e	- (	
42		Muskeg	0	
43		Herbaceous	2	
4		Shrubland (Low)	0	
45		Shrubland (Tall)	1	
46		Deciduous/Mixed Forest	2	
2 5		Conifer Forest - Young or Small	-	
È		Confer Execut Madium		
84		Contrier Forest - Medium	-	
49		Coniter Forest - Large	2	
50		Wetland Shrub Forest	1	
51		other	0	
52		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.	0	
70		11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	c	
53		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NU I contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "1" in the next column.	0	
94 OF9		If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:		[INVv, AMv, SBMv, POLv, PHv, Sens]
55	Uncommon Cover Lype	<150 ft	1	
25		150 - 500 ft	0	
00		500 - 1000 ff	0	
85		1000 ft - 1 mile	0	
86		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10	Donded Water in I andscane	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or fittle system in the online WESPAK-SE Wetlands Module enable the Land Classification level 1
10 5		U	C	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
79		6	> 0	they are inundated and water is ponded at least seasonally. [AM, PH, SBM, Sens, WBF, WBN]
63		1 0 2	,	
49		3 to 6	1	
65		7 to 9	0	
99		10 to 12	0	
<i>L</i> 9		>12	0	
OF11 68	Ponded Water Proximity	y The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		"Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. "Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	1	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	Crassincation Level 1 layer and look tot blue polygons. In multiple smaller water bodies are senarated by <150 ff they may be combined when evaluating acreace. [ AM PH SBM Sens WBF
		_		

_	a	J.	۲	
c i		300 1000 B and compacted with a natural land corridor		
7.1		SOC-TOO It, and confribed with a facility control		WBN
72		300-1000 ft, but no uninterrupted natural land corridor	0	
73		>1000 ft, and connected with a natural land corridor	0	
74		>1000 ft, but no uninterrupted natural land corridor	0	
OF12	Distance to Lake	The distance from the AA edge to the closest (but separate) lake (a non-tidal body of water that is ponded during most of the year and is		In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 layer and look
75		larger than 20 acres or about 1000 ft on a side) during most of a normal year is:		for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they
92		<1 mile	0	may be combined when evaluating acreage. [Sens, WBF, WBN]
77		1-5 miles	1	
78		>5 miles and on the mainland or the same island	0	
79		>5 miles and on a different island	0	
OF13 '	Tidal Proximity	The distance from the AA edge to the closest tidal water body is:		AM, FA, FR, INV, NR, OEv, PH, PR, PU, SBM, Sens, SR, Subsis, WBF, WBN, WS, WWv]
6 6		# UU-5-7	-	
81		300-300 #	- 0	
20		000-10-01. 400-10-01.	o c	
83		100 (1-1 11) HE	o 0	
84		1-5 miles	0	
85		>5 miles	0	
OF14	Upland Edge Contact	Select one:		other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland
87		The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	0	int will be unallected by proposed alteration. [Ink., Obin., Jens.]
G		1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	1	
00		25-50% of the AA's nerimeter abuts unland. The rest adioins other wetlands or water that is mostly wider than the AA	С	
6		EO 750/ of the AA's accimentate above in incland. The cost editions above inclanded accimedate that is according to AA.		
06		30-73% of the AA's perimeter adults upland. The fest adjoins other wellands of water that is mostly wider that the AA.	0	
91		More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	0	
OF15	Floodable Property	From floodplain maps, topographic maps, aerial imagery, and/or contacts with FEMA and public works departments, determine IF: downslope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier	0	Ketchikan and perhaps a few other communities have maps showing the 100-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]
92		meit, not by nigh tides, nillstope funori, or sudden loeralis AND (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams. If true, enter "I" in next column. If false, enter "0".		
93 OF16 (	Glacier Fed	Refer to the Glaciers map in the online WESPAK-SE Wetlands Module. Select the first applicable choice:		[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]
94		No upstream glacier feeds <b>surface</b> water to the AA, not even seasonally.	1	
95		A glacier feeds streamflow or other surface water to the AA and it obviously reduces water darity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0	
96		A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water clarity.	0	
0F17   97	Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:		Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86		a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0	oubsis, WBF, WBN]
66		<ul> <li>b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	_	
100		c) is not accessible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	0	
101		d) is fishless (i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)	0	
102		e) fish presence and potential fish access are unknown and undeterminable.	0	
OF18	Designated IBA	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	0	Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit (Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forresteris Island (Prince of Wales-Outer Ketchtikan), Sitkine River Delta (Wrangell-Petersburg).
103				SDMV, WBINJ

E			٩	ū
, F	OE10 Deer Winter Habitat	Poter to the man in the notine WECDAK.SE Waltands Module: Hahirat Januers > Dear Winter Hahirat Suitshilltu Value Enter 3 if Very	٦ -	The ration assigned by the 2007 Southeast Alaska Conservation Assassment assumes areas at
104		Refer to the high in the online wrest-Ans-SE wedget us module: <b>nabitat Layers &gt; Deer winter nabitat suitability value</b> . Entier 3 if very High; 2 if High; 1 if Moderate; 0= Lower or all other.	_	The falling, assigned by the ZAOT Solutiests Maska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF.	OF20 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation and britings. OFI
107		67-87 inches	1	מות מתותמני [טו סי, סב]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
111		>165 inches	0	
112		no information available	0	
0F21	:21 Temperature, Mean Annual	Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentites of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
11.4		38 Aparags F	c	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
11.4		38-40 dearees F	0	and latitude. [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WC, WS, WWv]
211		14.42 Aprilace F	1	
110		43-44 degrees F	. 0	
111/		A Language C	, ,	
118		A deliges	0	
119	_	no information available	О	
OF22	'22 Basic pH or Karst	The AA (a) is in a <b>karst</b> area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>←</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adiantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa). [AM, FA, FR, INV, OE, PH]
0F;	OF23 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Grantitic Geology. The AA is underlain primarily by grantic formations or glacial till that is known to be grantite, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	If deep glacial till overlays the grantitc bedrock it can obscure its effects. [FR, INV, OE, PH]
	OF24 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landslides. Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or dassifications intersect the AA.	0	zones of past and possibly future erosion. [PH, PRv, Sens, SRv]
124		yes, but the conditions or classifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
126		no information	1	
0F25	'25 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first true statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem. If no quality-controlled sampling has been done, then a statement or rating
771		uithin the AA	c	documenting the problem and published in a recent agency report or official correspondence may be
128		within 1 mile that flow into the AA	0 0	counted. Also, if time allows, query and retrieve water quality data from: http://www.waterculalitydata.us/ Do not sneculate or infer toxic conditions from presence of potential
129		III waters within Find that now <b>nito</b> the AA. Gampling (not intel absonce of man eumhole) indicates no mohlams	o c	intellative www.waterquanity.gata.us/ bollution sources. The water quality problem must be proporing not only historical. [AM. FA. SRy.
130		Saffipfing (not just absence of map symbols) indicates no problems.	o •	political sources. The water quality problem mast be originally instanced. [Ami, 17, 113, 0137, STR, WBF, WBN]
151	_	THE DESIGNATION OF THE PROPERTY OF THE PROPERT	-	
<u>5</u>	OF26 Loxicity Documented Downstream	I he Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters <b>downstope from</b> the AA.  Or, other sampling has identified such a problem downslope. Select the <b>first</b> true statement. These conditions are present:	·	See above, [SKv]
132		within 1 mile downslope, and connected to the AA by a channel	0	

Form OF Non-tidal

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134		within 1 mile downslope, but not connected to the AA by a channel	0	
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	_	
OF27	7 Drinking Water Source	Refer to the <b>Drinking Water Protection Areas</b> layer of the online WESPAK-SE Wellands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone B Ground Water	0	
140		Zone A Surface Water	0	
141		Zone B Surface Water	0	
142		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	1	
OF28	8 Elevation in Multi-scale	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from		JAM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWV]
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	-	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	-	
150		In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	<b>~</b>	
OF29	_	From your observations, note if the AA would be classified as predominantly F	0.86	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score
151	in HUC6	digit HUC in column M of the <b>ShedData worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the ShedData table, change the cell on the right to <b>blank</b> —>		here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv, PHv, POLv, SBMv, Sens, WBFv, WBNv]
OF30	0 Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:	F 63	The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154		1 to 10% of its CA	1	the fringe of a pond or lake, compare the area of that water body to its contributing area – not the
155		10 to 100% of its CA	0	area of the wettand compared to only the wettands continuoung area: For most wettands, and especially ones containing tributaries, the first choice will be the most appropriate, INR, PR. Sens.
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. SKIP TO 0F34.	0	SR, WSv]
OF31	1 Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upstope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWv]
158		<10%	1	
159		10 to 25%	0	
160		>55%	0	

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0F32	Transport From Upslope			[NRv, PRv, SRv, WSv]
		indicated by the following:		
		(a) input channel is present,		
		(b) input channels have been straightened,		
		(c) upslope wetlands have been ditched extensively.		
		(d) land cover is mostly non-forest.		
		(a) Values are steam and/or		
		(v) On suppose an energy families (f) most CA soils are shallow and or high nimelf most finisher.		
		i post Anna de signico anación nave nignitarion occumantos. Tris nestenantis:		
191		THIS STATEMENT IS:		
162		Mostly true	0	
163		Somewhat frue	O	
COT			,	
164		Mostly untrue	Ţ	
OF33	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:		If there are no inflowing streams. In what direction does most runoff or groundwater flow as it moves
col				through this AA? If necessary consider the Aspect 20m map in the online WESPAK-SE Wetlands
166		Northward (N, NE). north-facing CA.	0	Module, IAM, NR, PH, POL, SFS, WC, WS, WWV]
167		Southward (S, SW). south-facing CA.	0	
160		Other (E. S.E. W. NIW), or no detectable until slove or input phannel (flat)	•	
		orier (L. OL, W. IVV), of the detectable upmit appe of imput drained (flat)	-	
0F34	Internal Gradient	The gradient along most of the flow path within the AA is:		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in
2			•	inoseiy unun you see nunnbers on the contour miles. Measure a mile urawii nom mighest to rowest
170		<2%, of, no slope is ever apparent (i.e., mal). Includes most depressional sites and ponds.		elevation along the part of the wellland polygon having the greatest width measured perpendicular to
171		2-5%	0	contour lines. Then estimate elevational difference from the numbered contours and divide by the line
172		6-10%	0	length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
		310%	O	[AM, CS, NK, OE, PK, SK, WBF, WBN, WS]
173			>	
<b>OF35</b>	Internal Flow Distance	From measurement of welland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line		If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If
174	(Path Length)	horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column]		wetland is flat or a pond, use the maximum width measured perpendicular to topographic lines uphill
175		7120 #	c	from the wetland. Straight-line rather than channel distance is used here only for simplicity of
C/1		1001		measurement. The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of
176		190-300 11	-	intersected stream length of all Southeast Alaska non-tidal wetlands. [NR, OE, PR, SR, WS]
177		300-800 ft	0	
178		800-2000 ft	0	
179		2000 ft - 1 mile	0	
180		>1 mile	0	
	Polotino Undrologio	Determine the AA's Wedland ID using the Identify tool is the entire WECDAV CE Wedlands Medula form advanced Define	7	וטביין
181		Determine the AAS weetland, ID Using the Dennity tool in the oilline WESPAN-S. HydroDist worksheet (tab below), enter its score in the next column. If Wetland tidal wetland.	/c.n	JEV]
	-	07 1 1 W 7 (2000 07 1 1 1 1 7 0 0 1 1 1 1 1 1 1 1 1 1	T	
0F-37	Salmonid Watersned	Refer to map in the Manual (Appendix A, Fig. A-1). This AA's Watershed is rated: 3=Very High (100%), 2= High (30-39%), 1= Moderate (10-49%), 0= all other.		The fating (from TNU,) is based on number of samooning species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
OF38		Subsistence Focal Areas The AA or waters that directly adjoin it:		Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by
183				persons with subsistence permits. IFAv. FRv. Subsisi
184		is in Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries)	0	
		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of	0	
185		the manual (shown as a point on the maps)		
186		neither of the above	1	
187		no data (outside of the regions shown on the maps, and not listed in Table B-6)	0	
0F39	Geography	Mark ALL that are true. The AA is located:		[AMv, SBM, WBF, Sens]
001		is the Chilice Alect. Toine Chillest Cleanan or Talus deltas as fleatalaine	c	
189		II II E SUMIRE, Abek, Talya-Cilikar-Skagway, O Taku verlas or ilooupianis.	,	
190		in another mainland area or on an island larger than 20 square miles.	1	

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<b>t</b>		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191 0F40	10 Unbrowsed Vegetation	waters. The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
OF41	11 Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42	12 Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
0F43 204	Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan — has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	-	
0F44	Species of Conservation Concern	One or more of these species — Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird — has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. However: at least one of the following have been confirmed nesting in the AA: Short-eared Owl, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45	15 Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
C17		To be the forth of the second section is measured in the AA	c	
216		more than 1 such reature of species is present in the AA and only one such snacies or feature is present in the AA.	0	
21.7		Only otic species of reature is present in the AA. There are no recent observations of these in the AA hu a cualified observer under conditions similar to what now now in or no data	> -	
218 OF46	16 Cedar	trere are no recent coservations of treese in the AA by a qualified coserver under contained is written to write into occur, or no data.  The AA contains (a) more than 1 acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline	- 0	PHv. SBMI
219		(see layer in online WESPAK-SE Wetlands Module).		
0F47	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[PU]
777		-		

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OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animal to the public.		4	L
OF48 Conservation Investment The AA is part the wetland (e) OF49 Sustained Scientific Use Plants, animals to the public,		n	E
The wetland (e) OF49 Sustained Scientific Use Plants, animals to the public	OF48 Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	0	voluntary= WRP, CRP, land trust easements with partial public funding, etc. Locations of some sites
OF49 Sustained Scientific Use Plants, animal to the public.	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	ισ	are shown online at: http://www.conservationregistry.org/ [PU]
to the public.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	0	ĺηd
are princinom	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends		
	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.		

4	ď	C	С	Ţ
Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
DIREC (false) obser landor For a Apper Water 2 Invert	CCTIONS: Conduct an as:  1) to a 1 (true) for the best rvations and interpretatior wmer or other knowledgat listing of functions to whin mix F of the accompanyi r Warming, SR= Sedimen tebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug. 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3 #	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland $\underline{A}$ ssessment $\underline{A}$ rea) is a (select ONE):	_	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
S F1.1		Forested Peatland	0	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water. Includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	a E 28. O 80	Surface water is more extensive, at least seasonally. More emergent than tall (>3 ft) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, it is largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4:		Floodplain Wetland	0 0 0 0 0	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillstope seepage or runoff. Soils are silt or coarser (fittle or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's club. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
9		Uplift Meadow	0	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downcut. Mostly sweetgale and/or herbaceous vegetation, e.g., silverweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	0 as	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
11 12 13	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:  less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.		This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WW]
14		25-50% of the AA never contains surface water.	0	

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15		50-99% of the AA never contains surface water.	0
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
17		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to F30.	0
<u>F</u> 3	% with Persistent	The percentage of the AA that has <b>surface</b> water (either ponded or flowing, either open or obscured by vegetation) during <b>all</b> of the growing	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	0 include information on estimation pareistance IAM CS EA ED INV NID DOL DD SRM MARE MINIT
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	
22		25-50% of the AA	0
23		50-95% of the AA	_
24		>95% of the AA	0
F4	Summertime Shading of		
25	Water	channels, streambanks, or other features also present <u>within</u> the AA is:	WC, WM]
56		<5% of the water is shaded	0
27		5-25% of the water is shaded	_
28		25-50% of the water is shaded	0
29		50-75% of the water is shaded	0
30		>75% of the water is shaded	0
F5	Fringe Wetland	The AA actions a take stream or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ff	IMBE WRN W.C. WWW.
2	niiga walanii	and also more than 5 times the vegetated wetland's average width (measured perpendicular to upland). If true, enter "1" and continue. If false,	[WD1 , WD14, WVC, WWW]
31		leave the 0 and continue.	
3.7 F6	Lacustrine Wetland	The AA borders a body of ponded open water whose size (not counting the AA's wetland) exceeds 20 acres during most of the growing season. Enter "1" if true, "0" if false.	The "vegetated areas" should not include submersed or floating-leaved aquatics. [FA, FR, PR, WBF, WBN]
-	- - - -	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
33	% Flooded <b>Uniy</b> Seasonally	The percentage of the AA soil that is covered by surface water <mark>. Only</mark> during the wettest time of year, <u>and</u> for >2 continuous weeks during that time, is:	U.U.1 acre is about ZU from a stole if square. Insi is the cumulative acreage or all areas in the AA that flood ONLY seasonally. Flood marks (aldeligh mats, adventitious roots, debris lines, ice scour, etc.) are offen evident when not fill in incidented. Also, such a reasonath have a larner pronortion of infand and floor.
34		<1% or <0.01 acre, whichever is less. SKIP to F9.	annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
35		1-25%	multiplying by 2 the banktul neight and visualizing where that would intercept the land along the river.  Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey.
98		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
S		%6-09	saturation persistence. The wettest times in Southeast Alaska typically occur during late fall, during rain avente after the arround is frozen and/or during sourmel. Near melting placiets, surface water.
37		%56%	
38			
39 <mark>F8</mark>	Annual Water Fluctuation	The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
40	Nange	<0.5 ft	
41		0.5-1 ft	0
42		13 ft	0
43		>3ft	0
F9 44	Predominant Depth Class	During most of the growing season, surface water depth in <b>most</b> of the area where it is present is: [Note: This is not asking for the maximum depth.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the
45		<0.5 ft deep (but >0)	spatial median depth that occurs during most of that time, even it inundation is only seasonal or
46		0.5 - 1 ft deep	terriporary. Il munication in most our not all or the wetland is one), the answer will be based on the deput
47		1-2 ft deep	0 well as ponded areas. ICS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WWI
48		2-6 ft deep	
46		>6 ft deep. True for many fringe wetlands.	0

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A E10	B Denth Class Distribution	When present surface weter in most of the ΔΔ usus]V consists of (calact ona).	[] Estimate these proportions by considering the gradient and microtonography of the site. See diagram in
50	John Olass Disciplina		The manual FR INV WRF WRNI
51		One depth dass that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth dass that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
54			
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		90-75%	0
09		>75%	
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the AA that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. For most sites larger than 10
62		1-5-1	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	MW, CJ, NK, OF, FH, PK, SBM, Sens, JK, WBN
64		25-100 ft	0
65		100-300 ft	
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, <b>do not consider herbaceous plants</b> . Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so should not be attempted. [AM, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has ponded surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWJ
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	0
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	0
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	
92		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16 79	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	0
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17 86	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
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82		scattered in small clumbs, islands, or patches throughout the surface water area.	
88			0
68		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 sq ft and <1% of the AA.	
F18	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0 [EC, PR, WBF]
F19	Ice Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	Available data suggest this ranking from shortest to longest ice duration based on location: Ketchikan, Annette, Sitka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	[FR, OE, PR, WW]
F21 93	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	[WBN] 0
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):	[FA, FR, PH, SBM, Sens, WBF, WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0
76		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But beaver occur in the region (i.e., within 10 miles, or on same island).	
86		none. Beaver are absent from the region and/or the island.	0
F23	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:	
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).	0
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.	0
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.	
103		5-30% of the AA.	0
104		30-70% of the AA.	0
105		70-95% of the AA. >95% of the AA.	0
F24	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a lake or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and SKIP to F28.	INRV, PH, PRV, SRVJ
F25 108	Input Water Temperature	Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most years. Enter 1 = yes, 0 = no.	0 [WC, www]
F26	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:	Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. IPRv, SRvJ
110		<1%	0
1111		1-5%	0
112		>30%	<del></del> 0
F27	Throughflow Complexity	_	[FA, FR, INV, NR, OE, PR, SR, WS]
1 7 7			

A		D E
115	Does not bump into plant stems. Nearly all the water travels in unvegetated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	-
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the closest off-site downslope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	near a channer. A channer is defined as an observably incised landrorm trat transports surface water in a downhill direction during some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur of uning the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Wajor runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
137	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that does not annear to drain the welfand artificially during most of the proving season	NA, OE, PK, Oelis, OA, Woj
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wetland artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lylodice 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	eastwaret wirtig journwaret seeps nay be most nouceable in ice formatous along streams during early writer. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul> <li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li> <li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li> <li>(d) AA is located at a geologic fault.</li> </ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	
136	5-25%. 25-50%	0
138	50-75%	0
139	>75%	0
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the trees that are taller than 20 ft occupy:	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for sowers weeks of the provision season. The "venetated part" should not include floating based or
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	1 submersed aquatics. [PH, SBM, Sens]
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% of the vegetated AA	0
145	SSS% of the Vegetated part of the AA	0

D		Tor several weeks of the growing season. The "vegetated part" should not include floating-leaved or submersed actualities ICS. OF INV. SRM. PHI		0	0	0			0	0	0	0	0	0	0	Snags are standing trees at least 10 ft tall that are mainly without bark or foliage. [POL, SBM, WBN]	0	0	0	Exclude temporary "burn piles." [AM, INV, POL, SBM]	0		The "vegetated part" may include moss, but it should not include floating-leaved or submersed aquatics.	[AM, PH, SBM]	0	0	0	0	[EC, PH, SBM, Sens]	0	0		of whereas those that show "fine-grained" forests suggest more even-aged, even-sized forest with little interspersion. [SBM, Sens]	0	hin	stinct 0	
O .	Within the vegetated part of the AA, just the <b>deciduous trees</b> that are taller than 20 ft occupy:	<1% of the vegetated AA	1-25% of the vegetated AA	25-50% of the vegetated AA	50-95% of the vegetated AA	>95% of the vegetated part of the AA	Woody Diameter Classes Mark all the classes of woody plants within the AA, but only IF they comprise more than 5% of the woody canopy within the AA. Do not count trees that adjoin but are not within the AA.	evergreen 1-4" diameter and >3 ft tall	deciduous 1-4" diameter and >3 ft tall	evergreen 4-9" diameter	deciduous 4-9" diameter	evergreen 9-21" diameter	deciduous 9-21" diameter	evergreen >21" diameter	deciduous >21" diameter	The number of large snags (diameter >8") in the AA plus the area within 100 ft uphill of the closest upland to the wetland edge is:	Several (>2/acre) and a pond or lake of at least 1 acre is within 1 mile.	Several ( >2/acre) but above not true.	Few or none	of downed wood pieces longer than 6 ft and with diameter >6", and	Several (>5 if AA is>10 acres, or>2 for smaller AAs)	Few or none	Exposed Shrub Canopy Woody vegetation 3 to 20 ft tall that is not under the drip line of trees is:		5-25% of the vegetated AA or (if a fringe wetland) 5-25% of the water edge whichever is greater.	25-50% of the vegetated AA or the water edge, whichever is greater.	50-95% of the vegetated AA or the water edge, whichever is greater.	>95% of the vegetated part of the AA or the water edge, whichever is greater.	Determine which two native shrub species (3 to 20 ft tall) comprise the greatest portion of the native shrub cover. Then choose one:	those species together comprise $> 50\%$ of the areal cover of native shrub species.	those species together do <b>not</b> comprise $> 50\%$ of the areal cover of native shrub species.	In "ducks-eye view", the distribution pattern of woody vegetation (including low shrubs) VS. unshaded herbaceous/moss vegetation within AA is:	(a) Woody cover and herbaceous/moss cover EACH comprise 30-70% of the vegetated part of the AA, AND (b) There are many patches of woody vegetation scattered widely within herbaceous/moss vegetation, or many patches of herbaceous vegetation scattered widely within woody vegetation.	(a) Woody cover and herbaceous/moss EACH comprise 30-70% of the vegetated AA, AND (b) There are few patches ("Islands") of woody vegetation scattered widely within herbaceous vegetation, or few patches of herbaceous/moss vegetation ("gaps") scattered widely within woody vegetation.	(a) Woody cover <b>OR</b> herbaceous/moss comprise >70% of the vegetated AA, AND (b) There are several patches of the other scattered within it to a forested A.B. with natches and finited to contribute and studies of with contribute and the patches.	in (1931, forestore) are minimated to compare a contract of the vegetated AA, MD (b) The other is absent or is mostly in a single area or distinct and intermigrant of woods and unabradual behaves woodships.	zone with almost no intermixing of woody and unshaded herbaceous/moss vegetation.

[-	4	ζ	ľ
Y 701	Q	44%, of the AA's vanatatad area or larroact natch normias lace than AO or #	
183		ייי אייי אייי וווי און אייי אייי אייי אי	
184		1-25% of the vegetated area	
185		25-50% of the vegetated area	0 Ifoodplains, [CS, INV, OE, PH, SBM]
186		50-75% of the vecetated area	
187		>75% of the vegetated area	0
100 F41	N Fixers	The percent of the AA's shrub blus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			lichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
180		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
191		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
194 F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
19%		50-95% of the vegetated ground cover.	
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
200	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SR]
		IIII or no (55%) hare morned is visible between erect etems or under renow and receined surface is extensivally blanketed by mose lichans	
201		nace in the Verylly are ground is visited between erect stems of united being ground surface is extensively braineded by most, inclinits, graminoids with great stem densities, or plants with ground-hugging follage.	
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	0
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0
F44	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Wicrotopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
202		Few or none (minimal microtopography; <1% of that area)	Soil. Do not count incised channels and other "macro" features. If parts of the AA are flat but others
208		Intermediate	The Astronomy of the Arthur British Indiana (AM EC. INV NR PH POIL PR SRM SR WS)
209		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	count as inclusions the elevated roots of trees of rogs unless supported by a finding of filliefal soil meeting the size threshold. Upland inclusions may sometimes be created by fill TAM_NR_SBM1
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	'Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Oi" horizon.  These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NK, OE, PH, PK, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, candy clay, sandy clay, candy	
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	0
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0

A	В	C	<u> </u>
F47	Shorebird Feeding	Within the AA, the extent of mudflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory
221	Habitats	the definition of shorebird habitat (column E) is usually:	
222		none, or <100 sq. ft within the AA.	0
223		100-1000 sq. ft. within the AA.	
224		1000 – 10,000 sg. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located
3,16	Fatch	submerged and tloating aquatics) <u>within</u> the AA is: [Note: Lo not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the patch to include contiguous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
227		<0.1 acre SKIP to E54	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
728		0.1 - 1 acre	
328		1 to 10 acres	
230		10 to 100 acres	- 0
233		100 to 1000 acres	
232		>1000 acres	
F49	Unshaded Herbaceous	As <b>visible in birds-eye view</b> , herbaceous vegetation ( <b>excluding</b> mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
233	Extent		herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
234		<5% of the vegetated part of the AA. Mark "1" here and SKIP to F54.	
235		5-25% of the vegetated AA	0
236		25-50% of the vegetated AA	0
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	
F50	Forh Cover	The nercent of the venetated crown cover that is forths (e.g., skunk cabbane, buckbean wildflowers) reaches an annual maximum of	forbs = flowering non-woody vasquar plants (excludes grasses sedges ferns mosses) Exclude
239		יום לפוסטונים ומספונים מספונים מספונים מספונים מספונים מספונים משפינים מון מוויסטונים מון משפינים מון משפינים מספונים מין משפינים מספונים מין משפינים מין	horsetal (Equisetum) even though technically it is a forb. [POL]
240		<5% of the vegetated ground cover	
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	0
243		50.95% of the venetated around cover	
242		>95% of the vecetated around cover. <b>SKIP to F52</b> .	
E51	Sedde Cover	Sadras (Paras an ) and or rothonnass (Frinchoum anniethhim) occum.	
245	200 260	oodgos (carox app.) anaon cotonigrass (Enchnorain angusanojani) oocapy.	
246		<5% of the vegetated ground cover, or <0.01 acre	0
247		5-50% of the vegetated ground cover	0
248		50-95% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fern) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
252		those species together do <b>not</b> comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC, PH, POL, Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike dover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	_
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

V	В	S	D
F54 259	Weed Source Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 10 ft of wetland) that is occupied by plant species that are considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	If the wetland has no upland edge, or upland edge is <10% of wetland's perimeter, then answer for the portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., writer
260		none of the upland edge (invasives apparently absent)	Conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. If variation is an expectability and the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive fraction is an expectability of the invasive fraction in the invasive frac
261		some (but <5%) of the upland edge	III VASIVETI I VEGETATIOTI IS SO SCHESSCE LITAL III VASIVE SPECIES CALITIOL DE L'ACTURINE, ALISWEL 1101E : [11]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55 264	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains <b>natural</b> (not necessarily native – see column E) land cover taller than 6 inches is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses,
265		<b>₹</b> %	Trecreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
566		5 to 30%	Todos: Naturia rario cover is not the same as manye vegetation: it can include areas with invasive prants.  If the AA does not adjoin in land has a voir answer on the closest incland TAM FA FR INV NRy PH
267		30 to 60%	0 PRV. SBM. Sens. SRv. WBNI
268		%06 ot 09	0
569		>90%. <b>SKIP to F58</b> .	
F56	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge dosest to the AA, the upland land cover that is NOT unmanaged vegetation or water is mostly (mark ONE):	[AM, FA, IIVV, NRv, PH, SBM, WBN]
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0
272		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated clearcut, landslide, unpaved road, dike.	0
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	closest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	o AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge المحافظة المحافظة
275		2-5%	
276		5-30%	
277		>30%	0
F58 278	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	Do not include upturned trees as potential den sites. [POL, SBM]
F59	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows,	Do not include wellands created by beaver dams except for the part where flooding affected uplands
6/.7		Toccoming gladoot, and noted making medical greater and appared (noted pains) and	soil maps, or permit files as available [CS, NR, OE, PH, PRv, Sens, SRv]
761		wo. yes and most recently created denlaciated or inititled 20 - 100 years and	
107		yes and most recently resisted ideal assistance or uniffed 3.20 years and	
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU. WBFv.]
287		<55%	
288		25-50%	0
289		>20%	0
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
291		publidy owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles).	
292		publidy owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	0
293		owned by non-profit conservation organization or lease holder who allows public access.	0
294		other private ownership, including Tribes.	0

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295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Berneation bases - Recreation Eacilities (DLI)
296	סנמונים	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	tire i veu equioni layer a iveu equioni a cultures. [1 o]
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstrip, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		visions or italis outside of the AA diress more training the wedand is visible from the datas and they are writing for the free wedand edge. The that case add only the area occupied by the train.]	population centers, loads, traits, accessioning or the wetland to the pount, wetland size, usual water depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SBM, WBP, WBN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	
306		>95% of the AA	0
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
i c		not include visitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edoe. In that case add only the area occupied by the trail 1.	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
307			
308		<5%. If F63 was answered ">95%", SKIP to F67.	
309		5-50%	0
310		50-95%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	0 [PH, PU]
313	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	[AM, PU, WBF, WBN]
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of these consumptive uses may consist of direct observation, or presence of physical outdance (a.g. recently out strimms, fishing lines, shall asses), or might he obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	0
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	Treignbornood is known to not be connected to a municipal dimiking water system (e.g., is outside a departed settled area). INRvI
323		500-1000 ft	
324		>1000 ft away, or none, or no information	0

Stre	essor (S) Data Form for Non-Tidal Wetlands.	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
S1	Wotter Water Pegime Internal Causes		Date.	one cocation.	
	Wetter Water Regime - Internal Causes In the last column, place a check mark next to any item that is likely to have caused a	a part of the wetland to be inundated more extensively, more	frequently, more deeply, and/or for longer duration than it w	ould be without that item or activity. Consider only items	
	occurring within past 100 years or since wetland was created or restored (whichever table beneath them). [CS]				
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or downg	gradient from the wetland, or raising of outlet culvert elevation			
	excavation within the wetland, e.g., artificial pond, dead-end ditch	the area of the southead			
	excavation or reflooding of upland soils that adjoined the wetland, thus expanding		tation ato		
	plugging of ditches or drain tile that otherwise would drain the wetland (as part of in	iteritional restoration, or due to lack or maintenance, sedimen	tation, etc.)		
	vegetation removal (e.g., logging) within the wetland compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of i	machinary livestock or off road vehicles			0
		*			U
	If any items were checked above, then for each row of the table below, you may ass. the "O's" for the scores in the following rows. To estimate effects, contrast the current	nt condition with the condition if the checked items never occu	rred or were no longer present. The sum and final score wil	compute automatically.	
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
	When most of wetland's wetter condition began  Score the following 2 rows only if the wetter conditions began within past 10 years,	<3 yrs ago and only for the part of the welland that got wetter	3-9 yrs ago	10-100 yrs ago	Ü
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	Average water level increase	>1 ft	6-12"	<6 inches	0
		!	!	Sum=	0
				Final Score=	0.00
S2	Watter Water Begime External Causes				
	Wetter Water Regime - External Causes	and with uniting area. (CA) that is likely to have sourced a part of t	he wellend to be invested more extensively more frequent	he mare decayle and/or for languar devotion than it would be	
	In the last column, place a check mark next to any item occurring in the wetland's co without that item or activity. Consider only items occurring within past 100 years or s		ne wetland to be inundated more extensively, more frequent	ly, more deeply, and/or for longer duration than it would be	
	subsidies from stormwater, wastewater effluent, or septic system leakage	, , , , , , , , , , , , , , , , , , , ,			
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			
	removal of timber in the CA or along the wetland's tributaries				
	removal of a water control structure or blockage in tributary upstream from the wet	land			
	If any items were checked above, then for each row of the table below, you may ass.		However, if you believe the checked items had no measural	ele effect in making any part of the AA wetter, then leave	
	the "0's" for the scores in the following rows. To estimate effects, contrast the current			,	
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	Score the following 2 rows only if the wetter conditions began within past 10 years,	and only for the part of the wetland that got wetter.			
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
	Average water level increase	>1 ft	6-12"	<6 inches	0
				Sum=	0
				Final Score=	0.00
S3	Drier Water Regime - Internal Causes				
	In the last column, place a check mark next to any item located within or immediately without that item. Consider only items occurring within past 100 years or since wetla		f the wetland to be inundated less extensively, less deeply,	less frequently, and/or for shorter duration that it would be	
	ditches or drain tile in the wetland or along its edge that accelerate outflow from the	e wetland			
	lowering or enlargement of a surface water exit point (e.g., culvert) or modification	of a water level control structure, resulting in quicker drainage			
	accelerated downcutting or channelization of an adjacent or internal channel (incis	ed below the historical water table level)			
	placement of fill material				
	withdrawals (e.g., pumping) of natural surface or ground water directly out of the w	retland (not its tributaries)			
	If any items were checked above, then for each row of the table below, you may ass			he AA drier, then leave the "0's" for the scores in the	
	following rows. To estimate effects, contrast the current condition with the condition			Mild (4 paint)	
	Spatial autont of watlands regulting dries condition	Severe (3 points) >95% of wetland or >95% of its upland edge (if any)	Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)	0
	Spatial extent of wetland's resulting drier condition				
	When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a.	<3 yrs ago and only for the part of the welland that got drier	3-9 yrs ago	10-100 yrs ago	0
	Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
	Water level decrease	>1 ft	6-12"	<6 inches	0
	Trace level decrease		0 12	Sum=	0
				Final Score=	0.00
S4				i iilai ocore-	0.00
	Drier Water Regime - External Causes				
	In the last column, place a check mark next to any item within the wetland's CA (inclu- that it would be without those. Consider only items occurring within past 100 years o	, ,	caused a part of the wetland to be inundated less extensively	, less deeply, less frequently, and/or for shorter duration	
	a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the v	· · · · · · · · · · · · · · · · · · ·			
	relocation of natural tributaries whose water would otherwise reach the wetland				
	instream water withdrawals from tributaries whose water would otherwise reach the	e wetland			
	instream water withdrawals from tributaries whose water would otherwise reach the groundwater withdrawals that divert water that would otherwise reach the wetland				
	groundwater withdrawais that divert water that would otherwise reach the wetland.  If any items were checked above, then for each row of the table below assign points.		creating a drier water regime in the AA. To estimate that in	ontrast it with the condition if checked items never	
	occurred or were no longer present. However, if you believe the checked items had				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of wetland's resulting drier condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
	Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began	( , ,	, ,	,	0

Score the following 2 rows only if the drier conditions began within past 10 year	ers, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	
Water level decrease	>1 ft	1-12"	<1 inch	
			Sum=	
			Final Score=	0
			Filial Score-	0
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have cau	sed the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more mu	uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy (lar	ger or more frequent spikes but over shorter times). [FA, FR, INV,	PH]		
flow regulation in tributaries or water level regulation in adjoining water body,	or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland				
increased pavement and other impervious surface in the CA				
straightening, ditching, dredging, and/or lining of tributary channels in the CA				
If any items were checked above, then for each row of the table below, you may	accion points. However if you believe the checked items had no	massurable affect on the timing of water conditions in any r	part of the AA than leave the "O'a" for the searce in the	1
following rows. To estimate effects, contrast the current condition with the cond			ant of the AA, then leave the US for the Scores in the	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Coatial autant within the watland of timing chift	>95% of wetland	5-95% of wetland	<5% of wetland	
Spatial extent within the wetland of timing shift				-
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	
Score the following 2 rows only if the altered inputs began within past 10 years		T	T	
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	
			Sum=	
			Final Score=	0
Accelerated branch (Co. )			000TC	
Accelerated Inputs of Contaminants and/or Salts				
In the last column, place a check mark next to any item occurring in either the	wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. [FA, NRv, PRv]		
stormwater or wastewater effluent (including failing septic systems), landfills,				
metals & chemical wastes from mining, shooting ranges, snow storage areas,		anns/)		
	on gas on action, onici sources (see. http://map.uec.state.ak.us/	apper /		$\vdash$
oil or chemical spills (not just chronic inputs) from nearby roads				<u> </u>
spraying of pesticides, as applied to lawns, croplands, roadsides, or other are				
If any items were checked above, then for each row of the table below, you may			contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condition	with the condition if the checked items never occurred or were no			
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Usual toxicity of most toxic contaminants		active mine, mid-sized town, cropland	mildly impacting (reclaimed minie, low density residential)	
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland	milaly impacting (reclaimed minle, low density residential)	
Usual toxicity of most toxic contaminants Frequency & duration of input		active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly	
·	industrial effluent or 303d* for toxics			
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of a sign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of a sign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of a sign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of a sign points. However, if you believe the checked items did not items never occurred or were no longer present.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To	0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To	0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we dedium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked.  Type of loading	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of its case of the inputs of its case of its	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients,  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of its case of the inputs of its case of its	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we dedium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked.  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of its case of the inputs of its case of its	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we dedium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked.  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we dedium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  welland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item - occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air In the last column, place a check mark next to any item present in the CA that is	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air In the last column, place a check mark next to any item present in the CA that is	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing Air In the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing.	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  if any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing AI in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, erosion from construction, in-channel machinery in the CA erosion from firo advehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered is other human-related disturbances within the CA  if any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the AA, then leave the "0's" for the scores in the following rows. To estimate efficiency and the AB. The leave the "0's" for the scores in the following rows. To estimate efficiency and the AB. Then leave the "0's" for the scores in the following rows. To estimate efficiency and the AB. Then leave the "0's" for the scores in the following rows.	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  o welland or its CA that is likely to have accelerated the inputs of items points. However, if you believe the checked items did not items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  rea  slikely to have elevated the load of waterborne or windborne sedintings fires  and use  y assign points (3, 2, or 1 as shown in header) in the last column. Firects, contrast the current condition with the condition if the checked.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, if Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRV]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points) potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  The final Score in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0
* high-intensity= extensive off-road vehicle use, plowing, grading, excar sediment	vation, erosion with or without veg removal; low-intensity= veg removal o	nly with little or no apparent erosion or disturbance of soil or	Sum=	0
			Final Score=	0.0
Soil or Sediment Alteration Within the Assess	sment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	retland that is likely to have compacted, eroded, or otherwise altered the w	vetland's soil. Consider only items occurring within past 100	rears or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	pecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plant	s)			
fill or riprap, excluding small amounts of upland soils containing organ	ic amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	erosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion o	r stir bottom sediments			
If any items were checked above, then for each row of the table below, estimate effects, contrast the current condition with the condition if the c	you may assign points. However, if you believe the checked items did no checked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then	eave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	0
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	0
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	0
			Sum=	0
			Final Score=	0.0

## **GROUP 8**

WESPAK SE NON-TIDAL REPORT
Wetlands L, M

Site Name or ID #:	Angoon Airport
	ů ·
	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	0.13
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to	100.00
Have you attended a training session for this protocol?	No. Familiar with protoocl and certified in ORWAP
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

Scores will appear below after data are entered in works	,	,			,			, , , , , ,		F	UNCTIO	N		VALUE	
WESPAK-SE version 2 scores for this NON-t Assessment Area (AA):	idal Wetl	and								Median of	Functi (non	noids for on Rating malized core)	Median of	I nres Valu (nor	snoids for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	(normalize d)	d F Scores	Low is	High is >	Normalized V Scores	Low is < or =	High is >
Surface Water Storage (WS)	10.00	9.17	10.00	Higher	9.17	Higher	9.58	10.00	10.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	2.06	0.00	2.06	Lower	0.00	Lower	1.03	2.06	1.49	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	6.27	0.00	6.27	Moderate	0.00	Lower	3.13	6.27	5.55	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	10.00	1.66	10.00	Higher	3.41	Moderate	6.71	10.00	10.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	10.00	7.78	10.00	Higher	10.00	Higher	10.00	10.00	10.00	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	10.00	3.58	10.00	Higher	3.85	Moderate	6.92	10.00	10.00	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	6.46		4.65	Moderate			4.65	4.65	4.65	6.53	3.66	6.43			
Organic Nutrient Export (OE)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	3.92	10.00	2.26	Lower	10.00	Higher	6.13	6.13	6.13	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.04	6.67	3.22	Lower	8.48	Higher	5.85	5.85	5.30	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	3.10	0.00	4.48	Moderate	0.00	Lower	2.24	4.48	4.48	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	5.31	8.89	6.56	Moderate	8.89	Higher	7.72	7.72	7.61	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	4.67	7.15	6.53	Higher	9.58	Higher	8.06	8.06	7.92	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	4.67	9.53	2.99	Lower	9.44	Higher	6.21	6.21	5.65	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:															
Public Use & Recognition (PU)		3.39			4.69	Moderate	4.69	4.69	4.69				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		4.54			6.98	Moderate	6.98	6.98	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		3.22			3.39	Moderate	3.39	3.39	3.57				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		8.93			10.00	Higher	10.00	10.00	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								10.00	10.00	Higher	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)								9.33	10.00	Higher	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC,	WW)							4.38	0.00	Lower	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)								0.00	0.00	Lower	2.52	5.83			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN)								4.28	3.07	Lower	4.04	6.82			
TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, POL SOCIAL GROUP (max+avg/2 of PU, Subsis)	)							7.49 8.89	6.66 10.00	Higher Higher	3.61	6.32			
SOCIAL GIVOUT (IIIdx+dvg/2 01 FU, SUDSIS)					selected higher			0.03	10.00	nigrier	3.00	0.00			

Overall Score (see Manual for explanation of how the spreadsheet calculates it):	7.45
Overall Rating:	Higher

'G w/o Social	with Social	selected higher	normalized
7.48	7.84	7.84	7.45

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Data Forr	m OF (Office) is revenues by the	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
	Conduct an axithe Data column narily based on y y require conferr m requires 1-2 h f each WESPAK Support, WC= W OB Organic E	explanation nultiple choi shaded par shaded par or reviewing on pertains, Codes for fu on, PR= Ph childent Fish, A childrent Fish, A chil	Site Location: Angoon Alaska Investigator: ESA Staff  Date: 13-22 Aug. 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
2 Inesting water	erbirds, SBIM= SO	Nesting Waterbirds, SBM= Songbirds, Mammals, & Raptors, POL= Pollinators, PT= Plant Habitat, PU= Public Use & Recognition, Subsistence, EC=	Eunlandione Dofinitions
0F1	Distance by Road to	Measured along the maintained road or boat landing that is pearest the A8 the distance to the pearest bonulation center is:	"Population center" means a settled area with more than about 50 year-round residents per square
	Nearest Population		mile. [FAv, FRv, NRv, WBFv, PH, PU, SBM, Subsis]
5 Center		<0.5 mile	
9		0.5 - 2 miles	0
7		2-5 miles	0
∞		5-10 miles	0
6		>10 miles	0
OF2 Wildlife	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other	
10		separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	http://seakgis.alaska.edu/flex/wetlands/ The route to other wetlands need not be direct – it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3	Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
11 Maintair	Maintained Road		http://seakgis.alaska.edu/flex/wetlands/ IFAv. FRv. AM. PH. PU. SBM. WBN1
12		<100 ft	
13		100-500 ft	0
14		500-1000 <del>  </del>	0
5		1000 ft - 0,5 mile	0
91		0.5-1 mile	U
010		y mile	
T	Land House		
UP4 DIStance	Distance to Natural Land Cover	The minimum distance from the AA <b>edge</b> to the edge of the closest patch of corridor of <b>natura</b> l (but not necessarily native—see definition on right) land cover <b>larger than 100 acres</b> , is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas or perennial cover. It includes low-intensity timber harvest areas and dearcuts harvested more than 10
19		<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed > 1x per year, pavement, bare soil rock, bare sand, or cravel or dirt
20		<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	orads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21		150-300 ft, with or without interrupting features	Invertiged during a site aixist. De not include seamined to answer this, and preferably should be seeing a site aixist. De not include page of the paginal power and the page.
22		300-1000 ft, with or without interrupting features	0 narrower than 150 ft. [AM, SBM, Sens]
23		none of the above	0
OF5 Size of L	Size of Largest Nearby Tract or Corridor of	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA lie. not completely separated by highways or channels that are uniformly wider than 150 ftl, occupies:	View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of >150 ft. if the gap is comprised of impervious surface, bare
	Natural Land Cover	c1 acre or larger but with aversone width <150 ff	dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
5 2		1.4) Garage and man straight man 1 out.	Ì
97		11.01.00 acres	tool to determine acreage. [AM, SBM, Sens, WBN]
27		10-100 dotes	
20 70		> 1000 acres	
0F6	Natural Land Cover	Within a 2-mile radius measured from the center of the AA, the percent of the land that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should
30 Extent			be examined to answer this. [AM, SBM]

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15		reaching the land (Avadeding Second and Value) and the second and	>	
32		o to 20% of the land	0	
33		20 to 60% of the land	0	
34		60 to 90% of the land	_	
35		>90% of the land. SKIP to OF8.	0	
OF7	Type of Land Cover	Within a 2-mile radius measured from the center of the AA, the area that is not natural land cover or water is mostly:		JAM, SBM]
36	Alteration	impervious surface en naved road parkina lot building exposed rock	С	
38		hare nervious surface e.g. recent (5 vrs aco) clearcut, dift or gravel road, plowed fields, landslide	_	
	Ť	Dear to the control of the control o		Activity increase should be examined to help exercise this and land exercise many exercised in the entire
3.9	vvettand Local Uniqueness	Kerer to the online wetlands wootle? Land cussingation Level 3. In the list below, enter a 1 next to all land cover types that are mapped as being intersected by the AA, <u>or</u> a "2" next to ones which (a) are present in the AA and (b) ALSO comprise <b>less than 10%</b> of the landscape outside of the AA but within 2 miles.	0	Aertal imagery should be examined to help answer this, and land cover maps contained in the online WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv, INV, PHv, SBMv, POL, Sens]
40		Fresh Water	2	
4		Wetland	-	
= =		Misken	O	
7 7		Herbaceous	2	
F =		Shribland (Low)	0	
4		Shrubland (Tall)	_	
F 4		Decidrons/Mixed Forest	2	
7		Confer Forest - Young or Small	· -	
÷ :		Oxides Enote Madius		
48			-	
49		Coniter Forest - Large	_	
50		Wetland Shrub Forest	1	
51		other	0	
52		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.	0	
53		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NOT contain a cover type that is absent from 90% of the landscape outside of the AA and within 2 miles. Enter "I" in the next column.	0	
954 OF9		If any of the above were marked "2", the distance from the AA edge to the closest one that was so marked is:		[INVv, AMv, SBMv, POLv, PHv, Sens]
55	Uncommon Cover Lype	<150 ft	_	
95		150 - 500 ft	0	
57		500 - 1000 ft	0	
28		1000 ft - 1 mile	0	
59		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10 61	0 Ponded Water in Landscape	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the amount of water that is ponded (standing) during most of the year is:		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or tidal system. In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1
62		0	0	layer and look for blue polygons. Also include herbaceous (emergent) wetlands larger than 1 acre if
63		1 or 2	1	they are inundated and water is ponded at least seasonally. [AM, PH, 56M, 5ens, WBF, WBN]
2		3 to 6	0	
65		7 to 9	0	
99		10 to 12	0	
29		>12	0	
OF11 68	1 Ponded Water Proximity	r The distance from the AA edge to the closest pond or lake that is larger than 1 acre and is not part of the same wetland, pond, or lake to which the AA is contiguous is:		"Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width. "Natural" land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	To locate ponded waters, in the online WESPAK-SE Wetlands Module, enable the Land
70		<300 ft, but no uninterrupted natural land corridor	0	crassinication beyon it rayer and book for burggoins. It intuitible smaller water boules are senarated by <150 ft they may be combined when evaluation accessor I AM PH SRM Sens WBF

	_	
A D	200 ADDO R and according to the second secon	
71	suc- tuuu ti, and connected with a natural land connoor	WBNJ
72	300-1000 ft, but no uninterrupted natural land corridor	0
73	>1000 ft, and connected with a natural land corridor	
74	>1000 ft, but no uninterrupted natural land corridor	0
OF12 Distance to Lake	The distance from the AA edge to the closest (but separate) lake (a non-tidal body of water that is ponded during most of the year and is	In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 laver and look
75		for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they
92	<1 mile	may be combined when evaluating acreage. [Sens, WBF, WBN]
17	1-5 miles	_
78	>5 miles and on the mainland or the same island	0
62	>5 miles and on a different island	0
OF13 Tidal Proximity	The distance from the AA edge to the closest <b>tidal water</b> body is:	[AM, FA, FR, INV, NR, OEv, PH, PR, PU, SBM, Sens, SR, Subsis, WBF, WBN, WS, WWV]
00	4,000	c
81	1 UDS	⇒ 1
82	300-1000 ft	
83	1000 ft - 1 mile	0
84	1-5 miles	0
85	>5 miles	0
OF14 Upland Edge Contact	Select one:	"other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland
00 5	The AA has an include a dea for including 210, of national and it as national enterained and an included	but will be unaffected by proposed alteration. [NR, SBM, Sens]
87	The AA has no upland edge (or upland its < 1% of perimeter). The next adiable other wetlands of water. 175%, of the AA's normater shute unland finduding filled areas). The next adiable other wetlands or water that is mostly wider than the AA.	<b>3</b>
88	1-25% of the AA'S permitted abouts upland (induding lilled aleas). The restadoins office wetlands of water that is mostly wider the AA.	2
68	25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
U6	50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
20	More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	
1,10		
OF15 Floodable Property 92	From floodplain maps, topographic maps, aerial imagery, and/or contacts with FEMA and public works departments, determine IF: downstope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true:  (a) The downshope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillslope runoff, or sudden rocafalls AND  (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams.  If true, enter "I" in next column. If false, enter "0".	O Ketchikan and perhaps a few other communities have maps showing the 100-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process classified as "Flood Plain" channel. [WSv]
OF16 Glacier Fed	Refer to the Glaciers map in the online WESPAK-SE Wetlands Module. Select the first applicable choice:	[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]
94	No upstream glacier feeds surface water to the AA, not even seasonally.	-
95	A glacier feeds streamflow or other surface water to the AA and it obviously reduces water clarity. If that is unknown, assume it to be true if a glacier within 1 mile feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0
96	A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water clarity.	0
OF17 Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:	Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86	a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0 Subsis, WBF, WBN
66	<ul> <li>b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish have not been documented (some Class 1 streams).</li> </ul>	0
100	c) is not accessible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	0
101	d) is fishless (i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)	1
102	e) fish presence and potential fish access are unknown and undeterminable.	0
OF18 Designated IBA	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird  Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	0 Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit (Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forrester Island (Prince of Wales-Outer Ketchikan), Stikine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WBNv]
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OF19	Deer Winter Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 7 if Moderate; 0= Lower or all other.		The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20 105	Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
107		67-87 inches	1	and laititide. [STOV, OE]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
1111		>165 inches	0	
112		no information available	0	
0F21	1 Temperature, Mean Annual	Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was modeled as frounded to the nearest whole number?		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid rels covering Southeast Alaska. The modeled data are from the Oregon State University PRISM.
CII		, , , , , , , , , , , , , , , , , , ,		Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
114		<38 degrees F	0	and latitude. [AM, CS, FR, INV, NR, OE, PH, PR, Sens, SR, WBF, WC, WS, WWv]
115		L saa iban nt-oc	o	
116		41-42 degrees F	1	
117		43-44 degrees F	0	
118		> 44 degrees F	0	
119		no information available	0	
OF22	Basic pH or Karst	The AA (a) is in a karst area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>-</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adriantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa). [AM, FA, FR, INV, OE, PH]
OF23	3 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology > Grantitic Geology . The AA is underlain primarily by grantitic formations or glacial till that is known to be grantitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	if deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landslides. Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or classifications intersect the AA.	0	Zones of past and possibly future erosion. [PH, PKV, Sens, SKV]
124		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
		no information	1	
0F25	Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first true statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem. If no quality-controlled sampling has been done, then a statement or rating
128		within the AA	0	documenting the problem and published in a recent agency report or official correspondence may be counted. Also, if time allows, cuery and retrieve water quality data from:
129		in waters within 1 mile that flow into the AA.	0	http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
130		Sampling (not just absence of map symbols) indicates no problems.	0	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
		insufficient data (no map symbols & no sampling, or >1 mile upstream).	1	STR, WBK, WBN]
OF26	5 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters downslope from the AA. Or, other sampling has identified such a problem downslope. Select the first true statement. These conditions are present:		See above. [SRv]
133		within 1 mile downslope, and connected to the AA by a channel	0	

V	В	3	Q	ы
134	١	within 1 mile downslope, but not connected to the AA by a channel	0	ì
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	1	
OF27 137	Drinking Water Source	Refer to the <b>Drinking Water Protection Areas</b> layer of the online WESPAK-SE Wellands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone A Surface Water	0 0	
141		Zone B Surface Water	0 0	
141		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	_	
OF28	Elevation in Multi-scale Watersheds	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset>Watershed Boundary Dataset. Then in the ShedData worksheet (tab below) look up the AA's HUC codes and their cut-offs for upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	1	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	-	
150		In its HUC6 (the 8-digit" watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	1	
OF29	Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the <b>ShedData worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the ShedData table, change the cell on the right to <b>blank</b> —>	98.0	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv, PHv, POLv, SBMv, Sens, WBFv, WBNv]
OF30 152	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154		1 to 10% of its CA	0	the fininge of a pond of take, compare the area of that water body to its contributing area – not the area of the watland compared to only the watland's contributing area. For most watlands, and
155		10 to 100% of its CA		especially ones containing tributaries, the first choice will be the most appropriate. [NR, PR, Sens,
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. <b>SKIP TO OF34.</b>	0	SR, WSv]
OF31	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upslope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWv]
158		<10%	0	
159		10 to 25% >25%	0	
160		07.57.V	-	

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A	В	3	О	E
OF32 161 162	Transport From Upslope	A relatively large proportion of the precipitation that falls farther upslope in the CA reaches this wetland quickly as runoff (surface water), as indicated by the following:  (a) input channel is present, (b) input channels have been straightened, (c) upslope wetlands have been ditched extensively, (d) hand cover is mostly non-forest, (e) CA slopes are steep, and/or (f) most CA soils are shallow and/or have high runoff coefficients.  This statement is:  Mostly true	-	[NRv, PRv, SRv, WSv]
163		Somewhat true	0	
164		Mostly untrue	0	
OF33	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:		If there are no inflowing streams: In what direction does most runoff or groundwater flow as it moves
166		Northward (N, NE). north-facing CA.	0	through this AA? If necessary consider the Aspect ZUm map in the online WESPAK-SE Wetlands Module TAM NR PH POL SFS WC WS WWW.]
167		Southward (S, SW). south-facing CA.	1	
168		other (E, SE, W, NW), or no detectable uphill slope or input channel (flat)	0	
OF34 169	Internal Gradient	The gradient along most of the flow path within the AA is:		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in closely until you see numbers on the contour lines. Measure a line drawn from highest to lowest
170		<2%, or, no slope is ever apparent (i.e., flat). Includes most depressional sites and ponds.	1	elevation along the part of the wetlland polygon having the greatest width measured perpendicular to
171		2-5%	0	contour lines. Then estimate elevational difference from the numbered contours and divide by the line
172		6-10%	0	length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
173		>10%	0	(AW, CJ, NK, OE, PK, JK, WBP, WB)
OF35	Internal Flow Distance (Path Length)	From measurement of wetland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column]		If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If wetland is flat or a pond, use the maximum width measured perpendicular to topographic lines uphill
175		<150 ft	1	from the wetland. Straight-line rather than channel distance is used here only for simplicity of measurement. The category breaks are based on the 10.25. 50.75, and 90th percentiles of
176		156-300 ft	0	intersected stream length of all Southeast Alaska non-tidal wetlands. INR. OE. PR. SR. WS1
177		300-800 ft	0	
178		800-2000 ft	0	
179		2000 ft - 1 mile	0	
180		>1 mile	0	
OF36	Relative Hydrologic Distance to Anadromous Stream	Determine the AA's Wetland_ID using the Identify tool in the online WESPAK-SE Wetlands Module (see Manual). From column B of the HydroDist worksheet (tab below), enter its score in the next column. If Wetland_ID or HydroDist is lacking, use the value from the closest non-tidal wetland.	0.57	[OEv]
OF37	Salmonid Watershed	Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-49%), 0= all other.	0	The rating (from TNC) is based on number of salmonid species present in the watershed and habitat suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
OF38	Subsistence Focal Areas	The AA or waters that directly adjoin it:		Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by
184		is in Juneau or Ketchikan, and thus is a designated <b>Non</b> -subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence Use Areas for exact boundaries)	0	persons with subsistence permits. [TAV, TAV, Subsis]
185		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of the manual (shown as a point on the maps)	0	
186		neither of the above	1	
187		no data (outside of the regions shown on the maps, and not listed in Table B-6)	0	
0F39	Geography	Mark ALL that are true. The AA is located:		[AMv, SBM, WBF, Sens]
189		in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains.	0	
190		in another mainland area or on an island larger than 20 square miles.	1	

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<b>t</b>		sland smaller than 20 sq. mi. and separated completely from ott	0	2
191	7		ć	MINO THE
OF40 192	40 Unbrowsed Vegetation	The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
0F41 193	41 Amphibian Use	A native amphibian (Wood Frog. Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Herriage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42 198	42 Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		'generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
500		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
OF43 204	43 Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species — Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan — has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the AA	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	1	
0F44	Songbird or Raptor Species of Conservation Concern	One or more of these species — Osprey, Peregrine Falcon, Northern (Queen Charlotte) Goshawk, Olive-sided Flycatcher, Rusty Blackbird — has been detected nesting semi-annually in the AA or along the AA's upland edge (within 300 ft) under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are wetland-associated songbird or raptor species of conservation concern that nest in Southeast Alaska. List is from Alaska Landbird Conservation Plan (Andres 1999), Alaska Natural Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	0	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	1	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. <u>However</u> : at least one of the following have been confirmed nesting in the AA: Short-eared OM, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45	45 Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
C17			c	
216		more than 1 such teature or species is present in the AA and one count consider our feature is massent in the AA.	0	
717		unity une souch species on realure is present in the AA.  The contract of the contractions of these in the IAA but a conflict of presents under conditions similar to what even accordance designed in the IAA.	•	
218		there are no recent observations or these in the AAA by a qualified observer under conditions similar to what now occur, or no data.	- 0	ייוויוייין אוויא
219		I ne AA contains (a) more trian lacte of a mature (>24 abr) living stand of cedar of (b) is in an area documented as Yellow Ledar Decline (see layer in online WESPAK-SE Wetlands Module).	n	[rtv, 56w]
OF47 220	47 Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[PU]

OF Non-tidal		
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	oublic funding, etc. Locations of some sites	[PU]			
3	voluntary= WRP, CRP, land trust easements with partial p	are shown online at: http://www.conservationregistry.org/ [PU]	[hd]		
D	0		0		
2	Conservation Investment The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance,	the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	OF49 Sustained Scientific Use Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are available	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-trends	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.
В	Conservation Investment		Sustained Scientific Use		
Α	JF48		OF49 :		

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Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
interfection of the control of the c	icTIONS: Conduct an assist to a 1 (true) for the best reations and interpretation where or other knowledgal listing of functions to white night of the accompanying SR= Sedimentebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (true) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds, and the storage of the second storage of th	<u> </u>	Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug. 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	₹.	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
ح <del>11</del> 1		Forested Peatland	- - - - - - - - - - - - - - - - - - -	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water. Includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0 9	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Si O is ur	Surface water is more extensive, at least seasonally. More emergent than tall (>3 tt) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, its largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4.		Floodplain Wetland	At O Or SC	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or unoff. Soils are sit or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's dub. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
9		Uplift Meadow	3 Z Z N To	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downcut. Mostly sweetgale and/or herbaceous vegetation, e.g., silvenweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	In le: 0 ar	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	⊢ Ā	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WWJ
12		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, <b>all or nearly all of the AA is inundated</b> permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	
14		25-50% of the AA never contains surface water.	-	

	-		
V	В	O	D E
15		50-99% of the AA never contains surface water.	0
16		>99% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
17		599% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to 1530	0
F3	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obsoured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the <u>cumulative</u> acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	0 include information on estimation pareistance TAM CS FA FR INV NR DOL DR SRM WRF WRNT
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	1 Transfer and the second of t
22		25-50% of the AA	0
23		50-95% of the AA	0
24		>95% of the AA	0
F4	Summertime Shading of	r	Consider the aspect and surrounding topographic relief as well as vegetation height and density. [FA,
25	Water	channels, streambanks, or other features also present within the AA is:	WC, WWJ
56		<5% of the water is shaded	_
27		5-25% of the water is shaded	0
28		25-50% of the water is shaded	0
29		50-75% of the water is shaded	0
30		>75% of the water is shaded	0
F5	Fringe Wetland	The AA adjoins a lake, stream, or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ft	[WBF, WBN, WC, WWv]
3.1		and abounded than 3 unes one vegetated wettains a werage within (incasured perpendicular to uptain). In tude, effect is and continue. In tase, leave the 0 and continue.	0
7 F6	Lacustrine Wetland	The AA borders a body of ponded open water whose size (not counting the AA's wetland) exceeds 20 acres during most of the growing season. Enter "4" if true, "0" if false.	The "vegetated areas" should not include submersed or floating-leaved aquatics. [FA, FR, PR, WBF, WBN]
F7	% Flooded <b>Only</b> Seasonally	The percentage of the AA soil that is covered by surface water only during the wettest time of year, and for >2 continuous weeks during that time, is:	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are
33			often evident when not fully inundated. Also, such areas often have a larger proportion of upland and
34		<1% or <0.01 acre, whichever is less. SKIP to F9.	o annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
35		1-25%	muniplying by 2 the banktu neight and visualizing where that would intercept the land along the river.  O Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
36		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
37		90-95%	events after the ground is frozen, and/or during spring snowmelt. Near melting glaciers, surface water
38		95%	may be present mainly in summer. [CS, FA, INV, NR, OE, PH, SR, WBF, WBN, WS]
39 F8	Annual Water Fluctuation	Annual Water Fluctuation The maximum annual fluctuation in surface water within the AA is:	[AM, CS, INV, NR, OE, PH, PR, SR, WBN, WS]
40	Kange	40.5 ft	0
41		0.5-1 ft	
42		1.3 ft	0
43		>3ft	0
44 44	Predominant Depth Class	During most of the growing season, surface water depth in <b>most</b> of the area where it is present is: [Note: This is not asking for the maximum depth.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, depths may be measured by drilling through winter ice. This question is asking about the
45		<0.5 ft deep (but >0)	Spatial median depth that occurs during most of that time, even if inundation is only seasonal or
46		0.5 - 1 ft deep	temporary. Il illumatation il illustration all of the wetland is offer, the answer will be based on the deput
47		1-2 ft deep	0 well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
48		2-6 ft deep	
46		>6 ft deep. True for many fringe wetlands.	0

	-	-	-
V 0		Doubt Class Distribution Mhon second surface under in most of the AM usually consists of Calculation.	[] Estimate these associations by considering the analysis and microtenessarby of the city See disease in
50 710		when present, surace water in those of the Am usually consists of (sefect one).	Estimate triese proportions by considering the gradient and find outpographry of the site. See diagramming the manner IFR INIV WRE WRNI
51		One depth class that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth class that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes o vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		90-75%	0
09		>75%	0
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the AA that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include undenwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant inclicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AMI, CJ, INK, OE, PT, PK, OBM, OBIS, OK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, do not consider herbaceous plants. Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so snould not be attempted. [AW, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15 71	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has <b>ponded</b> surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WMJ]
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	0
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	0
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	
75		5-30% of the AA.	0
76		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16 79	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	0
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. SKIP to F18.	
F17 86	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
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V	В		n ·	Ħ
87		scattered in small clumps, islands, or patches throughout the surface water area.	0	
88		intermediate	0	
08		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers	0	
_	T	יייי שווי אין אין אין אין אין אין אין אין אין אי	1	
90	Floating Algae & Duckweed	At some time of the year, mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface of blanket the underwater substrate. If true, enter "4" in next column. If unitue or uncertain, enter "0".	0	EC, PK, WBF]
F19	lce Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	0	Available data suggest this ranking from shortest to longest ice duration based on location. Ketchikan, Annette, Sirka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as elevation, water body depth, and flow velocity should be considered. [AM, CS, FR, NR, OE, PR, Sens, SFS, SR, WBF, WS]
91				
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	0	FR, OE, PR, WW]
F21	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	0	[WBN]
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):		[FA, FR, PH, SBM, Sens, WBF, WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	0	
96		<b>likely</b> based on known occurrence in the region and proximity to suitable habitat, which may include: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0	
ţ		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But	_	
7,6		Deaver occur in the Legion (L.e., Within 10 miles, of on Sathe Island).		
86		none. Beaver are absent from the region and/or the island.	0	
F23 99	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).	~	
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.	0	
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.	0	
103		5-30% of the AA.	0	
104		30-70% of the AA.	0	
105		70-95% of the AA.	0	
106		>95% of the AA.	0	
F24 107	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a lake or river. Often shown as a channel on a topo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and SKIP to F28.	0	INRV, PH, PRV, SRV]
F25	Input Water	Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	,	[WC, WWV]
108	Temperature		0	
F26 109	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ff from the AA (excluding any portion of the distance where water travels through a pipe) is:		Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		%/>	0	
1111		1-5%	0	
112		5-30% 5-30%	0 0	
F27	Throughflow Complexity	_	Ť	FA, FR. INV. NR. OE. PR. SR. WSI
114	fd			

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A		D	E
115	Does not bump into plant stems. Nearly all the water travels in unvegetated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.		
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).		
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	T	
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).		
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the closest off-site downslope water body is:	Path length is the length of a wetland measur lowest elevation within the wetland (i.e., in the	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	OF35. Consult the hydrography layer of the V	OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	near a cnannel. A cnannel is defined as an or  1 a downhill direction during some part of a nor	near a channei. A channe is deimed as an observably incised landrorm mat transports surrace water in a downhill direction chring some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the statem of the statem.	a down mile direction daming some part of a normal year. Analysis americans in displaying the control in the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection during the growing season. ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWW]	The frequencies given are only approximate and are for a "normal" year. The connection need not occur juring the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWW)
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.		
F29 Outflow Confinement	Inement During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Major runoff events" would include biennial I	Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography)	NK, OE, PK, sens, SK, Ws]	
127	that does not appear to drain the wetland artificially during most of the growing season.		
128	leaves through natural exits, not mainly through artificial or temporary features.		
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wetland artificially, or water is pumped out of the AA.		
F30	Groundwater: Strength of Select first applicable choice. In the AA:	Consult topographic maps to detect breaks in	Consult topographic maps to detect breaks in slope described here. Localized orange coloration
	<ul> <li>(a) springs are observed, OR</li> <li>(b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR</li> <li>(c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.</li> </ul>	associated with groundwater seeps find be finds fromcedule fill building early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WM]	associated with grounwater seeps first on finosi hotoceater in ter formations afortg streams during early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
TOT	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that	T	
133	within the AA and longer than 300 ft, OR  (b) rust deposits ("fron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR  (c) AA water is remarkably dear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR  (d) AA is located at a geologic fault.		
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.		
F31 Woody Cover Extent	r Extent Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely have	Do not count trees or shrubs if they merely hang into the wetland. They must be rooted in soils that
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	leaved or submersed aguatics. [NR. WBF. WBN]	<b>are saturated</b> for several weeks of the growing season. The Negetated part, should not include hoating leaved or submersed aquatics, INR, WBF, WBNI
136	5-25%.		
137	25-50%	0	
138	50-75%	0	
139			
Tree & Tall Shrub	Within the vegetated part of the AA, just the trees that are taller than 20 ft occupy:	Do not count trees if they merely hang into the for several weeks of the prowing season. The	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for exercist weeks of the mowing season. The "negretated near" should not include floating-leaved or
141		submersed aquatics. [PH, SBM, Sens]	
142	1-25% of the vegetated AA		
143	25-50% of the vegetated AA	0	
144	50-95% of the vegetated AA	0	
145	>95% of the vegetated part of the AA	0	

		ζ	t
A Co.	g	24%, of the AA's vacatated area or larcasc natch accumies less than AO or #	
183		ייי בייי ניון בייי אינו מוסיי מווי מייי מייי מווי מייי מווי מייי מייי מווי מייי מ	
184		1-25% of the vegetated area	
185		25-50% of the vegetated area	0 Ifoodplains, [CS, INV, OE, PH, SBM]
186		50-75% of the vecetated area	
187		>75% of the vegetated area	0
100 F41	N Fixers	The percent of the AA's shrub blus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			lichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
161		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	
196		5-25% of the vegetated ground cover.	
107		25-50% of the vecetated ground cover.	, 0
100		50-95% of the venetated ground cover	
198		595% of the venetated ground cover.	
17.7 FA3	Bara Ground &	ones or the region of the control of the control of the reast Viewed from 6 inches shows the soil surface the condition in the Consider the control of the condition in the	Thatch is dood plant material (stems loaves) resting on the ground surface. Bare ground that is
	Accumulated Plant Litter		Inatur is used prain inaterial (steins, reaves) resing on the ground surface. Date ground traits present under a free or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens, SRI
700			
201		little or no (<5%) bare ground is visible between erect stems or under canopy <u>and</u> ground surface is extensively blanketed by moss, lichens, graminoids with great stem densities, or plants with ground-hugging foliage.	0
202		Slightly bare ground (5-20% bare between plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	0
203		Much bare ground (20-50% bare between plants) is visible in places, and those areas comprise more than 5% of the unflooded parts of the	
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obsoured by emergent plants) covers all of the AA all the time.	0
F44	Ground Irregularity	Consider the parts of the AA that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Microtopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
207		Few or none (minimal microtopography; <1% of that area)	Soli. Do not count incised channels and other macro. Teatures. If parts of the AA are flat but others have substantial microtronography, base voir answer on which condition predominates in the parts of
208		Intermediate	the A4 that lack persistent water: [AM, EC, INV, NR, PH, POL, PR, SBM, SR, WS]
209		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	Count as indusions the elevated roots of trees of rogs unless supported by a mound of milleral soil meeting the size threshold. Upland inclusions may sometimes be created by fill. [AM. NR. SBM]
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46 214	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 widely spaced locations, and use the soil texture key in Appendix C of the Manual. If organic, use shovel to dig down to 16" depth or until hitting mineral soil, whichever is first, then measure.]	"Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Oi" horizon. These soils are much less common in floodplains. Do not include duff (loose organic surface material, e.g., dead plant leaves and stems). If texture varies greatly, base your answer on which texture
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA that lack persistent water. [CS, NK, OE, PH, PK, Sens, SFS, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, sandy clay, sandy clay loam.	
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	0
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, Ioamy sand, gravel, cobble, stones, boulders, fluvaquents, fluvaquents, riverwash.	0

V	В	3	D
F47	Shorebird Feeding	Within the AA, the extent of mudifats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column ${\sf E}$ ) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located,
300	ratch	submerged and floating aquatics) within the AA is: [Note: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the parch to include contiguous nerbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
077		201 auto. SKID IA EEA	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
227		V.) acie. ONF (0.194.	_ <
877		ייין מלים	<b>a</b>
229		1 to 10 acres	0
230		10 to 100 acres	0
231		100 to 1000 acres	0
232		>1000 acres	0
F49	Unshaded Herbaceous	As visible in birds-eye view, herbaceous vegetation (excluding mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
733	Extent		herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
234		<5% of the vegetated part of the AA. Mark "T" here and SKIP to F34.	
235		5-25% of the vegetated AA	0
236		25-50% of the vegetated AA	0
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
F50	Forb Cover	The percent of the vecetated ground cover that is forbs (e.g., skunk cabbage, buckbean, wildflowers) reaches an annual maximum of	<b>forbs</b> = flowering non-woody vascular plants (excludes grasses, sedges, ferns, mosses). Exclude
239			horsetail (Equisetum) even though technically it is a forb. [POL]
240		<5% of the vegetated ground cover	0
241		5-25% of the vegetated ground cover	0
243		25-50% of the venetated around cover	
747		TO DEGL. After an angle and an angle	> <
243		50-55% of the vegetated ground cover	
244		>95% of the vegetated ground cover. SKIP to F52.	0
F51	Sedge Cover	Sedges (Carex spp.) and/or cottongrass (Eriophorum angustifolium) occupy:	[53]
246		<5% of the vegetated ground cover, or <0.01 acre	0
247		5-50% of the vegetated ground cover	0
248		50-35% of the vegetated ground cover	0
249		>95% of the vegetated ground cover	0
F52 250	Herbaceous Species Dominance	Determine which two native herbaceous (forb, graminoid, fem) species comprise the greatest portion of the herbaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POL, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do not comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC, PH, POL, Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike clover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is:	
254		apparently no invasive species are present <u>in</u> the AA.	_
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	0
256		Invasive species comprise 5-20% of the herb or shrub cover.	0
257		Invasive species comprise 20-50% of the herb or shrub cover.	0
258		Invasive species comprise >50% of the herb or shrub cover.	0

V	В	S	D
F54 259	Weed Source Along Upland Edge	Along the wetland-upland boundary, the percent of the upland edge (within 10 ft of wetland) that is occupied by plant species that are considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	If the wetland has no upland edge, or upland edge is <10% of wetland's perimeter, then answer for the portion of the upland closest to the wetland. If a plant cannot be identified to species (e.g., winter portion).
260		none of the upland edge (invasives apparently absent)	Conditions) but its genus contains an invasive species, assume the unidentified plant to also be invasive. If varietistic is conserved that invasive energies council by
261		some (but <5%) of the upland edge	III VASIVETI I VEGETATIOTI IS SO SCHESSCE LITAL III VASIVE SPECIES CALITIOL DE L'ACTURINE, ALISWEL 1101E : [11]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55 264	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upslope, the percentage of the upland that contains natural (not necessarily native – see column E) land cover taller than 6 inches is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses,
265		<u>\%</u>	recreational fields, fields mowed >1x per year, pavement, bare soil, rock, bare sand, or gravel or dirt
266		5 to 30%	10 lette AA does not adjoin upland, base voir answer on the closest inland IAM, EA, EP, INV, NRV, DH
267		30 to 60%	
268		%06 ot 09	0
569		>90%. <b>SKIP to F58</b> .	0
F56	Type of Cover in Buffer	Within 100 ft upstope of the wetland-upland edge dosest to the AA, the upland land cover that is NOT unmanaged vegetation or water is mostly (mark ONE):	[AM, FA, INV, NRv, PH, SBM, WBN]
27.2		impervious surface, e.g., paved road, parking lot, building, exposed rock.	
272		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated dearcut, landslide, unpaved road, dike.	
F57	Slope from Disturbed	The average percent slope of the land, measured from the AA's wetland-upland edge and extending uphill to the most extensive and/or	Disturbance feature = building, paved area, recently cleared area, dirt road, lawn, annually-harvested
273	Lands	closest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge
275		2-5%	dusses to tile AA. Estimate stope by dividing tile etevation dilleteribe (between tile wegand and disturbed area) by their horizontal distance apart IMRy PRy Sens SRyl
276		5-30%	0
277		>30%	0
F58	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	Do not include upturned trees as potential den sites. [POL, SBM]
F59	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows, recogning the party is a profiled facility of the profiled forms inclained forms building to all the party of th	Do not include wetlands created by beaver dams except for the part where flooding affected uplands for it includes wetlands and exteamed. Determine this using historical agrid publication of many
6/7		ON	soil maps, or permit files as available [CS, NR, OE, PH, PRv, Sens, SRv]
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	0
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[Pu, wBFv]
287		%52»	0
288		25-50%	0
289		%0s<	
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
291		publidy owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road vehicles).	Toda tax ingly ii possible: [* o]
292		publidy owned resource use lands (allowed activities such as timber harvest, mining, or intensive recreation), or unknown.	0
293		owned by non-profit conservation organization or lease holder who allows public access.	0
294		other private ownership, including Tribes.	0

	-		
¥ 201			T
295	Non-consumptive Uses - Actual or Potential	Assuming access permission was granted, select ALL statements that are true of the	Some traits, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Recreation layer's Recreation Earlities. IPLII
296		Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstrip, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nightness or trails and thou and which of the AA unloce more than the trails and thou are untilly of the newfood advantage.	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		waters of rains custoe of the Art unless more than har the wedanic is water from the datas and they are within 100 it of the wedanic edge. In that case add <b>only</b> the area occupied by the trail.]	depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SBM, WBF, WBN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-95%	0
306		>95% of the AA	0
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises. [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
307		not include wisitors on trails outside of the AA unless more than half the wetland is wisible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail].	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
100		ςξ%, IFF3 was answered ">65%, IFF3 was answered was answered was answered was an answered was an analysis of the other was an analysis of th	
300		5.50%	
606		ער טיניי	
310		307% of the 4.0	
_		CV pill 10 0/00	
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	0 (рн, Риј
P66	BMP - Wildlife Protection	BMP - Wildlife Protection   Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets,	[AM, PU, WBF, WBN]
313		and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "1" if true.	0
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(LIONISIOIIII) SELVICES)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of greed consumptive uses may consist of other covervation, or presence of priyation to evidence (e.g. repeated from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	0 communication with the land owner or manager. [FAv, FRv, PHv, Subsis, WBFv]
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	——neighborhood is known to not be connected to a municipal drinking water system (e.g., is outside a 0 Idenselv settled area) INRv1
323		500-1000 ft	0
324		>1000 ft away, or none, or no information	

Stre	essor (S) Data Form for Non-Tidal Wetlands	WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
S1	Wotter Water Penime - Internal Causes				
	Wetter Water Regime - Internal Causes In the last column, place a check mark next to any item that is likely to have caused	a part of the wetland to be inundated more extensively, more	frequently, more deeply, and/or for longer duration than it we	ould be without that item or activity. Consider only items	
	occurring within past 100 years or since wetland was created or restored (whicheve table beneath them). [CS]				
	an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or downg	radient from the wetland, or raising of outlet culvert elevation.	<u>.                                      </u>		
	excavation within the wetland, e.g., artificial pond, dead-end ditch				
	excavation or reflooding of upland soils that adjoined the wetland, thus expanding		4-6		Х
	plugging of ditches or drain tile that otherwise would drain the wetland (as part of in	ntentional restoration, or due to lack of maintenance, sedimen	.tation, etc.)		
	vegetation removal (e.g., logging) within the wetland	machines, livesteel, or off read vehicles			X
	compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result of If any items were checked above, then for each row of the table below, you may ass	*	However, if you believe the checked items had no measural:	le effect in making any part of the AA wetter, then leave	X
	the "0's" for the scores in the following rows. To estimate effects, contrast the curren	nt condition with the condition if the checked items never occu Severe (3 points)	urred or were no longer present. The sum and final score will  Medium (2 points)	l compute automatically.  Mild (1 point)	
	Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	3
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	3
	Score the following 2 rows only if the wetter conditions began within past 10 years,	• •	, ,	, ,	
	Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	2
	Average water level increase	>1 ft	6-12"	<6 inches	2
				Sum=	10
				Final Score=	0.83
S2	Wetter Water Regime - External Causes				
In the last column, place a check mark next to any item occurring in the wetland's contributing area (CA) that is likely to have caused a part of the wetland to be inundated more extensively, more frequently, more deeply, and/or for longer duration than it would be					
	without that item or activity. Consider only items occurring within past 100 years or s		and the state of t	,,	
	subsidies from stormwater, wastewater effluent, or septic system leakage				х
	pavement, ditches, or drain tile in the CA that incidentally increase the transport of	water into the wetland			Х
	removal of timber in the CA or along the wetland's tributaries				
	removal of a water control structure or blockage in tributary upstream from the wel	land			
	If any items were checked above, then for each row of the table below, you may ass	ign points (3, 2, or 1 as shown in header) in the last column.	However, if you believe the checked items had no measural.	le effect in making any part of the AA wetter, then leave	
	the "0's" for the scores in the following rows. To estimate effects, contrast the currer				
		Severe (3 points)	Medium (2 points)	Mild (1 point)	
	Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	3
	When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	3
	Score the following 2 rows only if the wetter conditions began within past 10 years,		nevertelent ve account	olishthulangar ar mara aftan	2
	Inundation now vs. previously	persistent vs. seldom >1 ft	persistent vs. seasonal 6-12"	slightly longer or more often <6 inches	3
	Average water level increase	>1 it	0-12	Sum=	11
				Final Score=	0.92
S3	w			Tillal George	0.92
	Drier Water Regime - Internal Causes				
			of the wetland to be inundated less extensively, less deeply, I	ess frequently, and/or for shorter duration that it would be	
		, , , , , , , , , , , , , , , , , , , ,			
			e		
		ed below the historical water table level)	<u>-</u>		
	placement of fill material	ed below the historical water table level)			
	placement of fill material	· ·			
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w	etland (not its tributaries)		ne AA drier, then leave the "0's" for the scores in the	
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass	etland (not its tributaries) ign points in the last column. However, if you believe the che	icked items had no measurable effect in making any part of th nt.		
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser Severe (3 points)	ncked items had no measurable effect in making any part of th nt. Medium (2 points)	Mild (1 point)	
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w If any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei Severe (3 points) >95% of wetland or >95% of its upland edge (if any)	ncked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)	0
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w If any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago	ncked items had no measurable effect in making any part of th nt. Medium (2 points)	Mild (1 point)	0
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier.	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago	0
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often	0
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago nd only for the part of the wetland that got drier.	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches	0 0
	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=	0 0 0
SA	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w If any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches	0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent	ocked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incl.)	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=	0 0 0
\$4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inci- that it would be without those. Consider only items occurring within past 100 years of	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=	0 0 0
\$4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (inci- that it would be without those. Consider only items occurring within past 100 years a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the withdrawals (e.g., pumping) of natural surface or ground water directly out of the withdrawals (e.g., pumping) of natural surface or ground water directly out of the withdrawals (e.g., pumping) of natural surface or ground water directly out of the withdrawals of surface of the condition with the condition  Spatial extent of wetland's resulting drier condition  When most of wetland's drier condition began  Score the following 2 rows only if the drier conditions began within past 10 years, a lnundation now vs. previously  Water level decrease  Drier Water Regime - External Causes  In the last column, place a check mark next to any item within the wetland's CA (incitent it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland	etland (not its tributaries)  ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preser  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=	0 0 0
In the last column, piace a check mark next to any item located within or immediately adjacent to the welland, that is likely to have caused a part of the welland to be inundated isss extensively, less deeply, less frequently, and/or for shorter duration that it would be without that item. Consider only items occurring within past 100 years or since welland was created or restored (whichever is less).  Idithors or drain tile in the welfand or along its edge that accelerate outlow from the wetland  Iovering or enlargement of a surface water exit point (e.g., culvert) or modication of a water level control structure, resulting in quicker drainage  accelerated downcutting or channelization of an adjacent or internal channel (incised below the historical water table level)  placement of fill material  withdrawals (e.g., pumping) of natural surface or ground water directly out of the welland (not its tributaries)  if any items were checked above, then for each row of the table below, you may assign points in the last column. However, if you believe the checked items had no measurable effect in making any part of the AA drier, then leave the "OS" for the scores in the following rows. To estimate effects, contrast the current condition with the condition if the checked items never occurred or were no longer present.  Severe (3 points)  Medium (2 points)  Medium (2 points)  Medium (2 points)  Mid (1 point)  Spatial extent of welland's drier condition began  Sozie the following 2 rows only if the drier conditions began within past 10 years, and only for the part of the welland that got drier.  Nundation now vs. previously  seldom vs. persistent  seasonal vs. persistent  season					
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a lnundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's CA (incl that it would be without those. Consider only items occurring within past 100 years a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer preset  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  ad only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  inding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  wetland	seasonal vs. persistent  6-12"  Caused a part of the wetland to be inundated less extensively	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=  1, less deeply, less frequently, and/or for shorter duration	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's CA (inci- that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft  >1 ft  udding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  e wetland  that describe the combined maximum effect of those items in	cked items had no measurable effect in making any part of the medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively a creating a drier water regime in the AA. To estimate that, or	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=  i, less deeply, less frequently, and/or for shorter duration  contrast it with the condition if checked items never	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's CA (inci- that it would be without those. Consider only items occurring within past 100 years of a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  and only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft   uding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively  accreating a drier water regime in the AA. To estimate that, core part of the AA, then leave the "0's" for the scores in the followed.	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=  i, less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's CA (incit at it would be without those. Consider only items occurring within past 100 years a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points occurred or were no longer present. However, if you believe the checked items had	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft   iding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any  Severe (3 points)	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively are creating a drier water regime in the AA. To estimate that, copy part of the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA.	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=  I, less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.  Mild (1 point)	0 0 0
S4	placement of fill material withdrawals (e.g., pumping) of natural surface or ground water directly out of the w if any items were checked above, then for each row of the table below, you may ass following rows. To estimate effects, contrast the current condition with the condition  Spatial extent of wetland's resulting drier condition When most of wetland's drier condition began Score the following 2 rows only if the drier conditions began within past 10 years, a Inundation now vs. previously  Water level decrease  Drier Water Regime - External Causes In the last column, place a check mark next to any item within the wetland's CA (incit at it would be without those. Consider only items occurring within past 100 years a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the relocation of natural tributaries whose water would otherwise reach the wetland instream water withdrawals from tributaries whose water would otherwise reach the wetland if any items were checked above, then for each row of the table below assign points occurred or were no longer present. However, if you believe the checked items had	etland (not its tributaries) ign points in the last column. However, if you believe the che if the checked items never occurred or were no longer presei  Severe (3 points)  >95% of wetland or >95% of its upland edge (if any)  <3 yrs ago  nd only for the part of the wetland that got drier.  seldom vs. persistent  >1 ft   iding channels flowing into the wetland) that is likely to have or since wetland was created or restored (whichever is less).  wetland  that describe the combined maximum effect of those items in no measurable effect on the timing of water conditions in any  Severe (3 points)	cked items had no measurable effect in making any part of the nt.  Medium (2 points)  5-95% of wetland or 5-95% of its upland edge (if any)  3-9 yrs ago  seasonal vs. persistent  6-12"  caused a part of the wetland to be inundated less extensively are creating a drier water regime in the AA. To estimate that, copy part of the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA, then leave the "0's" for the scores in the followed in the AA.	Mild (1 point)  <5% of wetland and <5% of its upland edge (if any)  10-100 yrs ago  slightly shorter or less often  <6 inches  Sum=  Final Score=  I, less deeply, less frequently, and/or for shorter duration  ontrast it with the condition if checked items never wing rows.  Mild (1 point)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Score the following 2 rows only if the drier conditions began within past 10 year	Atter Inputs  And in Input shift is likely to have caused the timing of water inputs (put not necessarily their volume) is whit by hours, days, or weeks, becoming either more muted (amalier or less frequent peaks spread over forger of longer or inner frequent spikes but over shorter times). [IF A FR, INV, PP]  **********************************				
Inundation now vs. previously		seasonal vs. persistent	slightly shorter or less often	0	
Water level decrease	>1 ft	1-12"	<1 inch	0	
			Sum=	0	
				0.0	
			Tillal Scole-	0.0	
Altered Timing of Water Inputs					
In the last column, place a check mark next to any item that is likely to have cau-	sed the timing of water inputs (but not necessarily their volume)	to shift by hours, days, or weeks, becoming either more mu	uted (smaller or less frequent peaks spread over longer		
times, more temporal homogeneity of flow or water levels) or more flashy (large	ger or more frequent spikes but over shorter times). [FA, FR, INV,	PH]			
flow regulation in tributaries or water level regulation in adjoining water body, or	or control structure at water entry points that regulates inflow to the	ewetland			
snow storage areas that drain directly to the wetland				Х	
increased pavement and other impervious surface in the CA				х	
straightening, ditching, dredging, and/or lining of tributary channels in the CA					
	assign points. However, if you helieve the checked items had no	measurable effect on the timing of water conditions in any r	nart of the AA then leave the "O's" for the scores in the		
			ant of the 7th, then read of the the decree in the		
	Severe (3 points)	Medium (2 points)	Mild (1 point)		
Spatial extent within the wetland of timing shift	,	, ,		3	
				3	
When most of the timing shift began	· · ·	3-5 yis ago	10-100 yrs ago	3	
		abift of days	shift of house or minutes	3	
Input timing now vs. previously		·			
Flashiness or muting	became very flashy or controlled	intermediate	· · ·	1	
			Sum=	10	
			Final Score=	0.8	
Accelerated Inputs of Contaminants and/or Salts					
<u> </u>					
In the last column, place a check mark next to any item occurring in either the wetland or its CA that is likely to have accelerated the inputs of contaminants or salts to the AA. [FA, NRv, PRv]					
stormwater or wastewater effluent (including failing septic systems), landfills, in	ndustrial facilities			Х	
metals & chemical wastes from mining, shooting ranges, snow storage areas,	oil/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/)		х	
oil or chemical spills (not just chronic inputs) from nearby roads					
	as in the CA				
		aumulativals augus the AA to significantly higher lavels of	contominants and/or salts than looks the "Ola" for the		
			contaminants and/or saits, then leave the "US" for the		
Cool of the total			Mild (1 point)		
	Severe (3 points)	1.1			
				2	
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	doute mine, mid oized term, erepland			
·					
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	2	
·	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	2	
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly	2	
Frequency & duration of input	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	2	
Frequency & duration of input  AA proximity to main sources (actual or potential)	frequent and year-round	frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	3	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	3	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	frequent and year-round 0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not	frequent but mostly seasonal 50-300 ft or in groundwater inutrients to the wetland.	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not tems never occurred or were no longer present.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, it	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	3	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, we moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  if any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the conditing in the checked in the condition in the checked i	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not terms never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significant is the significan	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	2 3 7 0.7 x	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the conditing of the checked in the condition of the checked in the checked in the condition of the checked in the	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significantly more nutrients, in the significant sign	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	2 3 7 0.7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  if any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the conditing in the checked in the condition in the checked i	frequent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not terms never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significant is the significan	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	2 3 7 0.7 x	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the conditing of the checked in the condition of the checked in the checked in the condition of the checked in the	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significantly more nutrients, in the significant sign	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	2 3 3 7 0.7 x x 2 2 2 3 3 7 7	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the conditing of the checked in the condition of the checked in the checked in the condition of the checked in the	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of  assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significantly more nutrients, in the significant sign	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	2 3 7 0.7 x	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the condition of input the condition of input to main sources (actual or potential)	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not terms never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, when the significantly more nutrients, when the significantly more nutrients, in the significant sign	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	2 3 3 7 0.7 × × × 2 2 2 3 3 7 7	
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the condition of the checked in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, for erosion from off-road vehicles in the CA erosion from off-road vehicles in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not tems never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round  0-50 ft   ea  likely to have elevated the load of waterborne or windborne sedin ires	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, i  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	2 2 3 3 7 7 0.7 × × × × × × × × × × × × × × × × × × ×	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  if any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked of the contract of the current condition with the condition if the checked of the contract of the contract of the contract of the checked of the contract of the contract of the contract of the checked of the contract of the contract of the contract of the contract of the checked of the contract of the	frequent and year-round  0-50 ft  wetland or its CA that is likely to have accelerated the inputs of assign points. However, if you believe the checked items did not learn never occurred or were no longer present.  Severe (3 points, some types of industrial sources  frequent and year-round  0-50 ft  ea  likely to have elevated the load of waterborne or windborne sedin iries  assign points (3, 2, or 1 as shown in header) in the last column.	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, it  Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point) livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	2 2 3 3 7 7 0.7 × × × × × × × × × × × × × × × × × × ×	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked of the contrast of the current condition with the condition if the checked of the contrast of the current condition with the condition if the checked of the contrast of the co	requent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of lems never occurred or were no longer present.  Severe (3 points, some types of industrial sources frequent and year-round 0-50 ft  likely to have elevated the load of waterborne or windborne sedin iries  assign points (3, 2, or 1 as shown in header) in the last column. acts, contrast the current condition with the condition if the checked	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, it  Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	2 2 3 3 7 7 0.7 × × × × × × × × × × ×	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the contrast of the current condition with the condition if the checked in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, for erosion from off-road vehicles in the CA erosion from firm livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate effects.	requent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of tems never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round 0-50 ft  Weallikely to have elevated the load of waterborne or windborne sedin ires  assign points (3, 2, or 1 as shown in header) in the last column. ects, contrast the current condition with the condition if the checked.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, it  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative ditems never occurred or were no longer present.  Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	2 2 3 3 7 0.7 x x x x x x x x x x x x x x x x x x x	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item — occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked of the contrast of the current condition with the condition if the checked of the contrast of the current condition with the condition if the checked of the contrast of the co	requent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of lems never occurred or were no longer present.  Severe (3 points, some types of industrial sources frequent and year-round 0-50 ft  likely to have elevated the load of waterborne or windborne sedin iries  assign points (3, 2, or 1 as shown in header) in the last column. acts, contrast the current condition with the condition if the checked	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, it  Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  hent reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=	2 2 3 3 7 7 0.7 × x x x x x x x x x x x x x x x x x x	
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either the stormwater or wastewater effluent (including failing septic systems), landfills fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you may estimate effects, contrast the current condition with the condition if the checked in the contrast of the current condition with the condition if the checked in the last column, place a check mark next to any item present in the CA that is erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clearing, for erosion from off-road vehicles in the CA erosion from firm livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extraction accelerated channel downcutting or headcutting of tributaries due to altered la other human-related disturbances within the CA  If any items were checked above, then for each row of the table below, you may the AA, then leave the "0's" for the scores in the following rows. To estimate effects.	requent and year-round 0-50 ft  wetland or its CA that is likely to have accelerated the inputs of tems never occurred or were no longer present.  Severe (3 points) high density of unmaintained septic, some types of industrial sources frequent and year-round 0-50 ft  Weallikely to have elevated the load of waterborne or windborne sedin ires  assign points (3, 2, or 1 as shown in header) in the last column. ects, contrast the current condition with the condition if the checked.  Severe (3 points)	frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, is  Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment plant  frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative di tems never occurred or were no longer present.  Medium (2 points)  potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	2 2 3 3 7 0.7 x x x x x x x x x x x x x x x x x x x	

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	
* high-intensity= extensive off-road vehicle use, plowing, grading, exca sediment	vation, erosion with or without veg removal; low-intensity= veg removal or	inly with little or no apparent erosion or disturbance of soil or	Sum=	
			Final Score=	1
Soil or Sediment Alteration Within the Assess	sment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	retland that is likely to have compacted, eroded, or otherwise altered the v	vetland's soil. Consider only items occurring within past 100 y	years or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	ecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plant	s)			
fill or riprap, excluding small amounts of upland soils containing organ	ic amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	erosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion of	r stir bottom sediments			
If any items were checked above, then for each row of the table below, estimate effects, contrast the current condition with the condition if the c	you may assign points. However, if you believe the checked items did no hecked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then I	leave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	
			Sum=	
			Final Score=	

## **GROUP 9**

WESPAK SE NON-TIDAL REPORT
Wetlands N, Q, R, S

Site Name or ID #:	Angoon Airport
Investigator Name:	Environmental Science Associates (ESA)
Date of Field Assessment:	13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018
Nearest Town:	Angoon, Alaska
Latitude (decimal degrees):	57.475520°
Longitude (decimal degrees):	-134.553167°
HUC12 Watershed # (from UAS web site):	19010204.00
Approximate size of the Assessment Area (AA, in acres)	6.90
AA as percent of entire wetland (approx.)	100.00
Tidal phase during most of visit:	Low
What percent (approx.) of the <b>wetland</b> were you able to visit?	100.00
What percent (approx.) of the <b>AA</b> were you able to	100.00
Have you attended a training session for this protocol? If so, indicate approximate month & year.	No. Familiar with protocol and certified/trained in Oregon ORWAP and SFAM
How many wetlands have you assessed previously using this protocol (approx.)?	6.00

Scores will appear below after data are entered in worksheets OF, F, and S. See Manual for definitions and descriptions of how scores were computed.

I										F	UNCTIO	N		VALUE	
WESPAK-SE version 2 scores for this NON-t Assessment Area (AA):	idal Wetl	and									Function (non	nolas for on Rating malized core)		Valu (noi	snoids for e Rating malized core)
Specific Functions or Values:	Function Score raw	Value Score raw	Function Score (normalized)	Function Rating	Value Score (normalized)	Value Rating	FV raw	FV Index	FV Index (normalize d)	Median of Normalize d F Scores	Low is	High is >	Median of Normalized V Scores	Low is	High is >
Surface Water Storage (WS)	10.00	1.67	10.00	Higher	1.67	Lower	5.83	10.00	10.00	2.95	2.89	6.34	3.06	1.85	5.00
Stream Flow Support (SFS)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	3.17	2.67	6.13	3.33	1.45	4.48
Streamwater Cooling (WC)	7.67	0.00	7.67	Higher	0.00	Lower	3.83	7.67	7.50	4.00	3.36	5.87	1.98	2.11	5.49
Streamwater Warming (WW)	3.93	0.00	3.93	Moderate	0.00	Lower	1.97	3.93	2.76	5.42	3.33	6.80	2.78	2.78	6.63
Sediment & Toxicant Retention & Stabilization (SR)	10.00	0.30	10.00	Higher	0.31	Lower	5.15	10.00	10.00	3.13	3.36	6.52	0.84	2.05	5.86
Phosphorus Retention (PR)	10.00	6.67	10.00	Higher	10.00	Higher	10.00	10.00	10.00	3.34	3.06	6.17	1.27	2.45	5.73
Nitrate Removal & Retention (NR)	10.00	3.25	10.00	Higher	3.44	Moderate	6.72	10.00	10.00	2.33	2.19	4.64	3.25	2.17	4.94
Carbon Sequestration (CS)	7.35	0.20	6.38	Moderate	0.11	moderate	6.38	6.38	6.38	6.53	3.66	6.43	0.20	2	1.01
Organic Nutrient Export (OE)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	7.68	0.00	7.59	7.00	0.00	7.00
Anadromous Fish Habitat (FA)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	2.93	7.23	0.00	0.63	6.67
Resident & Other Fish Habitat (FR)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	0.00	0.00	7.43	0.00	1.50	7.76
Aquatic Invertebrate Habitat (INV)	5.12	10.00	4.70	Moderate	10.00	Higher	7.35	7.35	7.35	3.92	2.48	5.04	2.22	2.50	6.43
Amphibian Habitat (AM)	5.75	6.25	4.52	Moderate	7.72	Higher	6.12	6.12	5.61	4.40	3.59	6.74	4.21	2.43	5.19
Waterbird Feeding Habitat (WBF)	0.00	0.00	0.00	Lower	0.00	Lower	0.00	0.00	0.00	4.60	0.00	5.68	2.53	0.85	4.07
Waterbird Nesting Habitat (WBN)	2.92	0.00	4.21	Moderate	0.00	Lower	2.11	4.21	4.21	4.58	0.00	6.44	6.90	1.67	8.70
Songbird, Raptor, & Mammal Habitat (SBM)	6.59	10.00	8.13	Higher	10.00	Higher	9.07	9.07	9.02	8.05	0.00	7.35	4.22	2.50	5.63
Pollinator Habitat (POL)	7.73	7.15	11.47	Higher	9.58	Higher	10.52	11.47	10.00	4.94	2.45	5.38	4.15	2.65	5.83
Native Plant Habitat (PH)	5.82	9.53	6.59	Higher	9.44	Higher	8.01	8.01	7.98	5.24	4.52	6.51	3.78	3.78	6.46
Other Values or Attributes:	0.02	5.00	0.00	riigiloi	3.44	riigiici	0.01	0.01	1.50	0.24	4.02	0.01	0.70	0.70	0.40
Public Use & Recognition (PU)		2.22			2.59	Moderate	2.59	2.59	2.59				2.91	2.32	5.59
Subsistence & Provisioning Services (Subsis)		8.89			8.89	Higher	8.89	8.89	8.89				5.00	0.00	6.67
Wetland Sensitivity (Sens) - not used in subsequent calculations		4.59			7.14	Moderate	7.14	7.14	10.00				5.91	5.03	7.46
Wetland Ecological Condition (EC) - not used in subsequent calculations		8.92			9.39	Higher	9.39	9.39	9.88				4.15	2.79	5.08
Stress Potential (STR) - not used in subsequent calculations		5.11			7.77	Higher	7.77	7.77	10.00				6.43	3.31	5.73
Summary Scores for Groups:								Group Score Not Normalized	Group Score Normalized	Group Rating					
HYDROLOGIC Group (WS)								10.00	10.00	Higher	3.08	5.91			
WATER QUALITY Group (max+avg/2 of SR, PR, NR, CS)	14040							9.55	10.00	Higher	4.23	6.75			
AQUATIC SUPPORT Group (max+avg/2 of SFS, INV, OE, WC,	WW)							5.51	1.22	Lower	4.07	6.60			
FISH Group (max+avg/2 of FA, FR)		-						0.00 4.44	0.00	Lower	2.52 4.04	5.83 6.82			
AQUATIC HABITAT Group (max+avg/2 of AM, WBF, WBN) TERRESTRIAL HABITAT Group (max+avg/2 of SBM, PH, POL	)							9.50	3.27 9.33	Lower Higher	3.61	6.82			
SOCIAL GROUP (max+avg/2 of PU, Subsis)	)							8.89	10.00	Higher	3.66	6.58			
GOODILE GITCOT (IIIAX-1879/2 OF 1 O, OUDSID)			AVG w/o Social	with Coci-	aslasted big!	normaliz		0.00	10.00	riigiioi	0.00	0.00			

Overall Score (see Manual for explanation of how the spreadsheet calculates it):

Overall Rating:

Higher

 /G w/o Social with Social selected higher normalized

 7.82
 8.13
 8.13
 7.79

•	Q	C	9
¢ (	0		
Data Fo	orm OF (Office)	Data Form OF (Office) for Non-tidal Wetlands. WESPAK-SE version 2.0. Funded in part with qualified Outer Continental Shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service.	Site Name: Angoon Airport
	NNS: Conduct an as in the Data column primarily based on y may require conferr form requires 1-2 h is of each WESPAK w Support, WC= W ion, OE= Organic E	explanation nultiple choi shaded par shaded par or reviewing on pertains, 50des for fu on, PR= Ph o	Site Location: Angoon Alaska Investigator: ESA Staff  Date: 13-22 Aug. 2013: 15-22 June, 2017: 6-14 June, 2018  Site Notes: The site was delineated in three intervals spanning 2013, 2017, and 2018. Field observations for the wetland assessment were taken durring the 2018 survey.
2 Nesting Wa	aterbirds, SBM= SO	Nesting waterbirds, 56W= Songolids, Marintals, & Raptors, PUL= Pollinators, PH= Plant Habitat, PU= Public Use & Recognition, Subsistence, EU=	Evaluations Definitions
DF1	Distance by Boad to	Measured along the maintained road or host landing that is pearest the AA the distance to the pearest bouilation center is:	"Ponilation center" means a settled area with more than about 50 year-round residents per square
		ב מוסוק מוס ווומווומוווסט וסמס סו מסמן ומוסוון עו וופמוסטן נווס ראי נווס	mile, IFAv. FRv. NRv. WBFv. PH. PU. SBM. Subsisi
5 Center		<0.5 mile	
9		0.5 - 2 miles	0
7		2-5 miles	0
∞		5-10 miles	0
6		>10 miles	0
OF2 Wild	Wildlife Access	Draw a circle of radius of 0.5 mile from the center of the AA. If mammals and amphibians can move from the center of the AA to all other	
10		separate wetlands located within the circle without being forced to cross maintained roads (any width), lawns, bare ground, marine waters, and/or steep (>30%) slopes, mark 1= yes can move, or no other wetlands within that distance, or 0= no.	http://seakgis.alaaka.edu/flex/wetlands/ The route to other wetlands need not be direct — it may be circuitous to avoid the barrier, as long as the travel route remains entirely within the circle. [AM, SBM]
OF3	Distance to Nearest	From the center of the AA, the distance to the nearest maintained public road (dirt or paved) is:	Many roads are mapped in the online WESPAK-SE Wetlands Module:
11 Mair	Maintained Road		http://seakgis.alaska.edu/flex/wetlands/ [FAv. FRv. AM. PH. PU. SBM. WBN]
12		<100 ft	
13		100-500 ft	0
14		500-1000 ft	
15		1000 ft - 0.5 mile	
2 -		0 5. 4 mile	
91			
T			
0F4 Distan 18 Cover	Distance to Natural Land Cover	If The minimum distance from the AA edge to the edge of the closest patch or corridor of natural (but not necessarily native—see definition on right) land cover larger than 100 acres, is:	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of perennial cover. It includes low-intensity timber harvest areas and clearcuts harvested more than 10
61		<150 ft. Or the AA itself contains >100 acres of vegetation.	years ago. It does not include water, glaciers, annual crops, residential areas, golf courses,
20		<150 ft, but completely separated from the 100-acre natural area by any width of roads, stretches of open water, bare ground, lawn, or impervious surface, AND the AA does not contain >100 acres of vegetation.	oroads. Natural land cover is not the same as native vegetation. It can include areas dominated by non native plants if they provide perennial cover. Aerial imagery and land cover maps contained in the
21		150-300 ft, with or without interrupting features	online WESPAK-SE Wetlands Module should be examined to answer this, and preferably should be
22		300-1000 ft, with or without interrupting features	0 narrower than 150 ft. [AM, SBM, Sens]
23		none of the above	0
OF5 Size	Size of Largest Nearby Tract or Corridor of	Including the AA's vegetated area, the largest patch or corridor that is natural land cover and is contiguous with vegetation in the AA (i.e., not completely separated by highways or channels that are uniformly wider than 150 ftl, occupies:	View aerial imagery. Disqualify any patch or corridor of natural land cover where it becomes separated from the AA by a linear gap of >150 ft. if the gap is comprised of impervious surface, here
	Natural Land Cover	(1 acre or larger hit with average width <150 ff	dirt, or lawn, or if the natural land corridor narrows to less than 150 ft. Land cover maps contained in
57 6		1. The series	Ì
97		11.00 control	tool to determine acreage. [AM, SBM, Sens, WBN]
27		10-100 dotes	
07 02		>1000 acres.	
9 <u>+</u> 0	Natural Land Cover	Within a 2-mile radius measured from the center of the AA, the percent of the land that has natural land cover (see definition above) is:	Aerial imagery and land cover maps contained in the online WESPAK-SE Wetlands Module should
30 Extent	ent		be examined to answer this. [AM, SBM]

Form OF Non-tidal

	1			1
₹ .	2	727, 41th class of the control of th	۵ د	Į
31		<50% of the fair (excluding ocean and bay)	0	
32		5 to 20% of the land	0	
33		20 to 60% of the land	0	
3.4		R0 to 90% of the land	0	
£ 56		590% of the land. SKIP to OF8.	-	
OF7	Type of Land Cover	Within a 2-mile radius measured from the center of the AA, the area that is not natural land cover or water is mostly:		AM, SBM
	Alteration			
3/		Illiperivous sultane, e.g., pareu load, patrilig tot, bullvilig, exposed tods. Para naminire curtane a gricopat (6 vire and) Abarrut dirt or previal mad abuuad fialds landelida	0 0	
_	-		1	
OF8	Wetland Loca	Refer to the online Wetlands Module> Land Classification Level 3. In the list below, enter a "1" next to all land cover types that are mapped	4	Aerial imagery should be examined to help answer this, and land cover maps contained in the online
	Uniqueness	as being intersected by the AA, or a "2" next to ones which (a) are present in the AA and (b) ALSO comprise less than 10% of the landscape	> :	WESPAK-SE Wetlands Module may also be helpful, but should be verified during a site visit: [AMv,
39		outside of the AA but within 2 miles.		INVV, PHV, SBMV, PUL, Sens]
40		Fresh Water	2	
= =		Wetland	_	
F :		Manham		
42		NUSKEĞ	0 1	
43		Herbaceous	2	
4		Shrubland (Low)	0	
45		Shrubland (Tall)	_	
46		Deciduous/Mixed Forest	2	
47		Conifer Forest - Young or Small	1	
0,4		Conifar Forast - Marlium	1	
84		O-01:01   0-02   0-03	- c	
49		Confier Forest - Large	7	
50		Wetland Shrub Forest	1	
51		other	0	
		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA contains a cover type (list above) that is	0	
52		absent from 90% of the landscape outside of the AA and within 2 miles. Enter "2" in the next column.		
{		no Level 3 cover type maps available for this area, but from aerial imagery it appears that the AA does NOT contain a cover type that is	0	
55		absent from 90% of the landscape outside of the AA and within 2 miles. Enter 1: In the next column.		the transfer or the second of
94 OF9	Distance to Locally	If any of the above were marked "Z", the distance from the AA edge to the closest one that was so marked is:	_	[INVv, AMv, SBMv, POLv, PHv, Sens]
55	Uncommon Cover Type	<150 ft	_	
95		150 - 500 ft	0	
57		500 - 1000 ft	0	
58		1000 ft - 1 mile	0	
59		1-2 miles	0	
09		none of the above land cover classes were marked "2"	0	
OF10	_	Draw a circle of radius of 2 miles centered on the AA. Including water ponded in the AA itself or in a fringing non-marine water body, the		Ponded water = any surface water greater than 1 acre that is not obviously part of a river, stream, or
61	Landscape	amount of water that is poinced (standing) during most of the year is.		ilidai system. In the online WEDFAK-SE Wellands Module, enable the Land Classification Level I laver and look for blue notwone. Also inclinde barbassous (american) wellands larger than 1 arre if
62		0	0	layer and rook for blue polygoris. Also inicitude nerbaceous (emergeni) wellands larger urain I acre in they are inimplated and water is ponded at least seasonally (AMII) HEMI Sens WIPE WIRNI
63		1 or 2		ay are indicated and water is poinced at teast seasonally. [Aw, 111, Obw, Oets, WD1 , WDN]
64		3 to 6	-	
65		7 to 9	0	
99		10 to 12	0	
29		>12	0	
0F11	Ponded Water Proximity		-	"Uninterrupted" means no roads, other unvegetated lands, or lawns – regardless of their width.
89	•	which the AA is contiguous is:	_	Natural land corridor means a corridor comprised of natural land cover as defined in OF4 above.
69		<300 ft, and connected with a natural land corridor	0	) tocate ponded waters, in the online WESPAN-SE Wetlands module, enable the Land secification I and 1 land and hot for blue advisore. If multiple emaller water bodies are
70		<300 ft, but no uninterrupted natural land corridor	0	classification Level Trayer and book for burg pulygons. If findifipe sittailer water boures are separated by <150 ft they may be combined when evaluating acreage. TAM, PH, SBM, Sens. WBF.
71		300-1000 ft, and connected with a natural land corridor	0	WBN]
			1	

	Ţ	
A B	) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	J E
72	sour- roup it, but no uninterrupted natural land corridor	
73	>1000 ft, and connected with a natural land corridor	
74	>1000 ff but no uninterrupted natural land corridor	
	יססס ניי מתוונים משונים מלומים מחומים ומתו מתוומים ומתוומים ו	1
OF12 Distance to Lake	The distance from the AA edge to the closest (but separate) lake (a non-tidal body of water that is ponded during most of the year and is larger than 20 acres or about 1000 ft on a side) during most of a normal year is:	In the online WESPAK-SE Wetlands Module, enable the Land Classification Level 1 layer and look for blue polygons larger than 20 acres. If multiple smaller water bodies are separated by <150 ft they
Ĉ.	<1 mile	may be combined when evaluating acreage. [Sens, WBF, WBN]
0/	1.5 miles	
	SE so times and as the source indeed as the come indeed	- c
78	>> miles and on the mainland of the same island	
79	>5 miles and on a different island	0
OF13 Tidal Proximity	The distance from the AA edge to the closest tidal water body is:	[AM, FA, FR, INV, NR, OEv, PH, PR, PU, SBM, Sens, SR, Subsis, WBF, WBN, WS, WWv]
20 0	\$300 <del> </del>	
01	2004.000.0	· · ·
82	300-1000 II	
83	1000 ft - 1 mile	0
84	1-5 miles	0
85	>5 miles	0
OF14 Upland Edge Contact	Selectione:	"other wetland" could be contiguous wetland that is classified differently by NWI, or the same wetland
		hut will be unaffected by proposed alteration INR SBM Sensi
87	The AA has no upland edge (or upland is <1% of perimeter). The AA is entirely surrounded by other wetland or water.	O partition of an analogue of proposed and area area and
	1-25% of the AA's perimeter abuts upland (including filled areas). The rest adjoins other wetlands or water that is mostly wider than the AA.	0
88		
68	25-50% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
06	50-75% of the AA's perimeter abuts upland. The rest adjoins other wetlands or water that is mostly wider than the AA.	0
16	More than 75% of the AA's perimeter abuts upland. Any remainder adjoins other wetlands or water that is mostly wider than the AA.	
0745	From Boulding money to accomply accomply and to accomply and with FFMA and within according to the determination [F.	ſ
OF15 Floodable Property	From floodplain maps, topographic maps, aerial imagery, and/or confacts with FEMA and public works departments, determine IF: downslope from the AA and within 2 miles, structures are within a mapped 100-year floodplain or flood damage to structures has been documented, and BOTH the following are true: (a) The downslope flood damages were (or would be) caused mainly by rising river levels associated with precipitation and snow or glacier melt, not by high tides, hillslope runoff, or sudden icefalls AND (b) Between the AA and the downslope damage area, peak flow in a connecting channel (if any) is NOT regulated by dams. If this parter "" in next rollium If false parter ""	O Ketchikan and perhaps a few other communities have maps showing the 100-year probability floodplain. Although not comprehensive, see also the online WESPAK-SE Wetlands Module: SEAK Hydro Process dassified as "Flood Plain" channel. [WSv]
92 OF16 Glacier Fed	Refer to the Glaciers map in the online WESPAK-SE Wetlands Module. Select the first applicable choice:	[AM, FA, FR, INV, OEv, PRv, SFSv, SRv, WCv, WSv, WWv]
93	No unatrone alorior foods aurifass under to the AA ass across construction	
94	No upsuratii glaciet iedus <b>suttace</b> watet to tile AAA, itot evert seasotialiy.	_
95	A glacier feeds streamflow or other surface water to the AA and it obviously reduces water darity. If that is unknown, assume it to be true if a glacier within 1 mille feeds a tributary to this wetland, or if glaciers cover >30% of the area that drains to this AA.	0
96	A glacier feeds streamflow or other surface water to the AA, but there is little or no resultant reduction in water clarity.	0
OF17 Fish Access or Use	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Anadromous Waters Catalog, and preferably verify by contacting a local ADFG biologist. Mark just the first choice that is true. The AA:	Streams with average gradients (measured over about a dozen feet) of more than 12%, can be assumed to be inaccessible to most fish unless data show otherwise. [AM, FA, FR, INV, NRv, PRv,
86	a) is known to support anadromous fish feeding and/or spawning (some ADFG Class 1 streams).	0 Subsis, WBP, WBN
	b) is probably accessible to anadromous and other fish (at least seasonally, at least for feeding, partially or entirely), but anadromous fish	0
66	nave not deen <b>documented</b> (some class I streams).	
100	c) is not accessible to anadromous fish, but other resident fish are known (or can be assumed) present (Class 2).	0
101	d) is fishless (i.e., not accessible to anadromous fish and is known or can be assumed to have no resident fish). (Class 3, 4)	1
102	e) fish presence and potential fish access are unknown and undeterminable.	0
OF18 Designated IBA	See list in last column. Then if necessary refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Important Bird Areas (IBAs). The AA is within or contains part of an IBA. Enter 1= yes, 0= no.	0 Mendenhall Wetlands (Juneau), Berners Bay (Juneau), Port Snettisham (Juneau), Blacksand Spit (Yakutat), Icy Bay (Yakutat), Chilkat Bald Eagle Preserve (Haines), St. Lazaria Island (Sitka), Forrester Island (Prince of Wales-Outer Ketchikan), Stikine River Delta (Wrangell-Petersburg). [SBMv, WBFv, WBNv]
103		

0	
within 1 mile downslope, and connected to the AA by a channel	

٨	В		٦	п
OF19	Deer Winter Capability	Refer to the map in the online WESPAK-SE Wetlands Module: Habitat Layers > Deer Winter Habitat Suitability Value. Enter 3 if Very High; 2 if High; 1 if Moderate; 0= Lower or all other.	0	The rating, assigned by the 2007 Southeast Alaska Conservation Assessment, assumes areas at lower elevations with more southerly exposures, and with a forest canopy that provides snow interception and thermal cover, constitute good habitat for deer during potentially limiting periods of severe winter weather. [SBM, Subsis]
OF20 105	0 Precipitation, Mean Annual	Refer to the Precipitation layer in the online WESPAK-SE Wetlands Module. The mean annual precipitation in the vicinity of the AA was modeled as (rounded to the nearest whole number):		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid cells covering Southeast Alaska. The modeled data are from the Oregon State University PRISM
106		<67 inches	0	Climate Group and are based on the climate normals for the period 1981-2010, as well as elevation
107		67-87 inches	1	and ratitude: [51.50, OE]
108		88-112 inches	0	
109		113-139 inches	0	
110		140-165 inches	0	
111		>165 inches	0	
112		no information available	0	
OF21		Refer to the Temperature layer in the online WESPAK-SE Wetlands Module. The mean annual temperature in the vicinity of the AA was		The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of modeled data for grid
113	Allica.	modera as (rounce to the legres) whole mained).		cens covering ocululeast Alaska. The injuries data are not into diagon ocase onlyeisity Finish. Plimato Cocino and are based on the alimate normals for the pariod 1081 2010, as well as alevation
114		<38 degrees F	0	Clinidae Group and are based on the clinidae normals for the period 1901-2010, as well as elevation and lattings. RM CS FR INV NR OF PH PR Sens SR WRF WC WS WMV.
115		38-40 degrees F	0	
116		41-42 degrees F	1	
117		43-44 degrees F	0	
118		> 44 degrees F	0	
119		no information available	0	
0F22	2 Basic pH or Karst	The AA (a) is in a karst area as shown in the in the online WESPAK-SE Wetlands Module, or (b) has surface water that during most of the growing season has pH measured at >7.5 or CaCO3 alkalinity >100 mg/L, or (c) is known to be underlain by limestone bedrock with a very high (>70%) calcium carbonate content. Enter 1= yes, 0= no.	<b>-</b>	In karst landscapes, the bedrock is likely to have many subsurface cracks, channels, caves, and sinkholes, and presence of karst is suggested by prevalence of certain plants (e.g., maidenhair and holly ferns (Adiantum pedatum, Polystichum braunii), purple mountain saxifrage (Saxifraga oppositifolia), columbine (Aquilegia formosa), [AM, FA, FR, INV, OE, PH]
120	_			
0F23	3 Granitic Soils	Refer to the map in the online WESPAK-SE Wetlands Module: Geology> Granitic Geology. The AA is underlain primarily by granitic formations or glacial till that is known to be granitic, as indicated by maps or preferably from direct observation. Enter 1= yes, 0= no.	0	if deep glacial till overlays the granitic bedrock it can obscure its effects. [FR, INV, OE, PH]
OF24	4 Upslope Soil Erodibility & Debris Flow Potential	A stream channel or upland within 200 ft upslope from the AA has been dassified by the Forest Service, USDA, or other specialists as highly erodible, unstable, or a landslide hazard. Or, there is documentation of landslides, debris flows, or severe erosion above the AA within the past 20 years.		Base this on observations or (for most of the Tongass N.F. and adjoining private lands) consult the online WESPAK-SE Wetlands Module: Geology> Landsides.  Consider steep upslope areas with shallow depth to bedrock and/or dominated by alder to be likely
123		yes, and such conditions or classifications intersect the AA.	0	Zones of past and possibly future elosion. [PT, PKV, Sens, SKV]
124		yes, but the conditions or dassifications do not reach or intersect the AA.	0	
125		no, or no information but very unlikely that AA is intersected by highly erodible lands or landslides	0	
126		no information	1	
OF25	5 Toxicity Documented Upstream	In the online WESPAK-SE Wetlands Module, see Impaired Waters (DEC) and Contaminated Sites (Active). Do those maps show a problem within the AA or in waters flowing into it, and the problem is that metals, hydrocarbons, or other substances in the sediment, water, or tissues are at levels known to be harmful to aquatic life or humans? Or, other sampling has identified such a problem? Select the first rue statement. These conditions are present:		Check to be sure the problem is related to metals, hydrocarbons, other toxic substances – NOT to sediment, turbidity, TSS, bacteria, oxygen, or temperature: in the Wetlands Module, use the Identify tool to click on the line segment or area and scroll through all the text in the pop-up window to see the type of problem; If no quality-controlled sampling has been done, then a statement or rating
128		within the AA	0	documenting the problem and published in a recent agency report or official correspondence may be counted. Also, if time allows, query and retrieve water quality data from:
129		in waters within 1 mile that flow into the AA.	0	http://www.waterqualitydata.us/ Do not speculate or infer toxic conditions from presence of potential
130		Sampling (not just absence of map symbols) indicates no problems.	0	pollution sources. The water quality problem must be ongoing, not only historical. [AM, FA, FR, SRv,
131		insufficient data (no map symbols $\&$ no sampling, or >1 mile upstream).	1	STR, WBF, WBNJ
OF26	6 Toxicity Documented Downstream	The Impaired Waters (DEC) and Contaminated Sites (Active) maps show such a problem within the AA or in waters <b>downslope from</b> the AA. Or, other sampling has identified such a problem downslope. Select the <b>first</b> true statement. These conditions are present:		See above. [SRv]
132		within 1 mila downselone, and connected to the $\Delta A$ by a channel	c	
133		Within Thie downslope, and connected to the AA by a channel	>	

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134	,	within 1 mile downslope, but not connected to the AA by a channel	0	נ
135		sampling (not just absence of map symbols) indicates no problems	0	
136		insufficient data (no map symbols & no sampling, or >1 mile downslope)	1	
OF27 137	27 Drinking Water Source	Refer to the <b>Drinking Water Protection Areas</b> layer of the online WESPAK-SE Wetlands Module. Mark all that are true for the AA:		[NRv]
138		Zone A Ground Water	0	
139		Zone & Ground Water Zone A Surface Water	0	
141		Zone B Surface Water	0	
142		Zone C Surface Water	0	
143		Zone E Ground Water Surface Water Influence	0	
144		Zone F Ground Water Surface Water Influence	0	
145		Zone G Ground Water Surface Water Influence	0	
146		None of above	_	
0F28	28 Elevation in Multi-scale Watersheds	In the CoverPg worksheet, write down the specific 12-digit HUC watershed in which the AA is located and the AA's elevation (obtained from GPS or a topographic map). Get this by referring to the map in the online WESPAK-SE Wetlands Module: National Hydrography Dataset> Watershed Boundary Dataset. Then in the ShedData worksheet (tab below) look up the AA's HUC codes and their cut-offs for upper, middle, and lower one-third elevations, and determine to which one-third the AA belongs, in each row below:		[AM, CS, FA, FR, NR, OEv, PH, PR, PU, SBM, Sens, SFSv, SR, Subsis, WBF, WC, WS, WWv]
147				
148		In its HUC8 (the watershed with a 12-digit code), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data.	1	
149		In its HUC7 (the 10-digit* watershed), the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 10-digit HUC is obtained by deleting the last 2 digits of the 12-digit HUC code]	-	
150		In its HUC6 (the 8-digit* watershed) the AA's elevation puts it in (enter one of the following): 3= upper one-third, 2= middle one-third, 1= lower one-third, 0= no data. [The 8-digit HUC is obtained by deleting the last 4 digits of the 12-digit HUC code]	1	
OF29 151	Wetland Class Scarcity in HUC6	From your observations, note if the AA would be classified as predominantly Forest/Shrub, Moss/Emergent, or Water. Then, find your 12-digit HUC in column M of the <b>Shedbata worksheet</b> . Select column N, O, or P of that worksheet (whichever represents the cover type you decided predominates in your AA) and enter its value in the cell to the right. If your HUC is not listed in the ShedData table, change the cell on the right to <b>blank</b> —>	98.0	Wetlands that are of a type that is scarcer within their HUC12 watershed (indicated by a higher score here) are considered to be of greater value (not necessarily function) for several biological groups. [AMv., PHv, POLv, SBMv, Sens, WBFv, WBNv]
OF30	Contributing Area (CA) Percent	On a topographic map, draw the approximate bounds of this AA's contributing area (see Manual). Relative to the extent of this contributing area (CA), the AA comprises:		The CA is basically the upslope area that has the potential to deliver water to the wetland, and is a subset of the watershed. The CA boundary typically does not cross any streams or ditches except
153		<1% of its CA (including but not limited to most wetlands flooded annually by a major river, many in karst landscapes, and most that have multiple tributaries).	0	the one at the wetland outlet (if any). Remember that if the wetland is flooded as little as once every 2 years by river flow, the CA includes all upriver lands that feed that flooding river. If the wetland is on
154		1 to 10% of its CA	0	the fringe of a pond of lake, compare the area of that water body to its contributing area – not the area of the wetland compared to only the wetland's contributing area. For most wetlands, and
155				esea of the weaten't compared to only the weaten't so contributing area. For those weateneds, and especially ones containing tributaries, the first choice will be the most appropriate. [NR, PR, Sens,
156		Wetland has essentially no CA, e.g., isolated by dikes with no input channels, or is in terrain so flat that a CA can't be delineated. <b>SKIP TO OF34.</b>	0	SR, WSv]
OF31	Unvegetated Surface in the Contributing Area	The proportion of the AA's contributing area (measured to no more than 1000 ft upstope) that is comprised of buildings, roads, parking lots, other pavement, exposed bedrock, debris flows, and other mostly-bare (but unfrozen) surface is about:		[FA, INV, NRv, PRv, SRv, WC, WSv, WWV]
158		<10%	_ (	
159		10 to 25%	0	
160		0,037	o	

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OE30	Transport E	A large state of the properties of the project that falls farther upon	٦	IND., DB., SB., MS.,
5		n retainvery raige proportion of the preoptitation trials rained upstobe in the cindinated by the following:		
		(a) interpretation is tracent		
		(k) impressions to produce the control of the contr		
		(v) input originate been additioned.		
		(c) upstope weitarius riave deen ditored extensively,		
		(d) land cover is mostly non-torest,		
		(e) CA slopes are steep, and/or		
		(f) most CA soils are shallow and/or have high runoff coefficients.		
161		This statement is:		
5 5		Moeticinia	c	
162		world line	·	
163		Somewhat true	0	
164		Mostly untrue	τ-	
OF33	Aspect	The overland flow direction of most surface water (in streams or runoff) that enters the AA is:		If there are no inflowing streams. In what direction does most runoff or groundwater flow as it moves
165				through this AA2 If necessary consider the Aspect 20m man in the online WESDAK-SE Watlands
166		Northward (N, NE). north-facing CA.	0	Module IAM NIP DH DOL SES WO WY WY WAYN
177		Southward (S. S.W.). south-facing CA	c	
10/		Continued (Co.): South lacing Or.	,	
168		other (E, SE, W, NW), or no detectable uphill stope or input channel (flat)	_	
OF34	Internal Gradient	The gradient along most of the flow path within the AA is:		For larger wetlands, go to the online Wetlands Module, click on Topographic for Basemap, zoom in
169				closely until you see numbers on the contour lines. Measure a line drawn from highest to lowest
170		<2% , <b>or</b> , no slope is ever apparent (i.e., flat). Includes most depressional sites and ponds.	0	elevation along the part of the wetlland polygon having the greatest width measured perpendicular to
171		2-5%	-	contour lines. Then estimate elevational difference from the numbered contours and divide by the line
172		6-10%	0	length. For small wetlands, use a clinometer or iPhone app to measure gradient or estimate by eye.
		%U/s	c	[AM, CS, NR, OE, PR, SR, WBF, WBN, WS]
173		0/01	)	
<b>OF35</b>	Ī	From measurement of welland polygon width or intersected stream length in the online WESPAK-SE Wetlands Module: The straight-line		If wetland is on a slope, measure from the highest- to lowest-elevation point in the wetland polygon. If
174	(Path Length)	horizontal distance from the wetland's inlet to outlet is: [Note: If inlet and/or outlet are lacking, see guidance in last column]		wetland is flat or a pond, use the maximum width measured perpendicular to topographic lines uphill
175		<150 ft	0	from the wetland. Straight-line rather than channel distance is used here only for simplicity of
011		450 200 #		measurement. The category breaks are based on the 10, 25, 50, 75, and 90th percentiles of
1/0		1000011	- (	intersected stream length of all Southeast Alaska non-tidal wetlands. [NR, OE, PR, SR, WS]
177		300-900 11	0	
178		800-2000 ft	0	
179		2000 ft - 1 mile	0	
180		>1 mile	0	
OF36			0.57	[OEv]
181	Stream	s pydiodisk woksireet (lad delow), effier his scole in the fext column. If we had of jointly is advang, use the value hom the gosest home tidal wetland.	_	
OF37	Salmonid Watershed	Refer to map in the Manual (Appendix A, Fig. A-1). This AA's watershed is rated: 3=Very High (100%), 2= High (50-99%), 1= Moderate (10-	0	The rating (from TNC) is based on number of salmonid species present in the watershed and habitat
182		49%), 0-all other.		suitability (based on stream type and floodplain extent) relative to suitability of other waters in the same biogeographic province. [FAv, Subsis]
OF38	Subsistence Focal Areas	The AA or waters that directly adjoin it:		Subsistence uses are allowed even in communities designated as Non-subsistence if the use is by
		is in Juneau or Ketchikan, and thus is a designated Non-subsistence Use Area (see WESPAK-SE Wetlands Module> ADFG Nonsubsistence	0	persons with subsistence permits. [FAv, FRv, Subsis]
184		Use Areas for exact boundaries)		
		is accessible to salmon AND is a major salmon subsistence harvest area according to (a) Table B-6 of the manual, OR (b) Figures A2a-c of	0	
185		the manual (shown as a point on the maps)		
186		neither of the above	_	
187		no data (outside of the regions shown on the maps, and not listed in Table B-6)	0	
0F39	Geography	Mark ALL that are true. The AA is located:		[AMv, SBM, WBF, Sens]
189		in the Stikine, Alsek, Taiya-Chilkat-Skagway, or Taku deltas or floodplains.	0	
160		in another mainland area or on an island larger than 20 square miles.	-	
		on an island smaller than 20 so. m. and separated completely from other lands by a gap wider than 150 feet created by tidal or marine	0	
161		Waters.	)	

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OF40	Unbrowsed Vegetation	The AA is on an island known to <b>lack</b> deer, elk, and moose. Enter 1 if yes, 0 if no.	0	[PH, SBM]
192				
0F41	Amphibian Use	A native amphibian (Wood Frog, Western Toad, Columbia Spotted Frog, Northwestern Salamander, Long-toed Salamander, Rough-skinned Newt) has been detected under conditions similar to what now occur, by a qualified observer, or as indicated in the online Wetlands Module: Habitat Layers > Amphibian Sites. Mark just the first choice that is true.		Although not complete, additional records of amphibians and some species of vertebrates can be obtained by contacting the Alaska Natural Heritage Program or visiting their web site at: http://aknhp.uaa.alaska.edu/maps/biotics/ [AM, Sens]
194		in the AA	0	
195		outside the AA only, but within 0.5 mile and at nearly the same elevation (+ or - 500 ft).	1	
196		outside the AA only, and 0.5 to 2 miles away and at nearly the same elevation.	0	
197		other conditions, or no data	0	
OF42	Nesting Waterbird Species of Conservation Concern	A waterbird species of conservation concern in Southeast Alaska (Common Loon, Red-throated Loon, Red-necked Grebe, Trumpeter Swan, Lesser Yellowlegs, Solitary Sandpiper) has been detected nesting semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		"generally similar" means same type, where "type" is defined based on duration of ponded water [Sens, WBNv]
199		in the AA	0	
200		outside the AA but within 0.5 mile, in a generally similar wetland	0	
201		outside the AA and 0.5 to 2 miles away, in a generally similar wetland	0	
202		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data. However: at least one of the following have been confirmed nesting in the AA: Greater Yellowlegs, Wilson's Snipe, American Bittern, Sora, Sandhill Crane, any duck species.	0	
203		none of above, or no data	1	
OF43	Non-breeding (Feeding) Waterbird Species of Conservation Concern	One or more of these species – Pacific Loon, Yellow-billed Loon, Red-necked Grebe, Horned Grebe, Trumpeter Swan – has been detected feeding semi-annually under conditions similar to what now occur, by a qualified observer. Mark just the first choice that is true:		These are waterbird species of conservation concern that, in most cases, do not breed in Southeast Alaska, but feed here regularly. [Sens, WBFv]
205		in the 4A	0	
206		outside the AA but within 0.5 mile, in a generally similar wetland	0	
207		outside the AA and 0.5 to 2 miles away in a generally similar wetland	0	
208		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur, or no data.	· -	
OF44	Songbird or Raptor			These are wetland-associated songbird or raptor species of conservation concern that nest in Southboast Alaska, List is from Alaska, I andrind Concentation Dlan (Andrea 1900). Alaska, Natural
209				Heritage Program, and other sources. [SBMv, Sens]
210		in the AA	1	
211		outside the AA but within 0.5 mile, in a generally similar wetland.	0	
212		outside the AA and 0.5 to 2 miles away, in a generally similar wetland.	0	
213		beyond 2 miles, or no recent observation of these species by a qualified observer under conditions similar to what now occur. <u>However</u> : at least one of the following have been confirmed nesting in the AA: Short-eared OM, Alder Flycatcher, Warbling Vireo, Red-eyed Vireo, Northern Waterthrush, Common Yellowthroat, Red-winged Blackbird.	0	
214		none of above, or no data	0	
OF45 215	Plants of Conservation Concern	The AA contains an uncommon or imperiled wetland indicator plant that is (a) listed in Table C-6 of the Manual, or (b) is a native species that is not listed as occurring in Southeast Alaska in the PlantList worksheet, has been detected within the AA under conditions similar to what now occur, by a qualified observer, and:		Although not complete, records of plant species locations can be obtained online from the Consortium of Pacific Northwest Herbaria at: http://www.pnwherbaria.org/data/search.php [PHv, POLv, Sens]
216		more than 1 such feature or species is present in the AA	0	
217		only one such species or feature is present in the AA	0	
218		there are no recent observations of these in the AA by a qualified observer under conditions similar to what now occur, or no data.	1	
OF46 219	Cedar	The AA contains (a) more than 1 acre of a mature (>24" dbh) living stand of cedar or (b) is in an area documented as Yellow Cedar Decline (see layer in online WESPAK-SE Wetlands Module).	0	[PHv, SBM]
OF47 220	Mitigation Investment	The AA is all or part of a mitigation site used explicitly to offset impacts elsewhere. Enter: yes= 1, no= 0. If no information, change to blank.	0	[PU]
0F48 221	Conservation Investment	The AA is part of or contiguous to a wetland on which public or private organizational funds were spent to preserve, create, restore, enhance, the wetland (excluding mitigation wetlands). Enter: yes= 1, no= 0. If no information, change to blank.	0	voluntary= WRP, CRP, land frust easements with partial public funding, etc. Locations of some sites are shown online at: http://www.conservationregistry.org/ [PU]

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D	0 [PU]			
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2	Sustained Scientific Use   Plants, animals, or water in the AA have been monitored for >2 years, unrelated to any regulatory requirements, and data are availa	to the public. Or the AA is part of an area that has been designated by an agency or institution as a benchmark, reference, or status-tre	monitoring area. Enter: yes= 1, no= 0. If no information, change to blank.	
В	OF49 Sustained Scientific Use			
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<	В	3	D	tn
Dat	ta Form F (Fiel	Data Form F (Field) for Non-tidal Wetlands. WESPAK-SE version 2.0.		Site Name: Angoon Airport
interference of the control of the c	CTIONS: Conduct an as: ) to a 1 (true) for the best rvations and interpretation where or other knowledgat listing of functions to whin ndix F of the accompanyin r Warming, SR= Sedimentebrates, FA= Anadromou	DIRECTIONS: Conduct an assessment only after reading the accompanying Manual and explanations in column E below. In the Data column, change the 0 (false) to a 1 (frue) for the best choice, or for multiple choices where allowed and so indicated. Answer these questions primarily based on your onsite observations and interpretations. Do not write in shaded parts of this data form. Answering some questions accurately may require conferring with the landowner or other knowledgable persons, and/or reviewing aerial imagery. For most wetlands, completing this field data form requires 1-2 hours on a site. For a listing of functions to which each question pertains, see bracketed codes in column E. For detailed descriptions of each WESPAK-SE model, see Appendix F of the accompanying Manual. Codes for functions and values are: WS= Water Storage, SFS= Stream Flow Support, WC= Water Cooling, WW= Water Warming, SR= Sediment Retention, PR= Phosphorus Retention, NR= Nitrate Removal, CS= Carbon Sequestration, OE= Organic Export, INV= Invertebrates, FA= Anadromous Fish, FR= Resident Fish, AM= Amphibians, WBF= Feeding Waterbirds, WBN= Nesting Waterbirds, SBM= Songbirds,		Site Location: Angoon, Alaska Investigator: Environmental Science Associates (ESA) Date: 13-22 Aug, 2013; 15-22 June, 2017; 6-14 June, 2018 Site Notes:
3	Indicator	Condition Choices	Data	Explanations, Definitions
4 F1	Wetland Type	Most of the vegetated part of the AA (wetland Assessment Area) is a (select ONE):	7]	AM, CS, FA, FR, INV, NR, OE, PH, Sens, SFS, WBF, WBN]
5 F1.1		Forested Peatland	∑ <u>S</u> 8 <u>⊏</u>	Nearly all the AA is moss-covered and/or the soils to a depth of at least 4 inches are organic (sometimes deeper if not rocky). More tall (>3 ft) woody cover than herbaceous. Trees often hemlock or cedar. Often with skunk cabbage (at least in seasonal channels), blueberries. Little or no open water includes shrubby fringes of open peatlands and fens. Not in active floodplain.
F1.2 6		Open Peatland	0 9	Nearly all the AA is moss-covered. Peat depth usually > 16 inches except where bedrock near surface. Tree cover is <5% and cover of tall (>3 ft) shrubs is <30%. Shore pine, Labrador tea, crowberry often occur. Often with small (<25 sq ft) scattered stair-step pools with acidic, stained water. Some examples are flat bogs, floating bogs, and sloping muskeg.
F1.3		Fen/ Marsh	Si O is ur	Surface water is more extensive, at least seasonally. More emergent than tall (>3 tt) woody plant cover. Often sedges, deer cabbage, marsh marigold, horsetail, burreed, pond lily. If ground is moss-covered, its largely obscured by sedges or other herbaceous plants. Soils often muck or peat, seldom coarse unless created by excavation. Often beaver-created, or at base of steep slopes, or in depressions or adjoining larger water bodies.
8 4.		Floodplain Wetland	At dt the the the the the the the the the th	At least once annually, surface water in a channel that flows through or adjoins the AA causes the width of surface water in the AA (perpendicular to the channel) to more than double. The increased width is due mainly to that channel inflow, not to hillslope seepage or runoff. Soils are sit or coarser (little or no organic soil or peat). Vegetation can be woody or herbaceous: often alder, willow, devil's dub. Includes some (not all) wetlands in mapped floodplains. Consult municipal maps of floodplains if available, and the online WESPAK-SE Wetlands Module: SEAK Hydro Stream.
F1.5		Uplift Meadow	<u> </u>	Within a few miles of tidewatter or a glacier, but nontidal, and mostly within 100 miles of Glacier Bay National Park. Little or no persistent surface water except in channels, which may be strongly downout. Mostly sweetgale and/or herbaceous vegetation, e.g., silvenweed, iris, Lyngbye's sedge. Tree cover usually <30%. Peat depth usually <16 inches. Resulted from uplift following isostatic rebound as a glacier receded within recent centuries.
F1.6		Tidal Marsh or Tidal Swamp. Do not continue. Use other spreadsheet.	In le 0 ar	Inundated by tide at least once annually and dominated by emergent herbaceous or woody plants. The level of surface water fluctuates every ~6 hours on a daily basis in response to tides. Do not include areas of beachgrass ( <i>Leymus</i> or <i>Elymus mollis</i> , also called ryegrass) unless they are inundated at that frequency. Do not include areas that are entirely eelgrass or seaweeds.
F2 11	% Saturated <b>Only</b>	The percentage of the AA that lacks surface water during an average year (that is, except perhaps for a few hours after snowmelt or rainstorms), but which is still a wetland, is:	<u>⊢</u>	This is the cumulative acreage of all areas lacking surface water in the AA. [AM, FA, FR, INV, NR, PH, PR, SBM, Sens, SRv, WBF, WBN, WC, WWJ
13		less than 1%, or <0.01 acre (about 20 ft on a side) never has surface water. In other words, all or nearly all of the AA is inundated permanently or at least seasonally.  1-25% of the AA never contains surface water.	0 0	
14		25-50'% of the AA level contains surface water.	0	

V	В	0	D E
15		50-99% of the AA never contains surface water.	1
16		>999% of the AA never contains surface water, except for water flowing in channels and/or in pools that occupy <1% of the AA. SKIP to F30.	0
Į.		>99% of the AA never contains surface water, and AA is not intersected by channels that have flow, not even for a few days per year. SKIP to	0
1/			
<u>E</u>	% with Persistent	The percentage of the AA that has surface water (either ponded or flowing, either open or obscured by vegetation) during all of the growing	0.01 acre is about 20 ft on a side if square. This is the <u>cumulative</u> acreage of all areas that have surface
18	Surface Water	season during most years is:	water. Sites fed by glaciers, or by unregulated streams that descend on north-facing slopes, tend to
19		less than 1%, or <0.01 acre (whichever is less). SKIP to F7.	or remain wet longer into the summer. Indicators of persistence may include fish, some dragonflies,
20		1-25% of the AA, and mostly in narrow channels and/or small scattered pools.	——beaver, and muskrat. In the local soil survey, the NKC's descriptions of the predominant soil types may 0 include information and continuous to the NAV NIB DOLLAR SOIL WIDE MAINT
21		1-25% of the AA, and mostly in a single large pool, pond, and/or channel.	1 INCOURT INFORMATION OF SALUTATION PERSONATION. [74], C.S., I.Y., IIV., INV., INV., F.C., F.K., SDIW, WEI, WEIN,
22		25-50% of the AA	0
23		50-95% of the AA	0
24		595% of the AA	0
F4	Summertime Shading of	_	Consider the aspect and surrounding topographic relief as well as vegetation height and density. IFA.
25	Water		WC, WMJ
3,6		<5% of the water is shaded	
21 6		5-25% of the water is sharled	
17 00		DK. 50%, of the water is cheaded	
28		25-20.0 UI Watel is sliaded	
29		50-75% of the water is shaded	0
30		>75% of the water is shaded	1
F5	Fringe Wetland	The AA adjoins a lake, stream, or river whose wetted width (not counting the AA's wetland) during mean annual conditions is greater than 50 ft	[WBF, WBN, WC, WWv]
		and also more than 5 times the vegetated wetland's average width (measured perpendicular to upland). If true, enter "1" and continue. If false,	0
31		leave the 0 and continue.	
9 <u>-</u>	Lacustrine Wetland	The AA borders a body of ponded open water whose size (not counting the AA's wetland) exceeds 20 acres during most of the growing	The "vegetated areas" should not include submersed or floating-leaved aquatics. [FA, FR, PR, WBF,
32		season. Enter "1" if true, "0" if false.	Mawl 0
F7	% Flooded Only	The percentage of the AA soil that is covered by surface water only during the wettest time of year, and for >2 continuous weeks during that	0.01 acre is about 20 ft on a side if square. This is the cumulative acreage of all areas in the AA that
33	Seasonally	tme, is:	flood ONLY seasonally. Flood marks (algal mats, adventitious roots, debris lines, ice scour, etc.) are often evident when not fully inundated. Also, such areas often have a larger proportion of inland and
,		<1% or <0.01 acre, whichever is less. SKIP to F9.	annual (vs. perennial) plant species. In riverine systems, the extent of this zone can be estimated by
£		1 050/	
35		0/.02-1	Although useful only as a general guide, the NWI's water regime modifier code and NRCS soil survey
36		25-50%	descriptions of the predominant soil types usually include information on flooding frequency and
,		96-95%	adudation persistence: The wettest times in Sodureast Alaska typically occur during rate ran, during rain.  Revents after the ground is frozen, and/or during spring snowmelt. Near melting glaciers, surface water
,		%56%	
90 L		The session was seemed Busheeff as in souther southing the AA in	7
39	Annual water Fluctuation	i the maximum aimuai iuccuaiioit ii suitace watei withii iile AA is.	[AM, CJ, INV, INK, OE, PT, PK, JK, WBN, WJ]
40	200	<0.5 ft	
41		0.5-1ft	0
42		1.3.ft	0
43		>3ft	0
F9	Predominant Depth Class	During most of the growing season, surface water depth in most of the area where it is present is: [Note: This is not asking for the maximum identh.]	If a boat is unavailable, estimate this by considering wetland size and local topography. Or if timing and safety allow, deaths may be measured by drilling through winter ice. This question is asking about the
‡ :		() Et doon (but S))	
45		רוט וו הפולו (מור יש) ירוט וו הפולו (מור יש)	temporary. If inundation in most but not all of the wetland is brief, the answer will be based on the depth
46		U.51 rt deep	
47		1-2 ft deep	Well as ponded areas. [CS, FA, FR, INV, OE, PH, PR, Sens, SFS, SR, WBF, WBN, WC, WW]
48		2-5 ft deep	0
46		>6 if deep. True for many fringe wetlands.	0

		4	
A F10		Β Danth Clase Distribution Mhan masant surface water in most of the ΔΔ neually consists of (salar) one.	Estimate these proportions by considering the cradient and microtroportions of the site. See diagram in
50   10		when present, surface water in most of the Ary assaily contasts of (serect only).	Estimate tress proportions by constraining the gradient and introduced aprily of the site. See diagram in the manual IEE INV WRE WRNI
51		One depth dass that comprises >90% of the AA's inundated area (use the classes in the question above).	0
52		One depth dass that comprises 50-90% of the AA's inundated area.	
53		Neither of above. Multiple depth classes; none occupy more than 50% of the AA.	0
F11 54	Open Water - Extent	During most of the growing season, the largest patch of open water that is in or bordering the AA is >1 acre and mostly deeper than 1 ft. If true enter "1" and continue, If false, enter "0" and SKIP to F15.	Open water is water that is not obscured by vegetation in aerial ("duck's eye") view. It includes vegetation floating on the water surface or entirely submersed beneath it. It may be flowing or ponded.
F12 55	Flat Shoreline Extent	The length of the AA's shoreline (along its ponded open water) that is bordered by areas that are <b>nearly flat</b> (a slope less than about 5%) is:	See diagram in the manual. If several isolated pools are present in early summer, estimate the percent of their collective shorelines that has such a gentle slope. [SR, WBN]
99		<1% of the shore length	0
57		1-25%	0
58		25-50%	0
59		50-75%	0
09		>75%	0
F13 61	Width of AA's Vegetated Zone	At the driest time of year (or lowest water level), the width of vegetated area in the <u>AA</u> that separates adjoining uplands from most of the open water within or adjoining the AA is:	"Vegetated area" does not include underwater or floating-leaved plants, i.e., aquatic bed. Width may include wooded riparian areas if they have wetland soil or plant indicators. For most sites larger than 10
62		1-5 ft	acres and with persistent water, measure the width using aerial imagery rather than estimate in the field.
63		5-25 ft	[AM, CS, NK, OE, PH, PK, SBM, Sens, SK, WBN]
64		25-100 ft	0
65		100-300 ft	0
99		>300 ft	0
F14 67	Non-vegetated Aquatic Cover	The cover for fish, aquatic invertebrates, and/or amphibians that is provided by horizontally incised banks, water deeper than 2 ft, and/or partly-submerged accumulations of wood thicker than 4 inches (NOT by living vegetation) is:	For this question, <b>do not consider herbaceous plants</b> . Consider only the wood that is at or above the water surface. Estimates of underwater wood based only on observations from terrestrial viewpoints are
89		Little or none, or all water is shallower than 2 ft most of the year.	unreliable so should not be attempted. [AM, FA, FK, INV]
69		Intermediate, e.g., 500 - 2500 cu. ft of instream wood per 1000 ft of channel.	0
70		Extensive: >8 pieces of wood per stream reach (reach= 10x channel width), or >2700 cu.ft of instream wood per 1000 ft of channel, or >10% of bank length is incised.	0
F15	All Ponded Water - Extent	During most of the growing season, the percentage of the AA that has ponded surface water (stagnant, or flows so slowly that fine sediment is not held in suspension) which is either open or shaded by emergent vegetation is:	Nearly all wetlands with surface water have some ponded water. [AM, CS, FA, FR, INV, NR, OE, Sens, SR, SBM, WBF, WBN, WC, WS, WWI
72		<1% or none, or occupies <100 sq. ft cumulatively. Enter "1" and SKIP to F19.	
73		1-25% of the AA, and mainly in small fishless pools. Enter "1" and SKIP to F19.	
74		1-25% of the AA, and mainly in a single large pool or pond, with or without fish access.	0
75		5-30% of the AA.	0
92		30-70% of the AA.	0
77		70-95% of the AA.	0
78		>95% of the AA.	0
F16	Open Ponded Water - Extent	The percentage of the ponded water that is <b>open</b> (lacking emergent vegetation during most of the growing season, and unhidden by a forest or shrub canopy) is:	Open water may have floating aquatic vegetation provided it does not usually extend above the water surface. [AM, CS, FA, FR, INV, NR, OE, PR, SR, WBF, WBN, WC, WW]
80		<1% or none, or largest pool occupies <100 sq. ft. Enter "1" and SKIP to F19.	
81		1-5% of the ponded water. Enter "1" and SKIP to F19.	0
82		5-30% of the ponded water.	0
83		30-70% of the ponded water.	0
84		70-99% of the ponded water.	0
85		100% of the ponded water. <b>SKIP to F18.</b>	0
F17	Emergent Vegetation - Distribution	During most of the growing season, the spatial pattern of herbaceous vegetation that has <b>surface</b> water beneath it (emergent vegetation – NOT floating-leaved plants) is mostly:	[AM, FA, FR, INV, NR, OE, PH, PR, SBM, SR, WBF, WBN]
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87		scattered in small clumps, islands, or patches throughout the surface water area.		
88		intermediate	0	
68		dumped along the margin of the surface water area, or mostly surrounds a channel or central area of open water, or such vegetation covers <100 so ft and <1% of the AA.	0	
F18	Floating Algae &	At some time of the year mats of algae and/or duckweed cover most of the AA's otherwise-unshaded water surface or blanket the underwater	rec. Pr. WBF1	
06		substrate. If true, enter "1" in next column. If untrue or uncertain, enter "0".	0	
F19	Ice Cover	Ice (not just snow) covers nearly all of the AA's water surface for more than 4 continuous weeks during most years, potentially altering the airwater exchange. If true, enter "1" in next column. If untrue, enter "0".	Available data sugge Annette, Sitka, Little I	Available data suggest this ranking from shortest to longest ice duration based on location. Ketchilkan, Annette, Silka, Little Port Walter, Juneau, Yakutat, Annex Creek. However, local factors such as placeting water body death and they velocity should be considered 10M CS ED NIP OF ED Sense
91				deput, and now reportly should be considered. [Ant. Co., 117, 1015, Cr. 115, Cens,
F20 92	Stained Surface Water	Most surface water is tea-colored (from tannins, not iron bacteria), and/or its pH is usually <5.5. If surface water not observed, enter "1" if organic soil depth exceeds 6 inches and vegetation is mostly moss and/or evergreens.	[FR, OE, PR, WW]	
F21	Isolated Island	The AA contains (or is part of) an island within a lake, pond, or river, and is isolated from the shore by water depths >3 ft on all sides during an average June. The island may be solid, or it may be a floating vegetation mat suitable for nesting waterbirds.	[WBN]	
F22	Beaver	Use of the AA by beaver during the past 5 years is (select most applicable ONE):	[FA, FR, PH, SBM, Sens, WBF, WBN]	ens, WBF, WBN]
95		evident from direct observation or presence of gnawed limbs, dams, tracks, dens, lodges, or extensive stands of water-killed trees (snags).	0	
96		likely based on known occurrence in the region and proximity to suitable habitat, which may indude: (a) a persistent freshwater wetland, pond, or lake, or a perennial low or mid-gradient (<10%) channel, and (b) a corridor or multiple stands of hardwood trees and shrubs in vegetated areas near surface water.	0	
76		unlikely because site characteristics above are deficient, and/or this is a settled area or other area where beaver are routinely removed. But beaver occur in the region (i.e., within 10 miles, or on same island).		
86		none. Beaver are absent from the region and/or the island.	0	
F23 99	Flowing Water - Extent	The percentage of the AA that has <b>flowing</b> water (flowing with enough force to keep sediment in suspension, and >1 inch deep and either open or shaded by emergent vegetation) for >2 continuous weeks at the wettest time of a typical year is:		
100		None. (Topographic maps also show no intersecting channels or floodplains. However, if the AA is entirely a lake or pond, enter a "1" regardless of whether maps show a channel intersecting it).		
101		1-25% of the AA (topo maps show one or more channels). Their wetted width does not expand >2x their width at annual low flow, e.g., many strongly incised or headwater channels.	0	
102		1-25% of the AA, and in (or adjoining) one or more channels whose wetted width expands >2x their width at annual low flow. Typically not in headwaters. SEAK Hydro Process maps may show "Flood Plain" channel.	0	
103		5-30% of the AA.	0	
104		30-70% of the AA.	0	
105		70-95% of the AA. >95% of the AA	0 0	
F24	Inflow	At least once annually, surface water moves into the AA from a tributary stream or ditch that is at least 300 ft long, or from a lake or river. Often	[NRv, PH, PRv, SRv]	
107		shown as a channel on a lopo map (consult the SEAK Hydro Streams layer of the WESPAK-SE web site). If true, enter 1 and continue. If false, enter 0 and SKIP to F28.	0	
F25	Input Water Temperature	Based on lack of shade upstream or source characteristics, the inflow is likely to be warmer than the AA's surface water during part of most	0 [WC, WWv]	
108	יבווליסומוסוס		:	. 44 44 7 444 7 11 11 11 11 11 11 11 11 11 11 11 11 1
F26 109	Input Stream Gradient	The gradient of the tributary with the largest inflow, averaged up to 300 ft from the AA (excluding any portion of the distance where water travels through a pipe) is:	Estimate gradient by	Estimate gradient by dividing the elevation difference by horizontal distance over 300 ft. [PRv, SRv]
110		<1%	0 (	
=======================================		1-5% r 2000	0 (	
112		>30% 	0 0	
F27 F27	Throughflow Complexity	_	[FA, FR, INV, NR, OE, PR, SR, WS]	; PR, SR, WSj
114				

A	Possest transition of the transfer tran	B
115	Does not bump into plant stems. Nearly all the water travers in unvegetated (often incised) channels that have little contact with wetland vegetation, or through a zone of open water such as an instream pond or lake.	0
116	bumps into herbaceous vegetation and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
117	bumps into herbaceous vegetation and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
118	bumps into tree trunks and/or shrub stems and follows a fairly straight path from entrance to exit (branched channels few or none, meandering slight or none).	0
119	bumps into tree trunks and/or shrub stems and follows a fairly indirect path from entrance to exit (meandering, multi-branched, or braided).	0
F28 Outflow Duration	The most persistent <u>surface</u> water connection (outlet channel or pipe, ditch, or overbank water exchange) between the AA and the closest off-site downslope water body is:	Path length is the length of a wetland measured in a straight line from inlet to outlet, or from highest to lowest elevation within the wetland (i.e., in the direction of predominant downhill surface flow) – see
121	persistent (>9 months/year); almost always shown on stream maps, or determine from your dry-season observation.	0 OF35. Consult the hydrography layer of the WESPAK-SE web site if uncertain if AA is intersected by or
122	seasonal (14 days to 9 months/year, not necessarily consecutive); sometimes shown on stream maps.	near a channe. A channe Is defined as an observably incised landform that transports surface water in a downhill direction cluing some part of a normal year. A larger difference in elevation between the
123	temporary (<14 days, not necessarily consecutive); seldom shown on stream maps.	wetland-upland boundary and the bottom of the wetland outlet (if any) indicates shorter outflow duration.
124	none – but maps show a stream or other water body that is downslope from the AA and within a distance that is less than the AA's path length (see definition, OF35). If so, mark "1" here and SKIP TO F30.	The frequencies given are only approximate and are for a "normal" year. The connection need not occur during the growing season, ICS, FA, FR, NR, OE, PR, Sens, SFS, SR, WC, WS, WWWI
125	no surface water flows out of the wetland except possibly during extreme events (less than once per 10 years). Or, water flows only into a wetland, ditch, or lake that lacks an outlet. If so, mark "1" here and SKIP TO F30.	
F29 Outflow Confinement	During major runoff events, in the places where surface water in a channel exits the AA or connected waters nearby, it:	"Major runoff events" would include biennial high water caused by storms and/or rapid snowmelt. [CS,
201	mostly passes through a pipe, culvert, narrowly breached dike, berm, beaver dam, or other partial obstruction (other than natural topography) that chose not annear to drain the unaffand artificially clining most of the provision season	NA, OE, PR, Vells, OA, WS
128	leaves through natural exits, not mainly through artificial or temporary features.	
129	exported more quickly than usual due to ditches or pipes within the AA (or connected to its outlet or within 10 m of the AA's edge) which drain the wetland artificially, or water is pumped out of the AA.	0
F30 Groundwater: Strength of		Consult topographic maps to detect breaks in slope described here. Localized orange coloration
Lylodice 131	(a) springs are observed, OR (b) water is markedly cooler in summer and warmer in winter (e.g., later ice formation) than in other wetlands nearby, OR (c) water level measurements from shallow wells, or high salinity/conductivity in undisturbed wetlands distant from potential marine influence, suggest substantial groundwater discharge to the AA.	early winter. [AM, CS, FA, FR, INV, NR, OE, PH, PRv, SFS, WC, WS, WW]
	(a) the upper end of the AA is located very dose to the base of (but mostly not ON) a natural slope much steeper (usually >15%) than that within the AA and longer than 300 ft, OR	
132	<ul><li>(b) rust deposits ("iron floc"), colored precipitates, or dispersible natural oil sheen are prevalent in the AA, OR</li><li>(c) AA water is remarkably clear in contrast to naturally stained or glacially-clouded waters typical in nearby wetlands, OR</li><li>(d) AA is located at a geologic fault.</li></ul>	0
133	Neither of above is true, although some groundwater may discharge to or flow through the AA, or groundwater influx is unknown.	0
134 F31 Woody Cover Extent	Within the entire vegetated part of the AA, the percentage occupied by woody plants taller than 3 feet (shrubs, trees) is:	Do not count trees or shrubs if they merely hang into the wetland. They must be <b>rooted in soils that</b>
135	<5% of the vegetated AA, or there is no woody vegetation in the AA. SKIP to F41.	
136 127	5-25%. 25-51%	0
138	50-75%	0
139	>75%	1
140 F32 Tree & Tall Shrub	Within the vegetated part of the AA, just the trees that are taller than 20 ft occupy:	Do not count trees if they merely hang into the wetland. They must be rooted in soils that are saturated for council weeke of the maniful account to a "house should not include floating to a county."
141	<1% of the vegetated AA, or the AA lacks trees. Enter "1" and SKIP to F37.	of submersed aquatics, IPH, SBM, Sens
142	1-25% of the vegetated AA	
143	25-50% of the vegetated AA	0
144	50-55% of the Vegetated AA	
145	SSS% of the Vegetated part of the AA	0

			-
V	В		(Included the contraction of the
183		<1% of the AA's vegetated area, or largest patch occupies less man 400 sq. π	osoils with little moss ground cover, such as burns, clearcuts, landslides, avalanche paths, abandoned
184		1-25% of the vegetated area	0 beaver flowages, areas of recent glacial rebound or deglaciation, heavily grazed or drained lands, and
185		25-50% of the vegetated area	0 floodplains [CS, INV, OE, PH, SBM]
186		50-75% of the veoetated area	0
187		>75% of the vegetated area	0
100 F41	N Fixers	The percent of the AA's shrub plus ground cover that is nitrogen-fixing plants (e.g., alder, sweetgale, arctic rush, lupine, clover, other legumes)	"Ground cover" includes both moss and herbaceous vegetation. Do not include N-fixing algae or
180			lichens. Select only the first true statement. [FA, FR, INV, NRv, OE, PH, SBM, Sens]
190		1-25% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	
161		25-50% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
192		50-75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
193		>75% of the shrub plus ground cover, in the AA or along its water edge (whichever has more).	0
F42	Moss Extent	The cover of peat-forming moss is:	Exclude moss growing on trees or rocks. [CS, PH]
195		<5% of the vegetated ground cover.	0
196		5-25% of the vegetated ground cover.	0
197		25-50% of the vegetated ground cover.	0
198		50-95% of the vegetated ground cover.	
199		>95% of the vegetated ground cover.	0
F43	Bare Ground &	Consider the parts of the AA that lack surface water at some time of the year. Viewed from 6 inches above the soil surface, the condition in the	Thatch is dead plant material (stems, leaves) resting on the ground surface. Bare ground that is
	Accumulated Plant Litter		present under a tree or shrub canopy should be counted. [AM, EC, INV, NR, OE, POL, PR, SBM, Sens,
200			S.R.
100		little or no (<5%) bare ground is visible between erect stems or under canopy <u>and</u> ground surface is extensively blanketed by moss, lichens, preminding with creat stem densities, or plants with promind-binding foliane.	
707		Statement of the unflooded parts of the AA. Statement plants) is visible in places, but those areas comprise less than 5% of the unflooded parts of the AA.	
202		Mich hare more than 5% hare between plants) is visible in places, and those areas commiss more than 5% of the unflooded parts of the	
203			
204		mostly (>50%) bare ground or ground covered only with thatch.	0
205		Not applicable. Surface water (either open or obscured by emergent plants) covers all of the AA all the time.	0
F44 206	Ground Irregularity	Consider the parts of the A4 that lack surface water at some time of the year. Excluding slash from logging, the number of small pits, raised mounds, hummocks, boulders, upturned trees, animal burrows, gullies, natural levees, wide soil cracks, and microdepressions is:	"Wirotopography" refers mainly to the patchiness of vertical relief of >6 inches and is represented only by inorganic features, except where living plants have created depressions or mounds (hummocks) of
207		Few or none (minimal microtopography; <1% of that area)	<ul> <li>Soll. Up not count indised channels and other macro reatures. If parts of the AA are flat but others</li> <li>have substantial microtronography, base your answer on which condition predominates in the parts of</li> </ul>
208		Intermediate	
509		Several (extensive micro-topography)	
210 F45	Upland Inclusions	Within the AA, inclusions of upland that individually are >100 sq. ft. are:	Inclusions are slightly elevated "islands" or "pockets" dominated by upland vegetation and soils. Do not
211		Few or none	Count as industrials the elevated roots of trees of roots with the street by a finding of filler as soil meeting the size threshold. Upland inclusions may sometimes be created by fill. JAM. NR. SBMI
212		Intermediate (1 - 10% of vegetated part of the AA).	
213		Many (e.g., wetland-upland "mosaic", >10% of the vegetated AA).	0
F46	Soil Texture	In most parts of the AA that lack persistent water, the texture of soil in the uppermost layer is: [To determine this, use a trowel to check in at least 3 without present positions and use the coil toxture box in Annandis Of the Manuel Homenia use should be disclosured to the Annandis User and the Annandis College.	"Organic" includes muck, mucky peat, peat, and mucky mineral soils that comprise the "Oi" horizon. These soils are much less common in floodelains. Do not include duff floose organic surface material.
214		troats a most spoot toward, and use the son toward may in Appendix of the mandar. It organise, are shown to lag domine to be upon on until hitting mineral soil, whichever is first, then measure.]	e.g., dead plant leaves and stems). If stuture varies greatly, base your answer on which texture care.
215		Loamy: includes loam, sandy loam	predominates in the parts of the AA trial tack persistent water. [Co., NR, OE, PH, PK, Sens, SPO, WS]
216		Fines: includes silt, glacial flour, clay, clay loam, silty clay, silty clay, loam, sandy clay, sandy clay loam.	0
217		Organic, from surface to within 4 inches of surface only. Exclude live roots unless from moss.	0
218		Organic, from surface to within 16 inches of surface only. Exclude live roots unless from moss.	
219		Organic, from surface to greater than 16 inch depth. Exclude live roots unless from moss.	0
220		Coarse: includes sand, loamy sand, gravel, cobble, stones, boulders, fluvents, fluvaquents, riverwash.	0

A	В	D D	D
F47	Shorebird Feeding	Within the AA, the extent of mudflats, and/or non-acidic ponded areas shallower than 2 inches, and/or unwooded shortgrass areas that meet	This addresses needs of many but not all migratory sandpipers, plovers, and related species. [WBF]
221	Habitats	the definition of shorebird habitat (column $E$ ) is usually:	
222		none, or <100 sq. ft within the AA.	
223		100-1000 sq. ft. within the AA.	0
224		1000 – 10,000 sq. ft. within the AA.	0
225		>10,000 sq. ft within the AA.	0
F48	Largest Herbaceous	The area of the largest patch of herbaceous vegetation (e.g., sedges, grasses, skunk cabbage, other forbs - excluding mosses and	0.1 acre is about 66 ft on a side if square. If the AA is smaller than the wetland within which it is located,
37.6	ratch	submerged and floating aquatics), within the AA is: [Note: Do not include areas where the herbaceous canopy is so thin that moss is visible beneath it during the height of the growing season].	extend the patch to include contiguous herbaceous vegetation in the same wetland (but a different AA) and revise the area estimate. Include herbaceous patches that are under a forest canopy as well as
077		COLLacra SKID In ESA	those visible in aerial imagery. [PH, SBM, Sens, WBF, WBN]
177		V. Ladra (1.17)	<b>D</b>
077		4 to 40 conc.	
229		10 10 dues	
230		10 to 100 acres	0
231		100 to 1000 acres	0
232		>1000 acres	0
733 F49	Unshaded Herbaceous	As visible in birds-eye view, herbaceous vegetation (excluding mosses and submerged and floating aquatics) comprises:	"Birds-eye view" means vertical view from about 500 ft above the wetland surface, and thus excludes
5 5	Extent	<5%, of the vacetated part of the ΔΔ Mark "1" here and CKID to E64	herbaceous vegetation hidden beneath a tree or shrub canopy. [WBF, WBN, POL]
724		C ACA CALL TO ACA THE NO. THE	
235		5-25% of the vegetated AA	0
236		25-50% of the vegetated AA	
237		50-95% of the vegetated AA	0
238		>95% of the vegetated AA	0
730	Forb Cover	The percent of the vegetated ground cover that is forbs (e.g., skunk cabbage, buckbean, wildflowers) reaches an annual maximum of:	forbs = flowering non-woody vascular plants (excludes grasses, sedges, fems, mosses). Exclude horsetail (Equisetum) even though technically it is a forb. [POL]
240		SS% of the vanafated mound onver	
7+0			
241		5-25% of the vegetated ground cover	0
242		25-50% of the vegetated ground cover	
243		50-95% of the vegetated ground cover	0
244		>95% of the vegetated ground cover. <b>SKIP to F52.</b>	0
7.15 F51	Sedge Cover	Sedges (Carex spp.) andior cottongrass (Eriophorum angustifolium) occupy:	[52]
246		SS% of the venetated oround cover or <0.01 acre	-
0 1 0		F. 50%, of the visualistic direction owner	
/ 47		GO DERV. At this consistent a ground account.	
240		50 50% of the venetated dround cover	
	Horbosopio	Deferming unlike transmissions of the promiseral forms and promise parameters notified of the backbookers that is	T
250	nerbaceous species Dominance	Determine which two native neroaceous (loro, graminoid, tern) species comprise the greatest portion of the neroaceous cover that is unshaded by a woody canopy. Then choose one:	[EC, INV, PH, POE, Sens]
251		those species together comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	0
252		those species together do not comprise > 50% of the areal cover of native herbaceous plants at any time during the year.	
F53	Invasive & Non-native	Invasive plants in this region may include (for example): creeping buttercup, reed canary grass, orange hawkweed, annual blue grass, timothy	[EC, PH, POL, Sens]
253	Cover	grass, Canadian thistle, field sow-thistle, Japanese knotweed, European mountain ash, white clover, alsike clover, others noted in PlantList worksheet (also in Table B-3 of the manual). The condition in the AA is.	
254		apparently no invasive species are present in the AA.	
255		Invasive species are present but comprise <5% of the herbaceous and <5% of the shrub cover.	, -
256		Invasive species comprise 5-20% of the herb or shrub cover.	
257		Invasive species comprise 20-50% of the barh or shrift cover	,   -
167		muscus especies compiles 550% of the hard not estimate control.	
228		IIIVASIVE SPECIES COTTIPLISE YOU UTE TIETD OF SHILDD COVET.	

	-	<	t
F5/	Mood Source Along	Along the westand-injury houndary the narvent of the injury adds (within 10 ft of westand) that is governing by plant species that are	U    He well and has no incland adds or incland adds is < 10% of well and's nationals. Then are wer for the
259	Upland Edge	considered invasive is: (see list in above question, plus others in PlantList worksheet or Table B-3 of the manual)	portion of the upland dosest to the wetland. If a plant cannot be identified to species (e.g., winter
260		none of the upland edge (invasives apparently absent)	——conditions) but its genus contains an invasive species, assume the unidentified plant to also be 0 invasive if vootbijon is so sonoscod that invasive species, assume the infantified answer "nears" IDH1
261		some (but <5%) of the upland edge	III VASIVE. II VEGETATIOTI IS SO SETTESCED TITAL III VASIVE SPECIES CATITIOL DE LICTRITIÈE, ATSWET TIOTE : [TT]
262		5-50% of the upland edge	0
263		most (>50%) of the upland edge	0
F55	Natural Cover in Buffer	Along the wetland-upland edge and extending 100 ft upstope, the percentage of the upland that contains natural (not necessarily native - see	Natural land cover includes wooded areas, peatlands, vegetated wetlands, and most other areas of
264		column E) land cover taller than 6 inches is:	perennial vegetation. It does not include water, glaciers, annual crops, residential areas, golf courses, recreational fields, fields mowed >1x per year payement hare soil rock hare sand or gravel or dirt
265		, co., co.	Ŧ
566		5 to 30%	
267		30 to 60%	0 PRv, SBM, Sens, SRv, WBN]
268		60 to 90%	
569		>90%. <b>SKIP to F58</b> .	0
F56	Type of Cover in Buffer	Within 100 ft upslope of the wetland-upland edge closest to the AA, the upland land cover that is NOT unmanaged vegetation or water is	[AM, FA, INV, NRv, PH, SBM, WBN]
270		mostly (mark ONE):	
271		impervious surface, e.g., paved road, parking lot, building, exposed rock.	0
770		bare or nearly bare pervious surface or managed vegetation, e.g., lawn, mostly-unvegetated dearcut, landslide, unpaved road, dike.	_
512 F57	Slone from Districted	The average nervent slove of the land measured from the AA's welland inland adne and extending in the most extensive and/or	Disturbance feature = huilding payed area recently cleared area dist mad fawn annually-harvested
273	Lands	The average percent sope of the tank, measured from the AAS wetening-upger and extending upfill to the finost extensive analysis dosest disturbance feature within 100 ft, is:	row crops. Use judgment to decide if extent or proximity is more influential for a noted disturbance. If the
274		<1% (flat – almost no noticeable slope)	0 AA is only part of a wetland and does not have an upland edge, evaluate this along the upland edge
275		2-5%	Glosest to the AA. Estimate stope by dividing the elevation directince (between the weutand and
276		5-30%	disturbed area) by meir nonzonial distance apair. [NRV, PRV, Sens, SRV]
277		>30%	0
F58	Cliffs, Banks, Beaver, Muskrat	In the AA or within 300 ft, there are (a) muskrat houses or beaver lodges, or (b) mineral licks, or (c) elevated terrestrial features such as diffs, talus slopes, stream banks, or excavated pits (but not riprap) that extend at least 6 ft nearly vertically, are unvegetated, and potentially contain	Do not include upturned trees as potential den sites. [POL, SBM]
278		crevices or other substrate suitable for nesting or den areas. Enter 1 (yes) or 0 (no).	
F59 279	New Wetland	The AA is (or is within, or contains) a "new" wetland resulting from human actions (e.g., excavation, impoundment) or debris or lava flows, receding glacier, sea level rise, or other factors affecting what once was upland (non-hydric) soil.	Do not indude wellands created by beaver dams except for the part where flooding affected uplands (not just existing wellands and streams). Determine this using historical aerial photography, old maps,
280		No	soil maps, or permit files as available [CS, NR, OE, PH, PRV, Sens, SRV]
281		yes, and most recently created, deglaciated, or uplifted 20 - 100 years ago	0
282		yes, and most recently created, deglaciated, or uplifted 3-20 years ago	0
283		yes, and most recently created, deglaciated, or uplifted within last 3 years	0
284		yes, but time of origin unknown	0
285		unknown if new within 20 years or not	0
F60 286	Visibility	The maximum percent of the AA that is visible from the best vantage point on public roads, public parking lots, public buildings, or well-defined public trails that intersect, adjoin, or are within 300 ft of the wetland (select one) is:	[PU, WBFv]
287		<25%	
288		25-50%	0
289		>20%	0
P61	Ownership	Most of the AA is (select one):	In the online WESPAK Wetlands Module, generalized ownership category can be viewed but consult
5		publicly owned conservation lands that exclude new timber harvest, roads, mineral extraction, and intensive summer recreation (e.g., off-road	local tax inaps ii possibie. [r o]
167		volitukos). Intiliciti owned <b>recultre use</b> lands (allowed activities such as timber harvest minion or intensive recreation) or unknown	
267		power by consorvation organization or lease holder who allows oublic access.	
294		other private ownership, including Tribes.	0

Y	В		D
295 F62	Non-consumptive Uses -	Assuming access permission was granted, select ALL statements that are true of the	Some trails, roads, and Interpretive centers are shown in the online WESPAK Wetlands Module. Enable the Bernation layers Remeation Facilities. [D1]
296	סומוומו סו סומווומו	Walking is physically possible in (not just near) >5% of the AA during most of year, e.g., free of deep water and dense shrub thickets.	die reduceation layer a reduceation a confident la of
297		Maintained roads, parking areas, or foot-trails are within 30 ft of the AA, or the AA can be accessed part of the year by boats arriving via contiguous waters.	0
298		Within or near the AA, there is an interpretive center, trails with interpretive signs or brochures, and/or regular guided interpretive tours.	0
299		The AA contains or adjoins a <b>public</b> boat dock or ramp, or is within 0.5 mile of a ferry terminal, airstrip, public lodge, campsite, snowmobile park, or pionic area.	0
F63	Core Area 1	The percentage of the AA almost never visited by humans during an average growing season probably comprises: [Note: Do not include nicitors on trails on trible of the AA unless more than half the undered is visible from the trails and they are within 100 ft of the undered order in	Include visits by foot, canoe, kayak, or any non-motorized mode. Judge this based on proximity to
300		values of talks busined in the Ara unless inde trial frame wealth is walke from the train from the wealth eage. In that case add only the area occupied by the trail.]	depth, and physical evidence of human visitation. Exclude visits that are not likely to continue and/or
301		<5% and no inhabited building is within 300 ft of the AA	that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, FAv, FRv, PH, PU,
302		<5% and inhabited building is within 300 ft of the AA	0 SEM, WEY, WEN
303		5-50% and no inhabited building is within 300 ft of the AA	0
304		5-50% and inhabited building is within 300 ft of the AA	0
305		90-36%	0
306		>95% of the AA	1
F64	Core Area 2	The percentage of the AA visited by humans almost daily for several weeks during an average growing season probably comprises: [Note: Do	Include visits by foot, canoe, kayak, or any non-motorized mode. Exclude visits that are not likely to
		not include wisitors on trails outside of the AA unless more than half the wetland is visible from the trails and they are within 100 ft of the wetland edge. In that case add only the area occupied by the trail].	continue and/or that are not an annual occurrence, e.g., by construction or monitoring crews. [AM, PH, PU, SBM, WBF, WBN]
700		AEQ. HEEQ3 unon ananunand HSGEV. EXIDA. E67	-
308		You. II roo was alisweled 250%; <b>ANI to For.</b>	
309		200-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	0
310		90-98%	0
311		>95% of the AA	0
F65 312	BMP - Soils	Boardwalks, paved trails, fences or other infrastructure and/or well-enforced regulations appear to effectively prevent visitors from walking on unfrozen soils within nearly all of the AA. Enter "1" if true.	[PH, PU]
F66	BMP - Wildlife Protection	Fences, observation blinds, platforms, paved trails, exclusion periods, and/or well-enforced prohibitions on motorized boats, off-leash pets, and off road vehicles appear to effectively exclude or divert visitors and their pets from the AA at critical times in order to minimize disturbance of wildlife (except during hunting seasons). Enter "I" if true.	[AM, PU, WBF, WBN] 0
314 F67	Consumptive Uses	Recent evidence was found within the AA of the following potentially-sustainable consumptive uses. Select all that apply.	"Low impact" means adherence to Best Management Practices such as those defined by certification
315	(Provisioning Services)	Low-impact commercial timber harvest (e.g., selective thinning)	groups. Evidence of these consumptive uses may consist of direct observation, of presence of physical avidence (a presence of physical paydence) or might be obtained from
316		Commercial or subsistence-based harvesting of native plants or mushrooms	ocommunication with the land owner or manager. [FAv, FRv, PHv, Subsis, WBFv]
317		Hunting	0
318		Furbearer trapping	0
319		Fishing	0
320		None of the above	1
321 F68	Domestic Wells	Wells or water bodies that currently provide drinking water are:	If unknown, assume this is true if there is an inhabited structure within the specified distance and the
322		Within 500 ft	I leginounoud is known to not be connected to a municipal dimiking water system (e.g., is outside a 0 denselv settled area). INRv1
323		500-1000 ft	0
324		>1000 ft away, or none, or no information	

tressor (S) Data Form for Non-Tidal Wetlands	. WESPAK-SE version 2	Investigator: Date:	Site Name: Site Location:	
Wetter Water Regime - Internal Causes		•	1	
In the last column, place a check mark next to any item that is likely to have caused occurring within past 100 years or since wetland was created or restored (whichev table beneath them). [CS]				
an impounding dam, dike, levee, weir, berm, road fill, or tidegate within or down	gradient from the wetland, or raising of outlet culvert elevation	1.		
excavation within the wetland, e.g., artificial pond, dead-end ditch				
excavation or reflooding of upland soils that adjoined the wetland, thus expanding	the area of the wetland			
plugging of ditches or drain tile that otherwise would drain the wetland (as part of	intentional restoration, or due to lack of maintenance, sedimer	ntation, etc.)		
vegetation removal (e.g., logging) within the wetland				
compaction (e.g., ruts) and/or subsidence of the wetland's substrate as a result o	f machinery, livestock, or off road vehicles			
If any items were checked above, then for each row of the table below, you may as the "0's" for the scores in the following rows. To estimate effects, contrast the curre				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's wetter condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the wetter conditions began within past 10 years				
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	0
Average water level increase	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Wetter Water Regime - External Causes				
In the last column, place a check mark next to any item occurring in the wetland's of without that item or activity. Consider only items occurring within past 100 years or		the wetland to be inundated more extensively, more frequent	lly, more deeply, and/or for longer duration than it would be	
subsidies from stormwater, wastewater effluent, or septic system leakage				
pavement, ditches, or drain tile in the CA that incidentally increase the transport of	f water into the wetland			х
removal of timber in the CA or along the wetland's tributaries				
removal of a water control structure or blockage in tributary upstream from the we	etland			
If any items were checked above, then for each row of the table below, you may as	sign points (3, 2, or 1 as shown in header) in the last column.	However, if you believe the checked items had no measural	ble effect in making any part of the AA wetter, then leave	
the "0's" for the scores in the following rows. To estimate effects, contrast the curre	ant condition with the condition if the checked items never occurs  Severe (3 points)	urred or were no longer present.  Medium (2 points)	Mild (1 point)	
Spatial extent of resulting wetter condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	1
	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	1
When most of wetland's wetter condition began  Score the following 2 rows only if the wetter conditions began within past 10 years		3-9 yrs ago	10-100 yrs ago	1
Inundation now vs. previously	persistent vs. seldom	persistent vs. seasonal	slightly longer or more often	1
	>1 ft	6-12"	<6 inches	1
Average water level increase	2111	0-12	Sum=	4
			Final Score=	0.33
			Final Score-	0.33
Drier Water Regime - Internal Causes				
In the last column, place a check mark next to any item located within or immediate without that item. Consider only items occurring within past 100 years or since wet	land was created or restored (whichever is less).	of the wetland to be inundated less extensively, less deeply,	less frequently, and/or for shorter duration that it would be	
ditches or drain tile in the wetland or along its edge that accelerate outflow from the	ne wetland			
lowering or enlargement of a surface water exit point (e.g., culvert) or modification	n of a water level control structure, resulting in quicker drainag	е		
accelerated downcutting or channelization of an adjacent or internal channel (inc	sed below the historical water table level)			
placement of fill material				
withdrawals (e.g., pumping) of natural surface or ground water directly out of the	wetland (not its tributaries)			
If any items were checked above, then for each row of the table below, you may as			the AA drier, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the condition			M21/4 : 0	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the drier conditions began within past 10 years,		annually	aliability about	^
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	6-12"	<6 inches	0
			Sum=	0
			Final Score=	0.00
Drier Water Regime - External Causes				
In the last column, place a check mark next to any item within the wetland's CA (inc that it would be without those. Consider only items occurring within past 100 years	, ,	caused a part of the wetland to be inundated less extensively	y, less deeply, less frequently, and/or for shorter duration	
a dam, dike, levee, weir, berm, or tidegate that interferes with natural inflow to the				
relocation of natural tributaries whose water would otherwise reach the wetland				İ
instream water withdrawals from tributaries whose water would otherwise reach t	he wetland			
groundwater withdrawals that divert water that would otherwise reach the wetland				
If any items were checked above, then for each row of the table below assign point		n creating a drier water regime in the AA. To estimate that, c	ontrast it with the condition if checked items never	
occurred or were no longer present. However, if you believe the checked items ha				
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of wetland's resulting drier condition	>20% of the wetland	5-20% of the wetland	<5% of the wetland	0
When most of wetland's drier condition began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
	•	•	•	•

Score the following 2 rows only if the drier conditions began within past 10	) years, and only for the part of the wetland that got drier.			
Inundation now vs. previously	seldom vs. persistent	seasonal vs. persistent	slightly shorter or less often	0
Water level decrease	>1 ft	1-12"	<1 inch	0
			Sum=	0
			Final Score=	0.0
Alfano d Timbo o of Matan Installa				
Altered Timing of Water Inputs				
In the last column, place a check mark next to any item that is likely to have			uted (smaller or less frequent peaks spread over longer	
times, more temporal homogeneity of flow or water levels) or more flashy				
flow regulation in tributaries or water level regulation in adjoining water bo	ody, or control structure at water entry points that regulates inflow to the	wetland		
snow storage areas that drain directly to the wetland				
increased pavement and other impervious surface in the CA				
straightening, ditching, dredging, and/or lining of tributary channels in the	CA			
If any items were checked above, then for each row of the table below, you			part of the AA, then leave the "0's" for the scores in the	
following rows. To estimate effects, contrast the current condition with the c	condition if the checked items never occurred or were no longer preser	nt.		
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent within the wetland of timing shift	>95% of wetland	5-95% of wetland	<5% of wetland	0
When most of the timing shift began	<3 yrs ago	3-9 yrs ago	10-100 yrs ago	0
Score the following 2 rows only if the altered inputs began within past 10 y	rears, and only for the part of the wetland that experiences those.			
Input timing now vs. previously	shift of weeks	shift of days	shift of hours or minutes	0
Flashiness or muting	became very flashy or controlled	intermediate	became mildly flashy or controlled	(
•	· · ·		Sum=	C
			Final Score=	0.0
Accelerated Inputs of Contaminants and/or Salt	ds .			
In the last column, place a check mark next to any item occurring in either	or the wetland or its CA that is likely to have accelerated the inputs of	contaminants or salts to the AA. IFA. NRv. PRv1		
stormwater or wastewater effluent (including failing septic systems), landfi		and a second program, and		
metals & chemical wastes from mining, shooting ranges, snow storage an		/		)
<u> </u>	eas, oil/ gas extraction, other sources (see: http://map.dec.state.ak.us/	apps/)		-
oil or chemical spills (not just chronic inputs) from nearby roads				
spraying of pesticides, as applied to lawns, croplands, roadsides, or other	r areas in the CA			
If any items were checked above, then for each row of the table below, you			contaminants and/or salts, then leave the "0's" for the	
scores in the following rows. To estimate effects, contrast the current condi	lition with the condition if the checked items never occurred or were no	longer present.		
		Medium (2 points)	Mild (1 point)	
	Severe (3 points)	(= p*******)		
Usual toxicity of most toxic contaminants		active mine, mid-sized town, cropland	mildly impacting (reclaimed minie, low density residential)	2
Usual toxicity of most toxic contaminants	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland		
Usual toxicity of most toxic contaminants Frequency & duration of input		, , ,	mildly impacting (reclaimed minie, low density residential)  infrequent & during high runoff events mainly	
	industrial effluent or 303d* for toxics	active mine, mid-sized town, cropland		2
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly	2 2 2 6
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA	2
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	2 2
Frequency & duration of input	industrial effluent or 303d* for toxics frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA Sum=	2 2
Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 2 2 6 0.0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfi	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	2 2 2 6 0.0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands	industrial effluent or 303d* for toxics frequent and year-round 0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 2 2 2 3 4 0.4
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfi fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	2 2 2 2 3 4 0.4
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, t	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.0
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  imay assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater	infrequent & during high runoff events mainly in other part of the CA Sum= Final Score=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked loading	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checking the condition of the checking of the condition of the checking the	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of ills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checking the condition of the checking of of the check	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked loading  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of ills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked loading  Type of loading  Frequency & duration of input	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of ills  may assign points. However, if you believe the checked items did not ked items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked lands.  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  imay assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition if the checked above, the condition with the condition in the checked above, the condition with the condition in the checked above, the condition with the condition in the checked above, the condition with the condition in the checked above, the condition with the condition in the checked above, the checked above, the condition in the checked above, the chec	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  imay assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland  frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment polart  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landfifertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked lands.  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  imay assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland  frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment polart  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition of the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition if the checked above, the current condition with the condition in the current condition with the condition in the current condition with the current condition in the current condition with the curr	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland  frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment polart  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the chec.  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing In the last column, place a check mark next to any item present in the CA the	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland  frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment polart  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the chec.  Type of loading  Frequency & duration of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing In the last column, place a check mark next to any item present in the CA the erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clean	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keed items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft	active mine, mid-sized town, cropland  frequent but mostly seasonal  50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points)  moderate density septic, cropland, secondary wastewater treatment polart  frequent but mostly seasonal  50-300 ft or in groundwater	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=	0.
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Frequency & duration of input  AA proximity to main sources (actual or potential)  Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked approach to the condition of the condition of the checked approach to the condition of input  AA proximity to main sources (actual or potential)  Excessive Sediment Loading from Contributing In the last column, place a check mark next to any item present in the CA the erosion from plowed fields, fill, timber harvest, dirt roads, vegetation clear erosion from construction, in-channel machinery in the CA erosion from off-road vehicles in the CA erosion from livestock or foot traffic in the CA stormwater or wastewater effluent sediment from road sanding, gravel mining, other mining, oil/ gas extractic accelerated channel downcutting or headcutting of tributaries due to alternother human-related disturbances within the CA	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keel items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  I Area  hat is likely to have elevated the load of waterborne or windborne sedin ing, fires  on ed land use	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  enert reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landiffertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  if any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked applied to the condition of the table below, you estimate effects, contrast the current condition with the condition if the checked applied to the condition of the condition of the checked applied to the condition of the con	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  may assign points. However, if you believe the checked items did not keel items never occurred or were no longer present.  Severe (3 points)  high density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  I Area  hat is likely to have elevated the load of waterborne or windborne sedin ing, fires  on ed land use	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  cumulatively expose the AA to significantly more nutrients, to Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  enert reaching the wetland from its CA. [FA, INV, SRv]	infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=  then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum=  Final Score=	2 2 2 2 2 2 2 6 6
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Accelerated Inputs of Nutrients  In the last column, place a check mark next to any item occurring in either stormwater or wastewater effluent (including failing septic systems), landif fertilizers applied to lawns, ag lands, or other areas in the CA livestock, dogs  artificial drainage of upslope lands  If any items were checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked above, then for each row of the table below, you estimate effects, contrast the current condition with the condition if the checked approach in the condition of the checked approach in the condition of the condition of the checked approach in the condition of the condition	industrial effluent or 303d* for toxics  frequent and year-round  0-50 ft  or the wetland or its CA that is likely to have accelerated the inputs of fills  fills  fills  fills  frequent and year-round  or its CA that is likely to have accelerated the inputs of fills  fills  frequent and year-round  ing density of unmaintained septic, some types of industrial sources  frequent and year-round  0-50 ft  frequent and year-round  oned land use  frequent and year-round in the last column. Severe (3 points)	active mine, mid-sized town, cropland frequent but mostly seasonal 50-300 ft or in groundwater  nutrients to the wetland.  mutrients to the wetland.  Medium (2 points) moderate density septic, cropland, secondary wastewater treatment plant frequent but mostly seasonal 50-300 ft or in groundwater  nent reaching the wetland from its CA. [FA, INV, SRv]  However, if you believe the checked items did not cumulative diems never occurred or were no longer present.  Medium (2 points) potentially (based on high-intensity* land use) or scattered	infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Then leave the "0's" for the scores in the following rows. To  Mild (1 point)  livestock, pets, low density residential infrequent & during high runoff events mainly in other part of the CA  Sum= Final Score=  Final Score=	2 2 2 6 6 0.8 x x

AA proximity to actual or potential sources	0-50 ft, or farther but on steep erodible slopes	50-300 ft	in other part of the CA	0
* high-intensity= extensive off-road vehicle use, plowing, grading, excar sediment	vation, erosion with or without veg removal; low-intensity= veg removal o	nly with little or no apparent erosion or disturbance of soil or	Sum=	0
			Final Score=	0.0
Soil or Sediment Alteration Within the Assess	sment Area			
In the last column, place a check mark next to any item present in the w is less). [CS, INV, NR, PH]	retland that is likely to have compacted, eroded, or otherwise altered the w	vetland's soil. Consider only items occurring within past 100	rears or since wetland was created or restored (whichever	
compaction from machinery, off-road vehicles, or mountain bikes, esp	pecially during wetter periods			
leveling or other grading not to the natural contour				
tillage, plowing (but excluding disking for enhancement of native plant	s)			
fill or riprap, excluding small amounts of upland soils containing organ	ic amendments (compost, etc.) or small amounts of topsoil imported from	another wetland		
excavation				
ditch cleaning or dredging in or adjacent to the wetland				
boat traffic in or adjacent to the wetland and sufficient to cause shore	erosion or stir bottom sediments			
artificial water level or flow manipulations sufficient to cause erosion o	r stir bottom sediments			
If any items were checked above, then for each row of the table below, estimate effects, contrast the current condition with the condition if the c	you may assign points. However, if you believe the checked items did no checked items never occurred or were no longer present.	t measurably alter the soil structure and/or topography, then	eave the "0's" for the scores in the following rows. To	
	Severe (3 points)	Medium (2 points)	Mild (1 point)	
Spatial extent of altered soil	>95% of wetland or >95% of its upland edge (if any)	5-95% of wetland or 5-95% of its upland edge (if any)	<5% of wetland and <5% of its upland edge (if any)	0
Recentness of significant soil alteration in wetland	current & ongoing	1-12 months ago	>1 yr ago	0
Duration	long-lasting, minimal veg recovery	long-lasting but mostly revegetated	short-term, revegetated, not intense	0
Timing of soil alteration	frequent and year-round	frequent but mostly seasonal	infrequent & mainly during scattered events	0
			Sum=	0
			Final Score=	0.0