Draft Environmental Overview Report

Dillingham Airport
Master Plan Update

Project No. CFAPT00353/ AIP 3-02-0078-017-2018

Prepared for:

Alaska Department of Transportation & Public Facilities
4111 Aviation Avenue
Anchorage, Alaska 99502

Prepared by:

R&M Consultants, Inc.
9101 Vanguard Drive
Anchorage AK, 99507

September 2021

The preparation of this document is supported in part with financial assistance through the Airport Improvement Program from the Federal Aviation Administration (AIP Grant Number 3-02-0078-017-2018) as provided under Title 49 USC § 47104. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with the appropriate public laws.

Contents

Introduction 1
Environmental Setting 1
Air Quality 1
Aquatic Conditions 2
Terrestrial Conditions 11
Cultural Considerations 15
Land Use Conditions 16
Bibliography 17

List of Figures

Figure 1: Anadromous Streams: Squaw Creek 2
Figure 2: Anadromous Streams: Nushagak River 3
Figure 3: Floodplain & Regulatory Floodway Map 3
Figure 4: Navigable Waters Map 5
Figure 5: DLG Well Locations 6
Figure 6: Alaska DEC Drinking Water & Nitrates in Groundwater 7
Figure 7: ADEC Drinking Water Protection Area Mapper 8
Figure 8: National Wetlands Inventory Map 9
Figure 9: DLG Contaminated Areas Map 12

List of Tables

Table 1: Figure 7 Legend 8
Table 2: Wetland & Riparian Classification Codes at DLG 10
Table 3: Wetland & Riparian Classification Code Description 10
Table 4: DLG Contaminated Sites & Status 12
Table 5: DLG Recorded Spills 13

Introduction

The following report provides an overview of environmental conditions at Dillingham Airport (DLG), potential environmental impacts of airport development alternatives, and probable permitting requirements. This environmental overview report supports the Dillingham Airport Master Plan (AMP) update, and much of the content will be incorporated into the AMP's existing conditions and alternatives analysis sections, per FAA guidance (AC 150/5070-6B *Airport Master Plans*).

Environmental Setting

The Dillingham area consists of outwash plains, low moraines, a few choppy moraine hills, and many muskegs, lakes, and streams. Forests primarily contain either white spruce and paper birch or black spruce and have well-drained soils without permafrost.

The soil consists of silty volcanic ash over gravelly glacial drift. Depressions often contain sedges and mosses, and typically have very poorly drained fibrous organic soils with permafrost. Swales in terraces and moraines contain poorly drained, silty soils with permafrost.

Much of the unconstructed area at DLG is wetlands, described below. Beneath large areas of peat is mottled gray silt loam. The vegetation associated with this soil is primarily tussocks, mosses, low shrubs, and scattered patches of black spruce (2005 Dillingham Airport Master Plan, P.43).

The following resource categories were considered for the airport property and nearby surrounding parcels. The current conditions of these categories are described based on available public data and documents.

Air Quality

Air quality is not monitored in the City of Dillingham or the immediate surrounding area. Airnow.gov provides current and historical air quality data in locations with air quality monitoring devices; however, the Dillingham area is not included.[1] DLG is not in a non-attainment or maintenance area for air quality.

Note that common air quality issues in rural communities are from dust (PM_{10}) due to the number of unpaved roads and driveways, and wood smoke ($PM_{2.5}$) from home heating. PM_{10} pollution from dust primarily occurs after the snow has melted.

[1] "Current Air Quality," AirNow, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, National Park Service, NASA, Centers for Disease Control and Prevention, accessed September 18, 2020, https://www.airnow.gov/state/?name=alaska.

Aquatic Conditions

Anadromous/Resident Fish Streams

Squaw Creek runs southwest of DLG and is an anadromous stream supporting chinook, chum, coho, pink, and sockeye salmon, and rainbow smelt[2] (Figure 1).

Figure 1: Anadromous Streams: Squaw Creek[3]

The Nushagak River runs south of DLG and is an anadromous stream supporting chinook, chum, coho, pink, and sockeye salmon, Arctic char, and whitefish[4] (Figure 2).

[2] "Alaska Fish Resource Monitor," Anadromous Waters Catalogue, State of Alaska Department of Fish and Game, accessed September 18, 2020, https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive.
[3] Source: Alaska Fish Resource Monitor; State of Alaska Department of Fish and Game.
[4] "Dillingham A-7," Anadromous Waters Atlas, State of Alaska Department of Fish and Game, accessed September 18, 2020, http://www.adfg.alaska.gov/AnadromousPDFs/regulatory_web/SWT/DILA7.pdf.

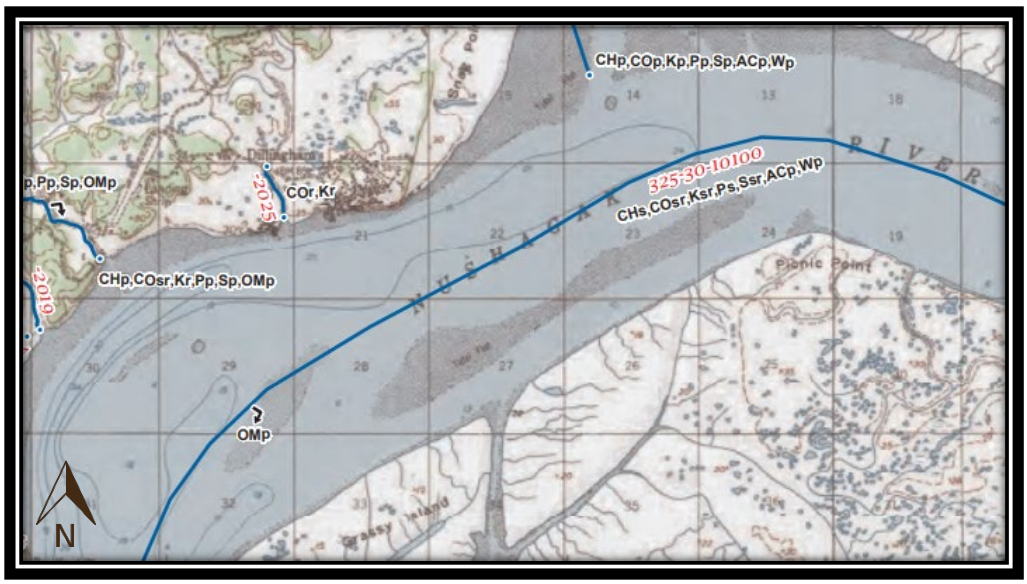

Figure 2: Anadromous Streams: Nushagak River[5]

Floodplain and Regulatory Floodway [EO 11988]: The FEMA Flood Map Service Center was consulted for floodplain data; however, no digital data is available for the two flood maps containing DLG (0200410016B & 0200410017B)[6]. The U.S. Army Corps of Engineers Floodplain Mapping did not show the presence of a floodplain near the project area[7] (Figure 3).

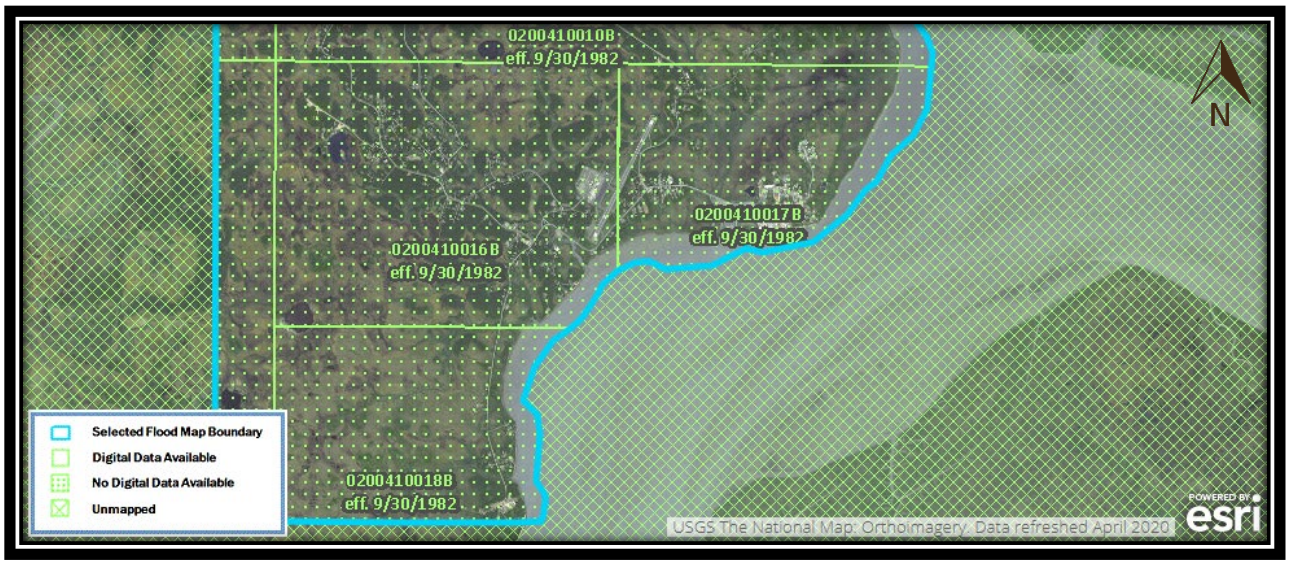

Figure 3: Floodplain & Regulatory Floodway Map[8]

[5] Source: Anadromous Waters Atlas, State of Alaska Department of Fish and Game.
[6] "City of Dillingham," FEMA Flood Map Service Center, FEMA, accessed September 18, 2020, https://msc.fema.gov/portal/search?AddressQuery=dillingham%2C%20ak#searchresultsanchor.
[7] "Community Floodplain and Erosion Data," U.S. Army Corps of Engineers, accessed September 18, 2020, http://corpsmapu.usace.army.mil/cm_apex/cm2.cm2.map?map=POA.
[8] Source: FEMA Flood Map Service Center.

Habitat-Endangered/Threatened Aquatic Species:
Regarding aquatic species, the Alaska Department of Fish & Game's Federal Special Status Species lists humpback and right whales as endangered in the Dillingham area.[9] The U.S. Fish & Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) did not indicate the presence of threatened or endangered aquatic species or critical habitat around Dillingham.[10]

The National Marine Fisheries Service (NMFS) lists the blue whale, fin whale, and gray whale, Northern Pacific right whale, Sei whale as endangered within a range that includes the area around Dillingham. Ringed seals are threatened within the range including the area around Dillingham.[11]

Eastern North Pacific blue whales are noted to feed around the Gulf of Alaska and the central North Pacific waters during the summer, although to a lesser extent than the U.S. West Coast.[12]

Fin whales may be found year-round in the area surrounding Dillingham but typically migrate to Arctic and Antarctic feeding areas during the summer. Note that fin whales travel in the open seas, not near the coast.[13]

Gray whales are primarily found in shallow coastal waters in the North Pacific Ocean. If they are found near Dillingham, it would most likely occur during the summer months.[14]

Northern Pacific right whales' migration patterns are unknown, but it is thought that they feed in the far north subarctic waters during the summer and migrate south during the winters, including the western Pacific coastal areas.[15]

Sei whales have a wide range that includes the waters around Dillingham; however, they are typically observed further from coastlines in deeper waters.[16]

Ringed seals are threatened in the southern range around Dillingham. They are more likely found near Dillingham in the winter months, traveling further north in the summer.[17]

Terrestrial and avian threatened and endangered species are discussed in a later section.

---

[9] "State of Alaska Endangered Species," State of Alaska Special Status Species, Alaska Department of Fish and Game, accessed September 18, 2020, https://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akendangered.
[10] "USFWS Threatened & Endangered Species Active Critical Habitat Report," Environmental Conservation Online System (ECOS), U.S. Fish & Wildlife Service, accessed September 18, 2020, https://ecos.fws.gov/ecp/report/table/critical-habitat.html.
[11] "Species Directory," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species-directory/marine-mammals?species_category=any&species_status=esa_endangered&regions=1000001106&items_per_page=25&sort=.
[12] "Blue Whale," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/blue-whale.
[13] "Fin Whale," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/fin-whale.
[14] "Gray Whale," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/gray-whale.
[15] "North Pacific Right Whale," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/north-pacific-right-whale.
[16] "Sei Whale," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/sei-whale.
[17] "Ringed Seal," NOAA Fisheries, Accessed May 10, 2021, https://www.fisheries.noaa.gov/species/ringed-seal.

Navigable Waters:
Based on a review of data from the United States Coast Guard,[18] US Army Corps of Engineers,[19] and Alaska Department of Natural Resources,[20] DLG is located near the confluence of two navigable waters. The Nushagak River is navigable from the Village of Koliganek to its confluence with the Wood River and enters into Nushagak Bay. The Wood River is navigable from it's headwaters at Lake Aleknagik and also enters into Nushagak Bay (Figure 4).

Figure 4: Navigable Waters Map[21]

Water Quality:
While the City of Dillingham has a community water system that draws groundwater, DLG is not connected to this system. Subsurface water rights and one 100-foot drilled well are noted on DLG property, with USDI Fish and Wildlife Services listed as the customer.[22] Alaska DNR's Well Log Tracking

[18] "Navigable Waters of the United States Within the Seventeenth Coast Guard District," United States Coast Guard, March 2012, accessed September 18, 2020, https://www.pacificarea.uscg.mil/Portals/8/District%2017/Sector%20Anchorage/PREVENTION/WWM/D17_ListofNavigableWaters_MAR2012.pdf?ver=2018-01-15-231606-937.
[19] "Navigable Waters of Alaska," US Army Corps of Engineers, Accessed April 28, 2021, https://www.poa.usace.army.mil/Missions/Regulatory/Recognizing-Wetlands/Navigable-Waters/.
[20] "Navigable Waters Map," Alaska Department of Natural Resources Division of Mining, Land and Water, accessed September 18, 2020, http://dnr.alaska.gov/mlw/nav/map/.
[21] Source: Alaska DNR, Division of Mining, Land and Water.
[22] "Alaska Mapper," State of Alaska Department of Natural Resources, Accessed April 20, 2021, https://mapper.dnr.alaska.gov/map#map=4/-16632245.12/8816587.34/0.

System also notes one 60-foot well with Southwest Air listed as the customer and one 80-foot well with Yute listed as the customer (Figure 5).[23]

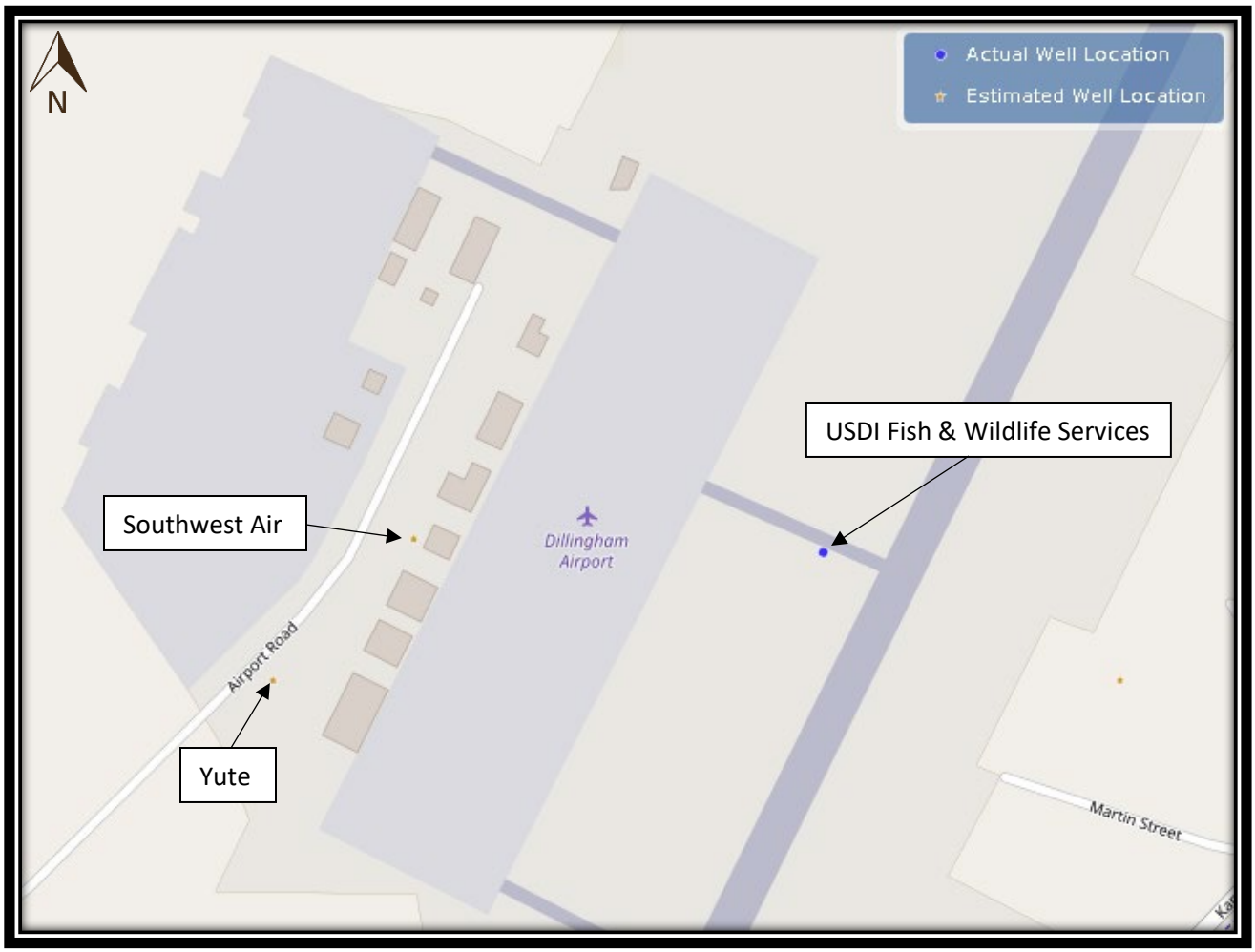

Figure 5: DLG Well Locations

No impaired streams or beaches are reported near DLG;[24,25,26] however, perfluoroalkyl and poly-fluoroalkyl substances (PFAS) are monitored at DLG. The maximum nitrate concentration shown at DLG and the surrounding area was low, at 0.62 milligrams per liter (Figure 6).[27]

[23] "Well Log Tracking System (WELTS)," Alaska Department of Natural Resources, Division of Mining Land & Water, Accessed April 30, 2021, https://dnr.alaska.gov/welts/#show-welts-intro-template.
[24] "Alaska 303(d) Listed Waters for Reporting Year 2010," United States Environmental Protection Agency, Accessed May 10, 2021, https://ofmpub.epa.gov/waters10/attains_impaired_waters.impaired_waters_list?p_state=AK&p_cycle=2010.
[25] "Alaska DEC Water Quality Map," Alaska Department of Environmental Conservation, accessed April 30, 2021, https://www.arcgis.com/apps/mapviewer/index.html?webmap=f7e8ca8c14fe4520b9e2e1498e3cdee3.
[26] "2018 Alaska DEC Impaired Waters," Alaska Department of Environmental Conservation, accessed April 30, 2021, https://www.arcgis.com/apps/mapviewer/index.html?webmap=5987f5c7a33846b19b9097dddcf8332a.
[27] "Alaska DEC Drinking Water & Nitrates in Groundwater," Alaska Department of Environmental Conservation, Accessed April 30, 2021, https://www.arcgis.com/home/item.html?id=501a631ddf804a5095499b7b775d3bad.

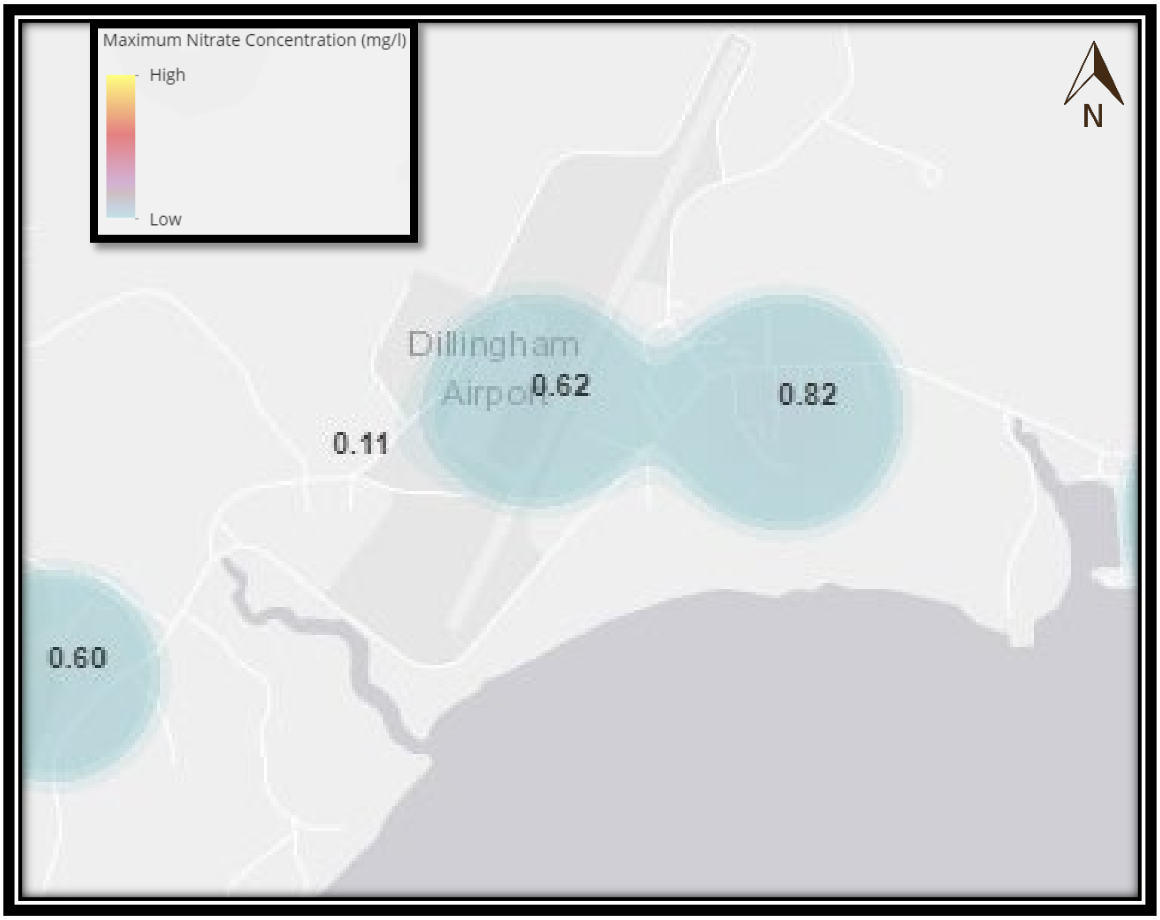

Figure 6: Alaska DEC Drinking Water & Nitrates in Groundwater

Several drinking water protection area (DWPA) zones originating from wells outside of DLG property are shown overlapping DLG property (Figure 7 and Table 1).[28] The wells with DPWAs overlapping DLG property boundaries are the Windmill Grille Water System (AK2262571), Salmon Roe Water System (AK2261460), and Dillingham Courthouse Water System (AK2263071). Spills and other sources of pollutants originating at DLG could affect water quality within these protection areas.

[28] "Drinking Water Source Protection Areas," Alaska Department of Environmental Conservation, Accessed April 30, 2021, https://dec.alaska.gov/eh/dw/dwp/protection-areas-map/.

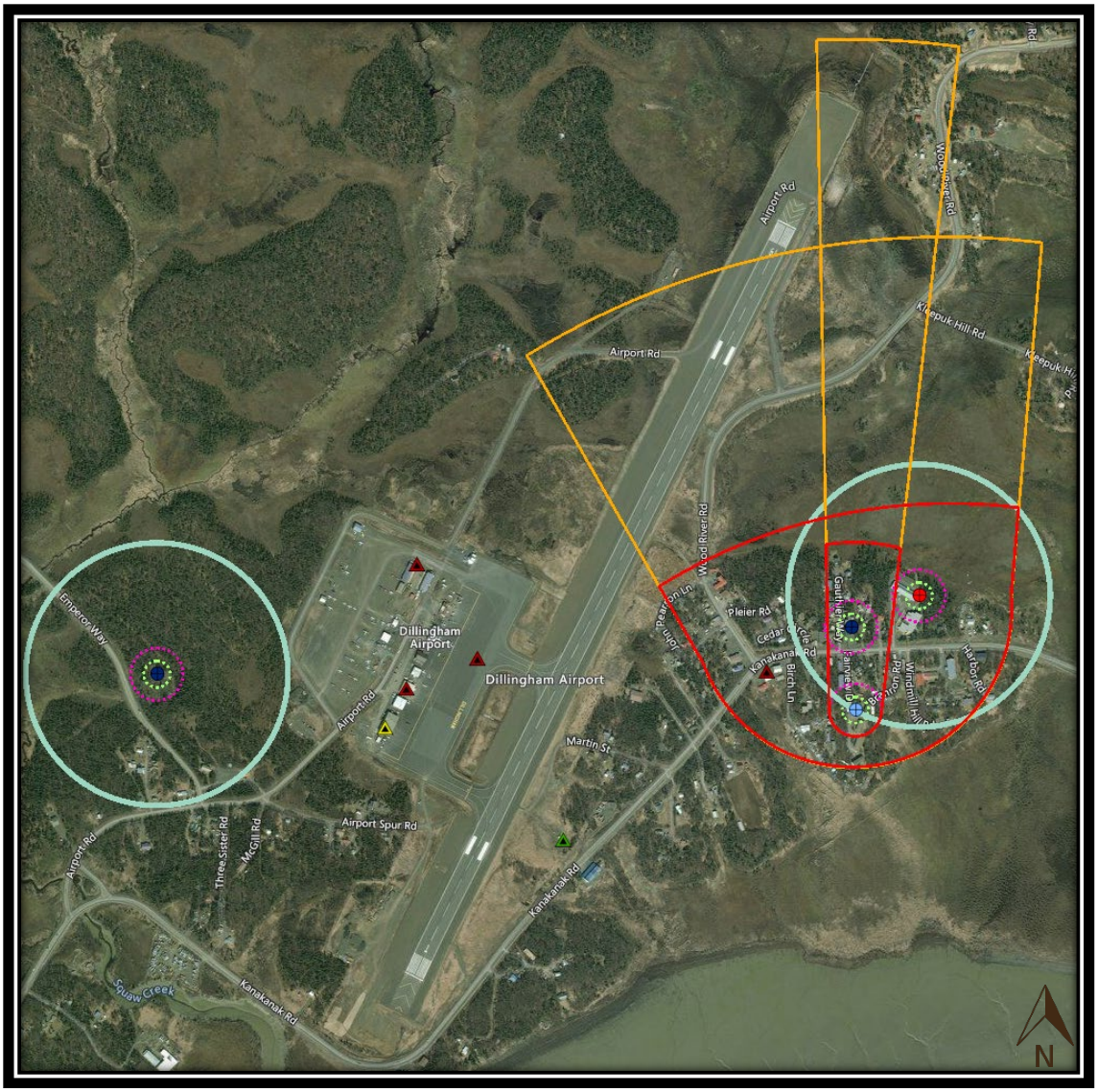

Figure 7: ADEC Drinking Water Protection Area Mapper

Table 1: Figure 7 Legend

Map Object	Notes	Symbol
Community Water System	N/A	
Non-Transient Non-Community Water System	N/A	
Non-Community Water System	N/A	
Zone A	Groundwater: Several months' time-of-travel; or immediate watershed	
Zone B	Groundwater: 2 years' time-of-travel; adjacent watershed	
Provisional	Temporary Drinking Water Protection Area in place until full delineation can be completed. 1,000-foot radius around public water system source.	

Public Water System Separation Distance 200 ft.	N/A	
Public Water System Separation Distance 100 ft.	N/A	

Wetlands:
The USFWS National Wetlands Inventory indicates the presence of extensive wetlands at DLG and the surrounding area[29]. These could affect the ability to construct new improvements, such as a runway safety area improvement, parallel taxiway, or apron extensions. As an example, there would be additional permitting requirements and higher construction costs. Figure 8 shows the wetland habitats present on and surrounding DLG property. Table 2 provides the range of relevant wetland/riparian classification codes found at DLG. The letters in each classification code explain the particular wetland area's system, class(es), and water regime. Table 3 includes a description of each of these elements of the classification codes.

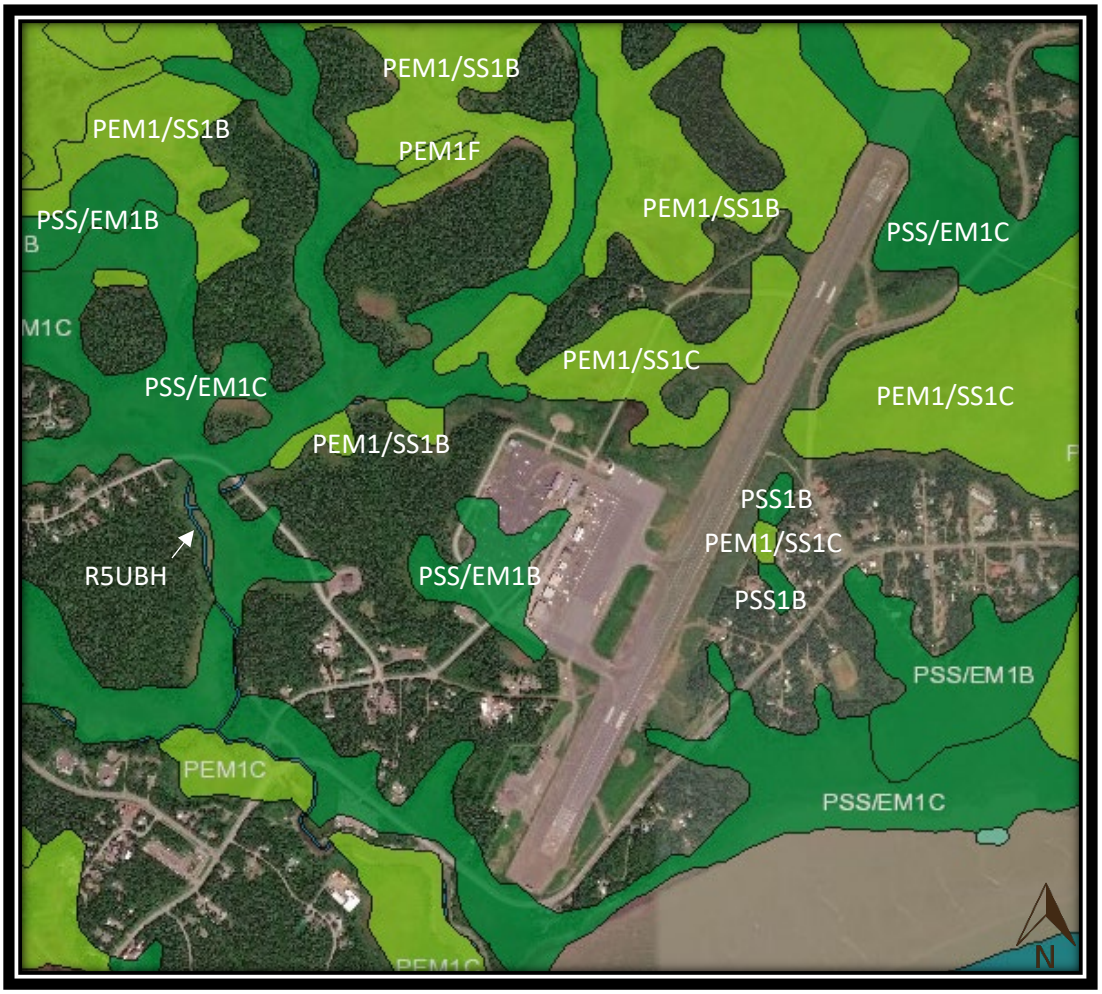

Figure 8: National Wetlands Inventory Map.[30]

[29] "National Wetlands Inventory," U.S. Fish & Wildlife Service, accessed September 18, 2020, https://www.fws.gov/wetlands/data/Mapper.html.
[30] Source: U.S. Fish & Wildlife Service.

Table 2: Wetland & Riparian Classification Codes at DLG

Wetland/Riparian Type	Classification Code
Freshwater Forested/Shrub Wetland	PSS/EM1B
	PSS/EM1C
	PSS1B
	PFO4B
Freshwater Emergent Wetland	PEM1/SS1B
	PEM1/SS1C
	PEM1F
Riverine	R5UBH

Table 3: Wetland & Riparian Classification Code Description

Category	Class Symbol	Class Name	Description
System	P	Palustrine	Includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt.
	R	Riverine	Includes all wetlands and deep-water habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater.
Subsystem	5	Unknown Perennial	Used when the distinction between lower perennial, upper perennial, and tidal cannot be made from aerial photography and no data is available.
Class/ Split Class	E	Emergent	Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
	FO	Forested	Characterized by woody vegetation that is 6 m tall or taller.
	SS	Scrub Shrub	Includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions.
	UB	Unconsolidated Bottom	Includes all wetlands and deep-water habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm) and a vegetative cover less than 30%.
Sub Class/ Split Sub Class	1	Broad-Leaved Deciduous	Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash.
Water Regime	B	Seasonally Saturated	Saturated at or near the surface for extended periods during the growing season, but unsaturated conditions prevail by the end of the season in most years. Surface

			water is typically absent, but may occur for a few days after heavy rain and upland runoff.
	C	Seasonally Flooded	Surface water is present for extended periods, especially early in the growing season but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
	F	Semi-permanently Flooded	Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.
	H	Permanently Flooded	Water covers the substrate throughout the year in all years.

Terrestrial Conditions

Contaminated Areas:
The Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Database shows contaminated sites on DLG property[31] (Table 4 and Figure 9).

The contaminated site near the maintenance facility included two diesel spills estimated between 20 and 50 gallons in 2013. Approximately five cubic yards of visibly saturated soil was temporarily stored in 50-gallon drums. Later excavation revealed that contamination reached nine feet below the ground surface. Two baseline soil samples were collected, but neither sample exhibited contaminant concentrations that exceeded ADEC cleanup criteria.[32]

The Statewide PFAS site reported that ADEC collected ten drinking water well samples at and adjacent to DLG and detected perfluoroalkyl and poly-fluoroalkyl substances (PFAS). Perooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), and perfluorobutane sulfonate (PFBS) were detected in groundwater at the Holy Rosary Church public water system (AK2263018) at a combined concentration of 185.5 ng/L, but the other sites did not indicate concentrations above DEC action levels. The report assumes that the source of the contamination is "the historical use of Aqueous Film Forming Foam (AFFF) at various locations" at DLG.[33]

The PenAir Hangar contaminated site refers to a 1,200-gallon AvGas spill on December 3, 1992. The fuel entered the floor drain connecting to an open-ended pipe terminating in the gravel pad west of the hangar. An unused, on-site well with a static water level of 27 feet was sampled and did not contain petroleum contaminants above the mandatory cleanup levels (MCLs).[34]

[31] "Alaska DEC Contaminated Sites," Alaska Department of Environmental Contamination, accessed September 18, 2020, https://dec.alaska.gov/spar/csp/.
[32] "Site Report: DOT&PF Dillingham Airport Maintenance Facility," Alaska Department of Environmental Contamination, accessed May 3, 2021n, https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/26218.
[33] "Site Report: DOT&PF Dillingham Airport Sitewide PFAS," Alaska Department of Environmental Contamination, accessed May 3, 2021, https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/26971.
[34] "Site Report: PenAir Hangar – Dillingham," Alaska Department of Environmental Contamination, accessed May 3, 2021, https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1573.

The Yute Air site report indicated that a 2,000-gallon AvGas spill occurred. Approximately 1,000 gallons were recovered. Site cleanup has been completed, but groundwater contamination occurred, and contaminated soils remain.[35]

Table 4: DLG Contaminated Sites & Status

Site Name	Site Status	Symbol
DOT&PF Dillingham Airport Maintenance Facility	Active	
DOT&PF Dillingham Airport Sitewide PFAS	Active	
PenAir Hangar - Dillingham	Active	
Yute Air Terminal Dillingham	Cleanup Complete – Institutional Controls	

Figure 9: DLG Contaminated Areas Map[36]

[35] "Site Report: Yute Air Terminal Dillingham," Alaska Department of Environmental Contamination, accessed May 3, 2021, https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1889.
[36] Source: ADEC Contaminated Sites database.

The ADEC Division of Spill Prevention and Response's PPR SPILLS Database[37] lists recorded spills at DLG. Recent spills and their status are shown in the following table.

Table 5: DLG Recorded Spills

Spill Number	Spill Name	Spill Date	Facility Name	Status
19269918602	Dillingham Airstrip 5gal aviation gas	7/5/19	DLG on Tarmac	Case Closed, No Further Action
19269902801	Bristol Alliance Fuels 5-10gal LL Aviation Fuel	1/28/19	DLG	Case Closed, No Further Action
17269902801	16gal hydraulic spill DOT Dillingham Airport	1/28/17	DLG on Tarmac	Case Closed, No Further Action

Terrestrial and Avian Habitat-Endangered/Threatened Species:
The USFWS ECOS lists threatened and endangered species believed or known to occur in the Bristol Bay Borough and provides range maps.[38] Species with ranges including the Dillingham area are the Steller's eider, short-tailed albatross, and Kittlitz's Murrelet (a small seabird of Alaskan waters).

The Steller's eider status is threatened; however, the Dillingham area is not included in the critical habitat area. Most Steller's eiders breed inland, nesting in northeastern Siberia, and most migrate to the Alaska Peninsula and Aleutian Islands during the winter and are found in coastal marine waters.

The short-tailed albatross status is endangered. Critical habitat documentation is not available. Typically, the short-tailed albatross is found near islands and mainland coastlines. Breeding does not occur near Dillingham.

Invasive Species [EO 13751]:
The University of Alaska Anchorage Exotic Plants Information Clearinghouse Invasive Plants Mapper[39] showed a number of invasive species in the City of Dillingham but none in the vicinity of DLG.

Migratory Birds and Eagle Nests:
A query of the USFWS Information, Planning, and Conservation System (IPaC) was performed on September 21, 2020. Bald eagles are noted as a bird of concern in Dillingham.[40] They are not endangered but are protected by the Bald and Golden Eagle Protection Act and state regulations. Prior to construction, the DOT&PF may conduct a survey of the project area to determine if active eagle nests are found within the primary (330 feet) or secondary (660 feet) protection zones as stated in the Bald

[37] "PPR Spills Database Search," Alaska Department of Environmental Conservation, Division of Spill Prevention and Response, accessed September 18, 2020, https://dec.alaska.gov/Applications/SPAR/PublicMVC/PERP/SpillSearch.
[38] "Listed species believed or known to occur in Dillingham, Alaska," Environmental Conservation Online System (ECOS), U.S. Fish & Wildlife Service, accessed September 18, 2020, https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=02070.
[39] "AKEPIC Data Portal," Alaska Center for Conservation Science, University of Alaska Anchorage, accessed September 21, 2020, https://aknhp.uaa.alaska.edu/apps/akepic/#map?lg=f37ef462-d080-11e3-a36b-00219bfe5678&z=14&ll=59.04332%2C-158.49535.
[40] "Migratory Birds," Information for Planning and Consultation, U.S. Fish and Wildlife Service, accessed September 21, 2020, https://ecos.fws.gov/ipac/location/TIDJH5WLGNE4XAVEJP5KZ5A6JM/resources#migratory-birds.

Eagle Management Guidelines (2007). Clearing activities should be avoided between March 1 and August 31[41] at DLG as recommended by the USFWS.

Construction should be planned to minimize the impact on migratory birds. Land disturbance and vegetation clearing in any forested, woodland, shrub, and all open areas should be avoided between May 1 and July 15. The window for seabird colonies is May 10 to September 15. FWS supplements this by noting that raptors may nest two or more months earlier than other birds, Canada geese and swans begin nesting on April 20, and black scoter may nest through August 10.[42]

Material and Disposal Sites:
A Storm Water Pollution Prevention Plan (SWPP) must be implemented for the use materials and disposal of overburden generated construction. Appropriate permits and approvals are required prior to project construction. For projects conducted by a contractor, the contractors will be responsible for the supply of materials and disposal of overburden generated during construction and to meet the same requirements as DOT&PF. The contractor will also provide copies of the SWPP, permits, and authorizations to the DOT&PF Project Engineer before development to ensure compliance.

Waste Disposal:

Facility trash is emptied when full into on-site dumpsters. The dumpsters are serviced weekly by Dillingham Waste Management. Oil pads used to clean oil spills are either burned or thrown in the trash, once dry.

Used batteries and light bulbs are stored inside within labeled plastic containers and disposed of at the local landfill once per year. Used battery containers are labeled with an accumulation start date. State Equipment Fleet (SEF) staff remove and replace all vehicle and equipment batteries, recycling them if possible.

Used aerosol cans were determined by the United States Environmental Protection Agency (EPA) to be a universal waste as of December 2020. Per EPA, empty cans can no longer be punctured and recycled or thrown away unless each facility has a special puncturing container with an air filter that can contain all the residue, which DLG does not have. Since DLG is a Very Small Quantity Generator under the Resource Conservation and Recovery Act (RCRA), its empty aerosol cans can be treated as household hazardous waste instead. As such, they are stored in a labeled container (no accumulation start date required) and are taken to the local landfill once per year, when the landfill accepts household hazardous waste.

Solvents are not stored at DLG. There is a separate SEF facility that does all the vehicle maintenance and has a solvent tank for cleaning tools and parts.

Human waste facilities are connected to the sewer line at DLG, which is part of the City of Dillingham domestic wastewater sewer system. Wastewater in the ARFF/SREF building, warm storage building, and chemical storage building passes through oil-water separators. The oil-water separators are cleaned out

[41] "Nesting Birds: Timing Recommendations to Avoid Land Disturbance & Vegetation Clearing," Alaska Region, U.S. Fish & Wildlife Service, Accessed September, https://www.fws.gov/alaska/pages/nesting-birds-timing-recommendations-avoid-land-disturbance-vegetation-clearing.
[42] Ibid.

annually, and waste is taken to an approved disposal facility. Water from the oil-water separators is connected to the City of Dillingham domestic waste water sewer system. Sewage and wastewater are treated at the Dillingham Wastewater Treatment System.

For used oil, the SEF facility conducts all vehicle maintenance and burns all used oil in their used oil burner.

For leftover road and airfield paint, DOT&PF had a contract with their paint manufacturer which stipulated that leftover paint totes could be returned at the end of the year for reuse; however, the waterborne paint currently used is stored in plastic disposable totes that the manufacturer does not take back. These totes are dried out once empty then crushed and disposed of at the landfill.

Cultural Considerations

Cultural, Historic, and Archaeological Resources:
The Office of History and Archaeology's Alaska Heritage Resources Survey (AHRS)[43] database was reviewed for known cultural, historic, or archaeological resources within the vicinity of the project area. There were no documented sites in the project area. The National Register of Historic Places lists a Pilgrim 100B Aircraft at DLG[44]; however, this aircraft was acquired by the Alaska Aviation Heritage Museum in 2001 and relocated out of DLG.

According to the 2005 Dillingham Airport Master Plan, the City Cemetery is located east of Runway 1-19 on a knoll above the runway elevation. The cemetery is still in use and encroaches on areas that are supposed to be cleared around the airfield[45]. Project alternatives must address potential impacts to the City Cemetery.

State Refuges, National Wildlife Refuges, and Sanctuaries:
A review of local, State, and federal websites and databases indicated that no recreational facilities, wildlife refuges, critical habitat areas, or sanctuaries are located within or adjacent to the airport project area (U.S. Forest Service[46], USFWS[47], Alaska Department of Natural Resources (ADNR) Division of Parks and Outdoor Recreation[48], National Park Service (NPS)[49], and Alaska Department of Fish and

[43] "Alaska Heritage Resources Survey," Office of History and Archaeology, Alaska Department of Natural Resources, accessed September 21, 2020, http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm.
[44] "National Register of Historic Places," National Park Service, U.S. Department of the Interior, accessed September 21, 2020, https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466.
[45] Alaska Department of Transportation & Public Facilities, Central Region, *Dillingham Airport Master Plan*, AKSAS Project No. 54742, June 2005.
[46] "The National Forests of Alaska," United States Forest Service, accessed September 21, 2020, https://www.fs.usda.gov/main/r10/maps-pubs.
[47] "Alaska National Wildlife Refuges," Alaska Region, U.S. Fish & Wildlife Service, accessed September 21, 2020, https://www.fws.gov/alaska/pages/national-wildlife-refuges.
[48] "Southwest Region: Wood-TikChik State Park & Lake Aleknagik State Recreation Site," Alaska Department of Natural Resources, Division of Parks & Outdoor Recreation, accessed September 21, 2020, http://dnr.alaska.gov/parks/aspunits/woodtik/wtcindex.htm.
[49] "Alaska," National Park Service, accessed September 21, 2020, https://www.nps.gov/state/ak/index.htm.

Game[50,51,52]). The Togiak National Wildlife Refuge is further west of DLG and would not be impacted by projects.

Land Use Conditions

Environmental Justice and Children's Environmental Health and Safety [EO 12898]:
Recommended airport improvements will need to provide equal benefits to Dillingham residents, regardless of demographic characteristics. Projects at DLG should not have a disproportionate negative effect on minority or disadvantaged populations or affect children's environmental health and safety.

Light Emissions:
Light pollution was not mentioned during public involvement events or interviews. Airfield lighting is the primary source of light spillover beyond the DLG property boundary.

Noise:
Aircraft operations are the primary source of noise at DLG. Short-term increases in noise levels may occur during construction of recommended projects but would be minor and temporary. Public notice of construction projects will be published as required.

Public Involvement:
The Dillingham AMP update includes two public meetings and interviews with community and aviation-specific entities. Public meetings require published notices of intent.

Residential Areas:
DLG is located near the junction of three major roads in the area: Kanakanak Road, Wood River Road, and Aleknagik Lake Road. Kanakanak Road crosses airport property south and southeast of the runway and a portion of Wood River Road enters airport property southeast of the runway, north of Kanakanak Spur. These road corridors contain the majority of the Dillingham area's residential development. The proximity of these roads and the community's historical and continuing development patterns result in the airport property being surrounded by substantial residential development on three sides; the northwest, southwest, and southeast.

Zoning:
The City of Dillingham has limited land use regulatory policies in their current code, and they do not have a municipal zoning program. Proposed improvements relate to airport facilities and are consistent with existing land uses. The 2010 Dillingham Comprehensive Plan was reviewed to ensure compatibility.

[50] "State Game Refuges," Alaska Department of Fish and Game, accessed September 21, 2020, https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.refuges.
[51] "Critical Habitat Areas," Alaska Department of Fish and Game, accessed September 21, 2020, https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.critical.
[52] "State Game Sanctuaries," Alaska Department of Fish and Game, accessed September 21, 2020, https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.sanctuaries.

Bibliography

Alaska Center for Conservation Science, University of Alaska Anchorage. n.d. *Alaska Exotic Plants Information Clearinghouse Data Portal.* Accessed September 21, 2020. https://aknhp.uaa.alaska.edu/apps/akepic/#map?lg=f37ef462-d080-11e3-a36b-00219bfe5678&z=14&ll=59.04332%2C-158.49535.

Alaska Department of Environmental Conservation. n.d. "2018 Alaska DEC Impaired Waters." Accessed April 30, 2021. https://www.arcgis.com/home/item.html?id=5987f5c7a33846b19b9097dddcf8332a.

—. 2020. "Alaska DEC Drinking Water & Nitrates in Groundwater." November 24. Accessed April 30, 2021. https://www.arcgis.com/home/item.html?id=501a631ddf804a5095499b7b775d3bad.

—. n.d. "Alaska DEC Water Quality Map." Accessed April 30, 2021. https://www.arcgis.com/apps/mapviewer/index.html?webmap=f7e8ca8c14fe4520b9e2e1498e3cdee3.

—. n.d. "Drinking Water Source Protection Areas." *Division of Environmental Health Drinking Water Program.* Accessed April 30, 2021. https://dec.alaska.gov/eh/dw/dwp/protection-areas-map/.

—. n.d. "Site Report: ADOT&PF Dillingham Airport Maintenance Facility." Accessed May 3, 2021. https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/26218.

—. n.d. "Site Report: ADOT&PF Dillingham Airport Sitewide PFAS." Accessed May 3, 2021. https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/26971.

—. n.d. "Site Report: PenAir Hangar – Dillingham." Accessed May 3, 2021. https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1573.

—. n.d. "Site Report: Yute Air Terminal Dillingham." Accessed May 3, 2021. https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1889.

Alaska Department of Fish and Game. n.d. *Critical Habitat Areas.* Accessed September 21, 2020. https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.critical.

—. n.d. *State Game Refuges.* Accessed September 21, 2020. https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.refuges.

—. n.d. *State Game Sanctuaries.* Accessed September 21, 2020. https://www.adfg.alaska.gov/index.cfm?adfg=habitatregulations.sanctuaries.

—. n.d. "State of Alaska Endangered Species." *State of Alaska Special Status Species.* Accessed September 18, 2020. https://www.adfg.alaska.gov/index.cfm?adfg=specialstatus.akendangered.

Alaska Department of Natural Resources Division of Mining, Land and Water. n.d. *Navigable Waters Map.* Accessed September 18, 2020. http://dnr.alaska.gov/mlw/nav/map/.

Alaska Department of Natural Resources, Division of Mining Land & Water. n.d. "Well Log Tracking System (WELTS)." Accessed April 30, 2021. https://dnr.alaska.gov/welts/#show-welts-intro-template.

Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation. n.d. *Southwest Region: Wood-Tikchik State Park & Lake Aleknagik State Recreation Site.* Accessed September 21, 2020. http://dnr.alaska.gov/parks/aspunits/woodtik/wtcindex.htm.

Alaska Department of Transportation & Public Facilities, Central Region. 2005. *Dillingham Airport Master Plan (AKSAS Project No. 54742).* Airport Master Plan, Anchorage: Alaska Department of Transportation & Public Facilities, Central Region.

Alaska Region, U.S. Fish & Wildlife Service. n.d. *Alaska National Wildlife Refuges.* Accessed September 21, 2020. https://www.fws.gov/alaska/pages/national-wildlife-refuges.

City of Dillingham. 2010. *City of Dillingham Comprehensive Plan Update & Waterfront Plan.* Comprehensive Plan, Dillingham: City of Dillingham.

FEMA. n.d. *FEMA Flood Map Service Center.* Accessed September 18, 2020. https://msc.fema.gov/portal/search?AddressQuery=dillingham%2C%20ak#searchresultsanchor.

National Atmospheric and Oceanic Administration. n.d. "Gray Whale." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species/gray-whale.

—. n.d. "Ringed Seal." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species/ringed-seal.

National Oceanic and Atmospheric Administration. n.d. "Blue Whales." *National Marine Fisheries Service.* Accessed 10 2021, May. https://www.fisheries.noaa.gov/species/blue-whale.

—. n.d. "Fin Whale." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species/fin-whale.

—. n.d. "North Pacific Right Whale." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species/north-pacific-right-whale.

—. n.d. "Sei Whale." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species/sei-whale.

—. n.d. "Species Directory." *National Marine Fisheries Service.* Accessed May 10, 2021. https://www.fisheries.noaa.gov/species-directory/marine-mammals?species_category=any&species_status=esa_endangered&regions=1000001106&items_per_page=25&sort=.

National Park Service. n.d. *Alaska.* Accessed September 21, 2020. https://www.nps.gov/state/ak/index.htm.

National Park Service, U.S. Department of the Interior. 2020. *National Register of Historic Places.* Accessed September 21, 2020. https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466.

State of Alaska Department of Fish and Game. n.d. *Alaska Fish Resource Monitor.* Accessed September 18, 2020. https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive.

—. 2015. "Dillingham A-7." *Anadromous Waters Atlas.* March 23. Accessed September 18, 2020. http://www.adfg.alaska.gov/AnadromousPDFs/regulatory_web/SWT/DILA7.pdf.

State of Alaska Department of Natural Resources. n.d. "Alaska Mapper." Accessed April 30, 2021. https://mapper.dnr.alaska.gov/map#map=4/-16632245.12/8816587.34/0.

U.S. Army Corps of Engineers, Alaska District. n.d. *Community Floodplain and Erosion Data.* Accessed September 18, 2020. http://corpsmapu.usace.army.mil/cm_apex/cm2.cm2.map?map=POA.

—. n.d. "Navigable Waters of Alaska." *U.S. Army Corps of Engineers Alaska District Website.* Accessed April 28, 2021. https://www.poa.usace.army.mil/Missions/Regulatory/Recognizing-Wetlands/Navigable-Waters/.

U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, National Park Service, NASA, Centers for Disease Control and Prevention. n.d. *Current Air Quality.* Accessed September 18, 2020. https://www.airnow.gov/state/?name=alaska.

U.S. Fish & Wildlife Service. n.d. "Listed species believed or known to occur in Dillingham, Alaska." *Environmental Conservation Online System.* Accessed September 18, 2020. https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=02070.

—. n.d. *National Wetlands Inventory.* Accessed September 18, 2020. https://www.fws.gov/wetlands/data/Mapper.html.

—. n.d. "Nesting Birds: Timing Recommendations to Avoid Land Disturbance & Vegetation Clearing." *Alaska Region.* Accessed September 21, 2020. https://www.fws.gov/alaska/pages/nesting-birds-timing-recommendations-avoid-land-disturbance-vegetation-clearing.

—. n.d. "USFWS Threatened & Endangered Species Active Critical Habitat Report." *Environmental Conservation Online System.* Accessed September 18, 2020. https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

U.S. Fish and Wildlife Service. n.d. "Migratory Birds." *Information for Planning and Consultation.* Accessed September 21, 2020. https://ecos.fws.gov/ipac/location/TIDJH5WLGNE4XAVEJP5KZ5A6JM/resources#migratory-birds.

United States Coast Guard. 2012. "Navigable Waters of the United States Within the Seventeenth Coast Guard District." *United States Coast Guard Pacific Area.* March. Accessed September 18, 2020. https://www.pacificarea.uscg.mil/Portals/8/District%2017/Sector%20Anchorage/PREVENTION/WWM/D17_ListofNavigableWaters_MAR2012.pdf?ver=2018-01-15-231606-937.

United States Forest Service. n.d. *The National Forests of Alaska.* Accessed September 21, 2020. https://www.fs.usda.gov/main/r10/maps-pubs.