

Appendix D

Biotic Communities

Biotic Communities Table of Contents

Potential Bird, Fish, and Mammal Species found with the Project Vicinity.

Fish Habitat Investigation Memo. To: Takotna Airport Project File, Project No. 54011, From: Sally Boggs of HDR Alaska, Inc. March 15, 2003.

The Birds of the Innoko National Wildlife Refuge and Surrounding Areas

| <i>Common Name</i> | <i>Occurrence</i> | <i>Common Name</i> | <i>Occurrence</i> |
|---------------------------|-------------------|----------------------------------|-------------------|
| LOONS AND GREBES | | EAGLES AND HAWKS | |
| Common Loon | U, B | Northern Goshawk | U, B |
| Arctic Loon | C, B | Sharp-shinned Hawk | U, B |
| Red-throated Loon | C, B | Red-tailed Hawk | C, B |
| Red-necked Grebe | C, B | Swainson's Hawk | U, B |
| Horned Grebe | U, B | Rough-legged Hawk | U, B |
| | | Golden Eagle | U, B |
| | | Bald Eagle | U, B |
| | | Northern Harrier | U, B |
| | | Osprey | U, B |
| | | Gyr Falcon | R, B, W |
| | | Peregrine Falcon | R, M |
| | | American Kestrel | U, B |
| | | Merlin | *R, M |
| WATERFOWL | | SANDPIPERS AND PLOVERS | |
| Tundra Swan | U, B | Semipalmated Plover | C, B |
| Trumpeter Swan | U, B | Black-bellied Plover | U, M |
| Canada Goose | C, B | Lesser Golden Plover | U, B |
| White-fronted Goose | C, B | Marbled Godwit | R, V |
| Snow Goose | R, M | Hudsonian Godwit | C, B |
| Mallard Duck | C, B | Whimbrel | U, B |
| Pintail Duck | C, B | Greater Yellowlegs | U, B |
| Green-winged Teal | C, B | Lesser Yellowlegs | C, B |
| Blue-winged Teal | U, B | Solitary Sandpiper | C, B |
| Northern Shoveler | C, B | Spotted Sandpiper | C, B |
| Eurasian Widgeon | U, V | Wandering Tattler | *U, B |
| American Widgeon | C, B | Ruddy Turnstone | *U, M |
| Canvasback Duck | R, B | Common Snipe | C, B |
| Redhead Duck | R, B | Long-billed Dowitcher | C, B |
| Ring-necked Duck | R, B | Semipalmated Sandpiper | U, B |
| Greater Scaup | C, B | Least Sandpiper | C, B |
| Lesser Scaup | C, B | Pectoral Sandpiper | C, B |
| Common Goldeneye | C, B | | |
| Barrow's Goldeneye | U, B | PHALAROPES | |
| Bufflehead | U, B | Red-necked Phalarope | C, B |
| Oldsquaw | U, B | | |
| Harlequin Duck | U, B | JAEGERS, GULLS, AND TERNS | |
| White-winged Scoter | U, B | Pomarine Jaeger | R, V |
| Surf Scoter | C, B | Parasitic Jaeger | U, B |
| Black Scoter | C, B | Long-tailed Jaeger | U, B |
| Red-breasted Merganser | U, B | Glaucous Gull | U, B |
| Common Merganser | *R, V | Glaucous-winged Gull | U, B |
| | | Herring Gull | U, M |
| | | Mew Gull | C, B |
| | | Bonaparte's Gull | C, B |
| | | Arctic Tern | C, B |
| GALLINACEOUS BIRDS | | | |
| Spruce Grouse | C, r | | |
| Sharp-tailed Grouse | U, B | | |
| Ruffed Grouse | U, r | | |
| Willow Ptarmigan | U, r | | |
| CRANES | | | |
| Sandhill Crane | U, B | | |

The Birds of the Innoko National Wildlife Refuge and Surrounding Areas

| <i>Common Name</i> | <i>Occurrence</i> | <i>Common Name</i> | <i>Occurrence</i> |
|---|-------------------|---|-------------------|
| OWLS | | THRUSHES, KINGLETS, AND WAXWINGS cont. | |
| Great Horned Owl | U, B | Arctic Warbler | *C, B |
| Snowy Owl | R, M, W | Ruby-crowned Kinglet | C, B |
| Northern Hawk-Owl | C, B | Water Pipit | *U, B |
| Great Gray Owl | U, B | Bohemian Waxwing | C, B |
| Short-Eared Owl | C, B | | |
| Boreal Owl | *U, B | SHRIKES | |
| | | Northern Shrike | U, B |
| KINGFISHER | | WOOD WARBLERS | |
| Belted Kingfisher | C, B | Orange-crowned Warbler | C, B |
| WOODPECKERS | | Yellow Warbler | C, B |
| Northern Flicker | U, r | Yellow-rumped Warbler | C, B |
| Hairy Woodpecker | U, r | Blackpoll Warbler | C, B |
| Downy Woodpecker | U, r | Northern Waterthrush | C, B |
| Black-backed Woodpecker | U, r | Wilson's Warbler | C, B |
| Three-toed Woodpecker | U, r | | |
| FLYCATCHERS | | BLACKBIRDS | |
| Say's Phoebe | U, B | Rusty Blackbird | C, B |
| Alder Flycatcher | C, B | | |
| Western Wood-Peevee | U, B | FINCHES AND SPARROWS | |
| Olive-sided Flycatcher | U, B | Pine Grosbeak | U, r |
| LARKS AND SWALLOWS | | Hoary Redpoll | *U, r |
| Horned Lark | *U, Ms | Common Redpoll | C, r |
| Violet-green Swallow | C, B | White-winged Crossbill | U, r |
| Tree Swallow | C, B | Savannah Sparrow | C, B |
| Bank Swallow | C, B | Dark-eyed Junco | C, B |
| Cliff Swallow | U, B | American Tree Sparrow | C, B |
| JAYS and CROWS | | Chipping Sparrow | U, B |
| Gray Jay | C, r | White-crowned Sparrow | C, B |
| Raven | C, r | Golden-crowned Sparrow | *U, B |
| | | Fox Sparrow | U, B |
| CHICKADEES | | Lincoln's Sparrow | U, B |
| Black-capped Chickadee | C, r | Lapland Longspur | *C, M |
| Boreal Chickadee | C, r | Snow Bunting | U, M |
| Siberian Tit | *R, r | | |
| THRUSHES, KINGLETS, AND WAXWINGS | | | |
| American Robin | C, B | | |
| Varied Thrush | C, B | | |
| Hermit Thrush | U, B | | |
| Swainson's Thrush | U, B | | |
| Gray-cheeked Thrush | C, B | | |

The Birds of the Innoko National Wildlife Refuge and Surrounding Areas

Area of Coverage:

This checklist covers the area of Innoko National Wildlife Refuge, McGrath, Alaska.

Legend:

C - Common

U - Uncommon

R - Rare

* - Not yet observed on refuge.

B - Breeding only in summer.

r - Permanent resident and breeder.

V - Vagrant

M - Migrant

REFERENCES

U.S. Fish and Wildlife Service. 1991. Birds of the Innoko National Wildlife Refuge. U.S. Fish and Wildlife Service. Unpaginated. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page.

<<http://www.npwrc.usgs.gov/resource/othradata/chekbird/r7/innoko.htm>>

POTENTIAL MAMMALS THAT MAY OCCUR IN THE PROJECT VICINITY

| COMMON NAME | SCIENTIFIC NAME |
|--------------------------|--------------------------------|
| Grizzly bear | <i>Ursus arctos</i> |
| Black bear | <i>Ursus americanus</i> |
| Gray wolf | <i>Canis lupus</i> |
| Coyote | <i>Canis latrans</i> |
| Wolverine | <i>Gulo gulo</i> |
| Lynx | <i>Felix lynx</i> |
| Red fox | <i>Vulpes vulpes</i> |
| Moose | <i>Alces alces</i> |
| Caribou | <i>Rangifer tarandus</i> |
| Red squirrel | <i>Tamiasciurus hudsonicus</i> |
| Arctic ground squirrel | <i>Spermophilus undulatus</i> |
| Beaver | <i>Castor canadensis</i> |
| River otter | <i>Lutra canadensis</i> |
| Snowshoe hare | <i>Lepus americanus</i> |
| Alaskan hare | <i>Lepus othus</i> |
| Porcupine | <i>Erethizon dorsatum</i> |
| Marten | <i>Martes americana</i> |
| Ermine | <i>Mustela erminea</i> |
| Least weasel | <i>Mustela nivalis</i> |
| Mink | <i>Mustela vison</i> |
| Masked shrew | <i>Sorex cinereus</i> |
| Arctic shrew | <i>Sorex arcticus</i> |
| Dusky shrew | <i>Sorex obscurus</i> |
| Pygmy shrew | <i>Microsorex hoyi</i> |
| Little brown myotis | <i>Myotis lucifugus</i> |
| Northern red-backed vole | <i>Clethrionomys rutilus</i> |
| Meadow vole | <i>Microtus pennsylvanicus</i> |
| Tundra vole | <i>Microtus oeconomus</i> |
| Brown lemming | <i>Lemmus sibiricus</i> |
| Meadow jumping mouse | <i>Zapus hudsonius</i> |
| Hoary marmot | <i>Marmota caligata</i> |
| Muskrat | <i>Ondatra zibethicus</i> |

REFERENCES

Alaska Department of Fish and Game (ADF&G). 1976. *A Compilation of Fish and Wildlife Resource Information for the State of Alaska: Volume I Wildlife*. Anchorage, Alaska.

POTENTIAL FISH THAT MAY OCCUR IN THE PROJECT VICINITY

| COMMON NAME | SCIENTIFIC NAME |
|-----------------|---------------------------------|
| Round whitefish | <i>Prosopium cylindraceum</i> |
| Longnose sucker | <i>Catostomus catostomus</i> |
| Burbot | <i>Lota lota</i> |
| Northern pike | <i>Esox lucius</i> |
| Arctic grayling | <i>Thymallus arcticus</i> |
| Coho salmon | <i>Oncorhynchus kisutch</i> |
| Chinook salmon | <i>Oncorhynchus tshawytscha</i> |
| Chum salmon | <i>Oncorhynchus keta</i> |
| Slimy sculpin | <i>Cottus cognatus</i> |

REFERENCES

- Alaska Department of Fish and Game (ADF&G). 1976. *A Compilation of Fish and Wildlife Resource Information for the State of Alaska: Volume I Wildlife*. Anchorage, Alaska.
- Alaska Department of Fish and Game (ADF&G). 2000. Personal communication. Takotna Fish Weir Study.

To File – Takotna Airport Project
ADOT&PF Project No. 54011



From Sally Boggs

Date March 15, 2001

M e m o r a n d u m

Subject Fish Habitat Investigation

The Takotna Airport (Figure 1) was identified by Alaska Department of Transportation and Public Facilities (DOT&PF) as needing airport improvements because of facility deficiencies and safety issues. The preferred alternative for addressing these issues is to relocate the airport. The community of Takotna is approximately 27 kilometers (17 miles) west of McGrath, the regional economic and transportation hub, and 383 kilometers (238 miles) northwest of Anchorage. Takotna is located in the low mountains and rolling hills of the Kuskokwim Mountains at an elevation of about 183 meters (600 feet). The community is on the north bank of the Takotna River approximately 97 river kilometers (60 river miles) upstream of its confluence with the Kuskokwim River at McGrath. The Takotna River, an anadromous fish stream, meanders within a valley floor dotted with oxbows and ponds, which are surrounded by muskeg, black spruce bog, and boreal forest. The forested areas in the better drained lowlands include cottonwoods, white spruce, birch, and aspen. Black spruce grows in the more poorly drained soils that are underlain by permafrost. Takotna experiences the continental climate of interior Alaska with some maritime influence from the Bering Sea. The mean annual temperature is -4.3°C (24.2°F) and extremes range from -51°C in winter to 32°C in summer (-60°F to 90°F). Local precipitation falls mainly as rain between July and October. The heaviest snowfalls are between November and March with an average accumulation of approximately 191 cm (75 inches). The average total precipitation is 41 cm (16 inches). Winds are primarily from the north/northwest in winter and southerly in summer.

The preferred alternative, Alternative C, would involve relocating the airport about 2.1 km (1.3 mi) east of the village (Figure 2). A new runway would be aligned approximately 05/23, parallel with prevailing winds. A 1.8 km (1.1 mi) airport access road would be constructed from existing roads at the easterly limits of the village to the new apron, as well as 1.8 km (1.1 mi) of power line extension for airport lighting. Approximately 1.2 km (0.75 mi) from the village the access road would cross an unnamed stream which is not listed as an anadromous fish stream.

A site visit was made in late September 2000 to determine if the stream was fish habitat. Takotna residents have reported that there are no fish in the stream. The stream is sinuous and deeply incised within silty banks. Its gradient is moderate and discharge during the site visit was estimated at 5 cfs. There had been a month of rain and indications were that the flow was higher than normal.

Four minnow traps, baited with salmon eggs, were placed along approximately 30 m (100 ft) of the stream where the Iditarod Trail crosses. The traps were set at 10:30 am on September 24, 2000 and retrieved at 10:00 am on September 25, 2000. No fish were caught in any of the traps. A significant amount of silt deposition partially buried each minnow trap.

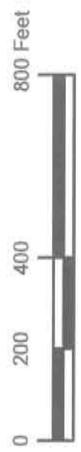


Date
March 2001

Figure
1

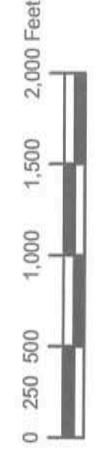
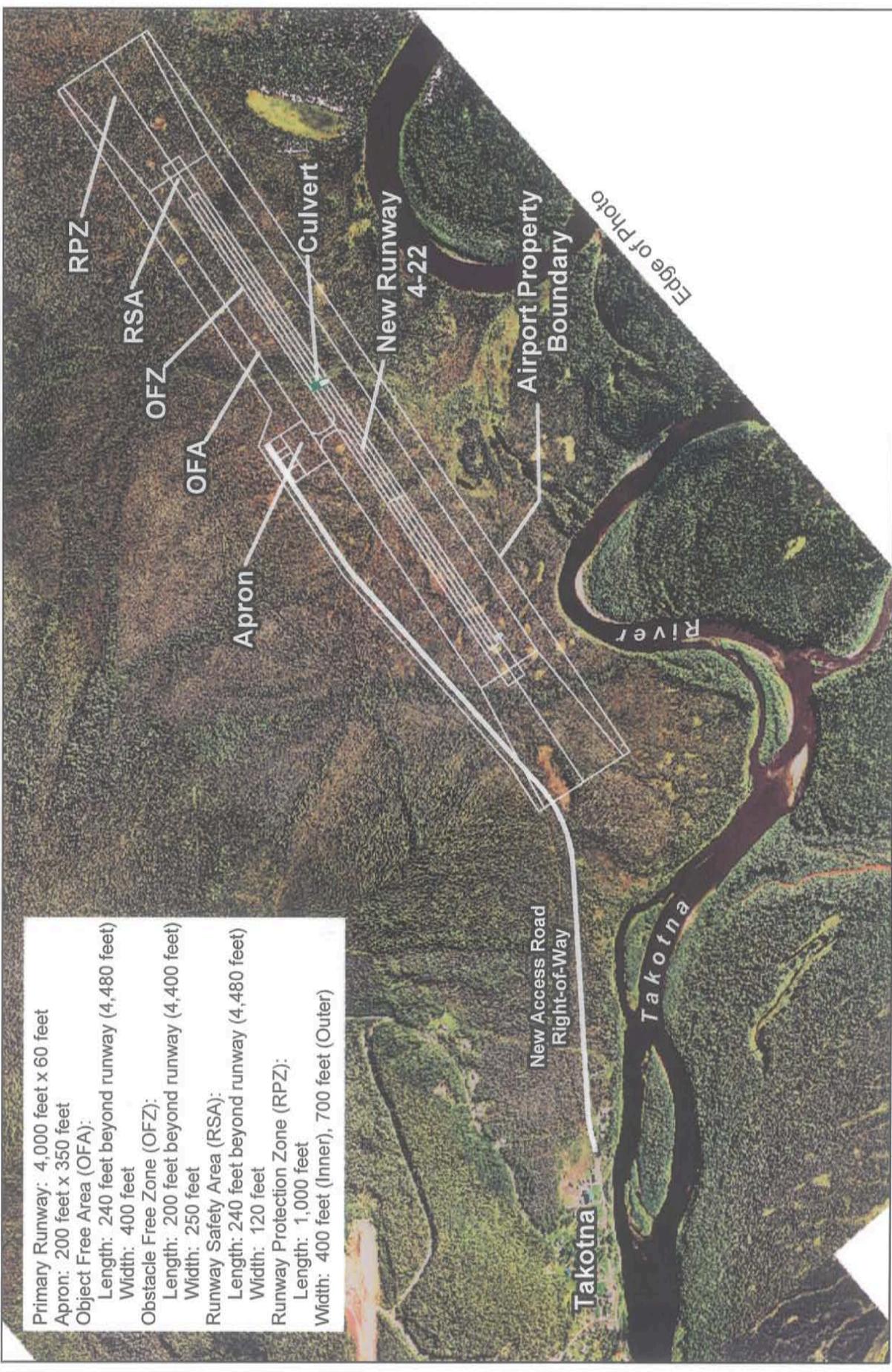
Takotna Airport Project
Project No. 54011

Existing Airport Conditions



Scale 1 inch = 400 ft.

Primary Runway: 4,000 feet x 60 feet
 Apron: 200 feet x 350 feet
 Object Free Area (OFA):
 Length: 240 feet beyond runway (4,480 feet)
 Width: 400 feet
 Obstacle Free Zone (OFZ):
 Length: 200 feet beyond runway (4,400 feet)
 Width: 250 feet
 Runway Safety Area (RSA):
 Length: 240 feet beyond runway (4,480 feet)
 Width: 120 feet
 Runway Protection Zone (RPZ):
 Length: 1,000 feet
 Width: 400 feet (Inner), 700 feet (Outer)



Takotna Airport Project
 Project No. 54011

Proposed Action (Alternative C)

Date
 March 2001

Figure
 2