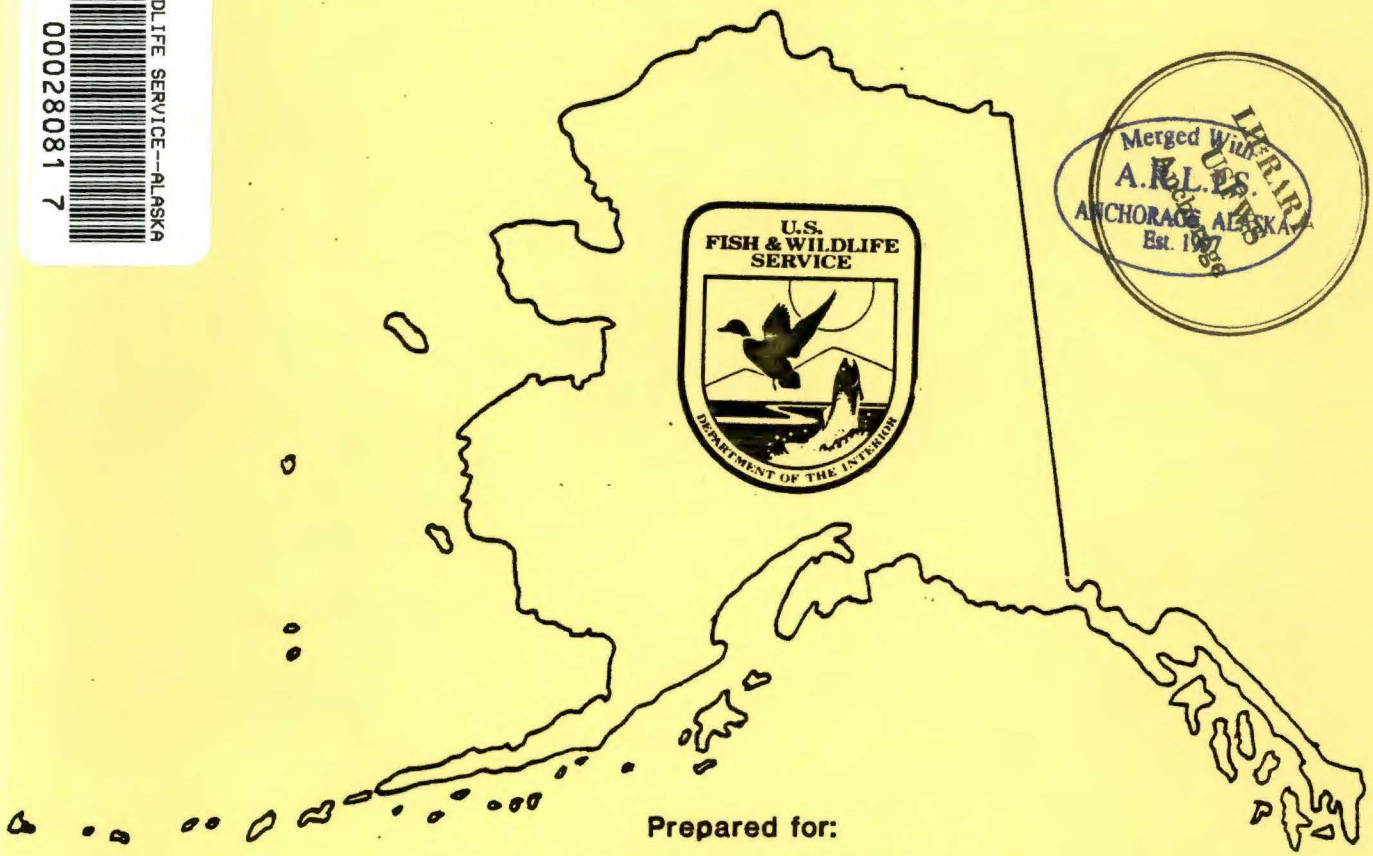
TOGIAK, ALASKA
NAVIGATION IMPROVEMENTS

DRAFT

FISH AND WILDLIFE COORDINATION ACT REPORT



Prepared for:

U.S. Army Corps of Engineers

Alaska District

Prepared by:

U.S. Department of the Interior

Fish and Wildlife Service

Western Alaska Ecological Services

Anchorage, Alaska

November, 1985

FWLB
122C

United States Department of the Interior

Western Alaska Ecological Services
Sunshine Plaza, Suite 2B
411 W. 4th Ave.
Anchorage, Alaska 99501

IN REPLY REFER TO:
WAES

07 NOV 1985

Colonel Wilbur T. Gregory, Jr.
District Engineer
Alaska District, Corps of Engineers
Pouch 898
Anchorage, Alaska 99506

Re: Draft Fish and Wildlife Coordination Act Report: Togiak Navigation Improvements

Dear Colonel Gregory:

The enclosed Fish and Wildlife Coordination Act (FWCA) Report constitutes the U.S. Fish and Wildlife Service's (FWS) draft report on the U.S. Army Corps of Engineers' (CE) proposed navigation improvements project at Togiak, Alaska. The document was prepared in accordance with the Fiscal Year 1986 scope of work and the Fish and Wildlife Coordination Act, P.L. 85-624 Section 2(b), and it is being provided for equal consideration of fish and wildlife conservation with other project purposes as planning proceeds.

Findings herein are based on project information provided by project manager, Mr. Harlan Legare. Biological data are based on literature review, field investigations, and coordination with the Corps of Engineers - Environmental Resources Section, the Alaska Department of Fish and Game, and the National Marine Fisheries Service.

The FWS would appreciate your review and written comments on the Draft FWCA Report within 30 days. Please include in your comments approval or disapproval for each FWS recommendation and provide detailed justification for any disapproval.

Sincerely,

Robert Bowker

Field Supervisor

Enclosure

cc: FWS/DES - Anchorage
FWS/Togiak NWR - Dillingham
ADF&G, NMFS, EPA, ADOT/PF - Anchorage
City Council - Togiak

FISH AND WILDLIFE SERVICE POSITION
TOGIAK, ALASKA, NAVIGATION IMPROVEMENTS
NOVEMBER, 1985

The Alaska District of the U.S. Army Corps of Engineers (CE) is studying the feasibility of constructing anchorage improvements at Togiak, Alaska. The CE's preferred plan entails improving the anchorage within Nasaurluq Slough. No action is the alternative. The project consists of excavating material from the creek bed in order to dress the slope to a preferred 1:10 ratio. Excavated material would be disposed of in a nearby borrow pit that was recently excavated for the new Togiak airfield.

Nasaurluq Slough is a slow-moving, freshwater stream which flows adjacent to the village of Togiak just prior to entering Togiak Bay. The stream and surrounding area support a variety of fish and wildlife, including mammals, waterfowl, and anadromous fishes. The project area is within the tidally-influenced reach of the stream where the water is quite silty. The substrate throughout the slough is generally silt and mud. Although the slough may be important for the rearing or holding of anadromous salmonids, there is no evidence that spawning occurs there. It is presumed that the anadromous fishes rearing in Nasaurluq Slough are from the nearby Togiak River.

The Fish and Wildlife Service (FWS) used the following evaluation species and their habitats to assess the environmental impacts of the project and to develop mitigation goals and a mitigation plan: 1) chinook salmon (Oncorhynchus tshawytscha); 2) sockeye salmon (Oncorhynchus nerka); and 3) rainbow smelt (Osmerus mordax). FWS's selection of evaluation species is based upon a species utilization of habitats having significant ecological value and/or its high public interest, subsistence, or economic value. At the present time, mitigation of project-related and project-induced impacts appears to be limited to avoidance.

The FWS concludes from its studies that the project, as proposed, will not have significant impacts upon the area's fish and wildlife resources and FWS evaluation species. Potential adverse impacts from construction will be avoided through adherence to construction timing constraints. Also, project-induced impacts, such as increased boat traffic and human use of the area, are expected to be minimal.

TOGIAK, ALASKA

NAVIGATION IMPROVEMENTS

DRAFT

FISH AND WILDLIFE
COORDINATION ACT REPORT

Submitted To Alaska District
U.S. Army Corps of Engineers
Anchorage, Alaska

Prepared by: Brian L. Anderson, Fish and Wildlife Biologist
Approved by: Robert G. Bowker, Field Supervisor

U.S. Department of the Interior
Fish and Wildlife Service
Western Alaska Ecological Services
Anchorage, Alaska

November, 1985

PREFACE

This Fish and Wildlife Coordination Act Report constitutes the U.S. Fish and Wildlife Service's (FWS) draft report on the U.S. Army Corps of Engineers' (CE) proposed Togiak Navigation Improvements project. It has been prepared under the authority of the Fish and Wildlife Coordination Act, P.L. 85-624 Section 2(b), and in keeping with the spirit and intent of the National Environmental Policy Act. The FWS final report will accompany the CE's Feasibility Stage Detailed Project Report and environmental statement to the Commander of the U.S. Army Engineering-Civil Works Planning Office, for construction approval and funding for plans and specifications.

The purposes of the FWS in study involvement are to 1) evaluate each principal alternative's potential impacts on fish and wildlife resources, their habitats, and their utilization by the public; 2) identify and evaluate the least environmentally damaging alternative; and 3) recommend methods for mitigating and/or enhancing these resources. The FWS's findings are based on project data furnished prior to October 15, 1985. Biological data are based on literature review, a field investigation, and coordination with the CE Environmental Resources Section, the National Marine Fisheries Service, and the Alaska Department of Fish and Game.

A previous FWS document, Togiak Small Boat Harbor Planning Aid Report, was submitted to the CE on 14 December 1984 and is superceded by this document.

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LIST OF TABLES AND FIGURES

STUDY AREA

The village of Togiak is located at the head of Togiak Bay on the western side of Bristol Bay, Alaska (Figure 1). At 60 miles west of Dillingham, Togiak lies on a moist tundra plain interspersed with numerous lakes and watercourses. Climate is that of a transition zone, where weather conditions are influenced by both the arctic climate of interior Alaska and the somewhat milder marine climate of the Bristol Bay Coastal region. Area temperatures range from 37 to 66 degrees Fahrenheit in summer to 3 to 30 degrees Fahrenheit in winter. The area generally receives 20 to 24 inches of precipitation per year, most of which occurs from August through October.

Situated on the coast between Nasaurluq Slough to the north and Togiak Bay to the south, the village of Togiak is known for its drift gill net salmon fishery. The area experiences significant levels of fishing activity during June through September and remains relatively idle during the off season. In May, the community also participates in the roe-on-kelp and herring fisheries. Emptying into Togiak Bay about one mile east of the village, the Togiak River supports prolific runs of rainbow trout, char, grayling, and all five species of Pacific salmon and is the major contributor to the area's fishery resources.

Togiak Bay consists of silt-laden waters. Ice-covered in the winter months, the shallow nature of the bay results in exposure of extensive mudflats during periods of low tide. Togiak Bay is the site of a significant annual sockeye salmon fishery.

Nasaurluq Slough is a freshwater stream approximately four miles in length. Supplied by numerous tributaries and small lakes on the moist tundra plain, the stream slowly meanders and empties into Togiak Bay. The lower half mile of the stream is tidally influenced with a stream bottom of fine silts and mud. Above the tidal reach, the substrate is predominantly a thick, anaerobic, mud with some over-hanging banks and aquatic vegetation.

Togiak National Wildlife Refuge

The FWS administers approximately 2.7 million acres of land and supportive habitats adjacent to Togiak (Figure 2). The Togiak Refuge borders on the Bering Sea, along Kuskokwim Bay from the Kanetok River to Cape Newenham, and along Bristol Bay from Cape Newenham to Nushagak Bay (FWS, 1974). Offshore from the 600 miles of refuge shoreline along Bristol Bay are a number of islands and islets. The refuge interior lands and waters are linked to the bays by several rivers.

The diversity of habitats within Togiak Refuge, from coastal cliffs to alpine tundra, attracts a wide variety of wildlife. Two hundred and thirty-eight species of resident and migratory wildlife are believed to occur on the refuge including 21 fish, 169 bird, 31 terrestrial mammal, and 17 marine mammal species.

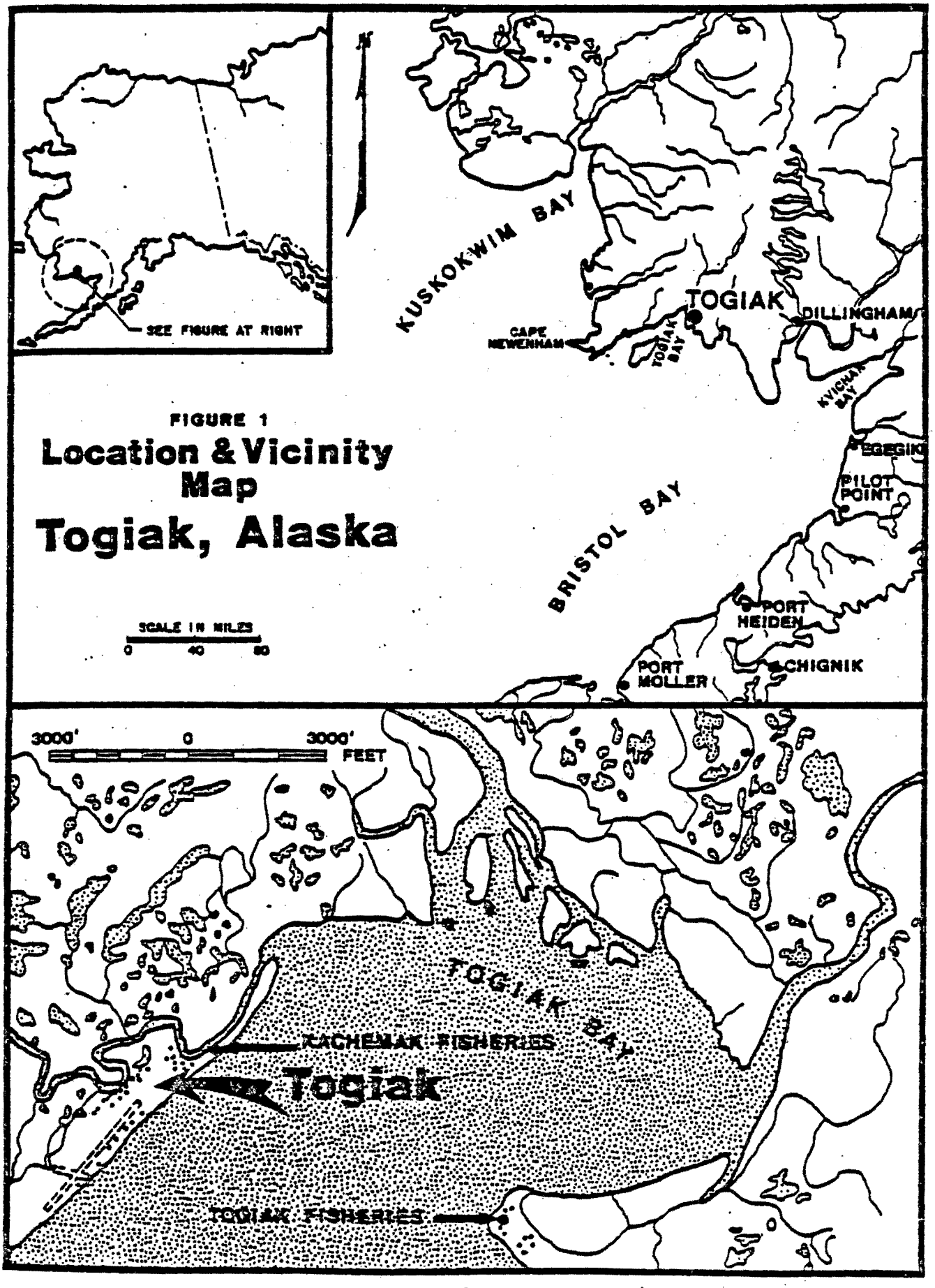
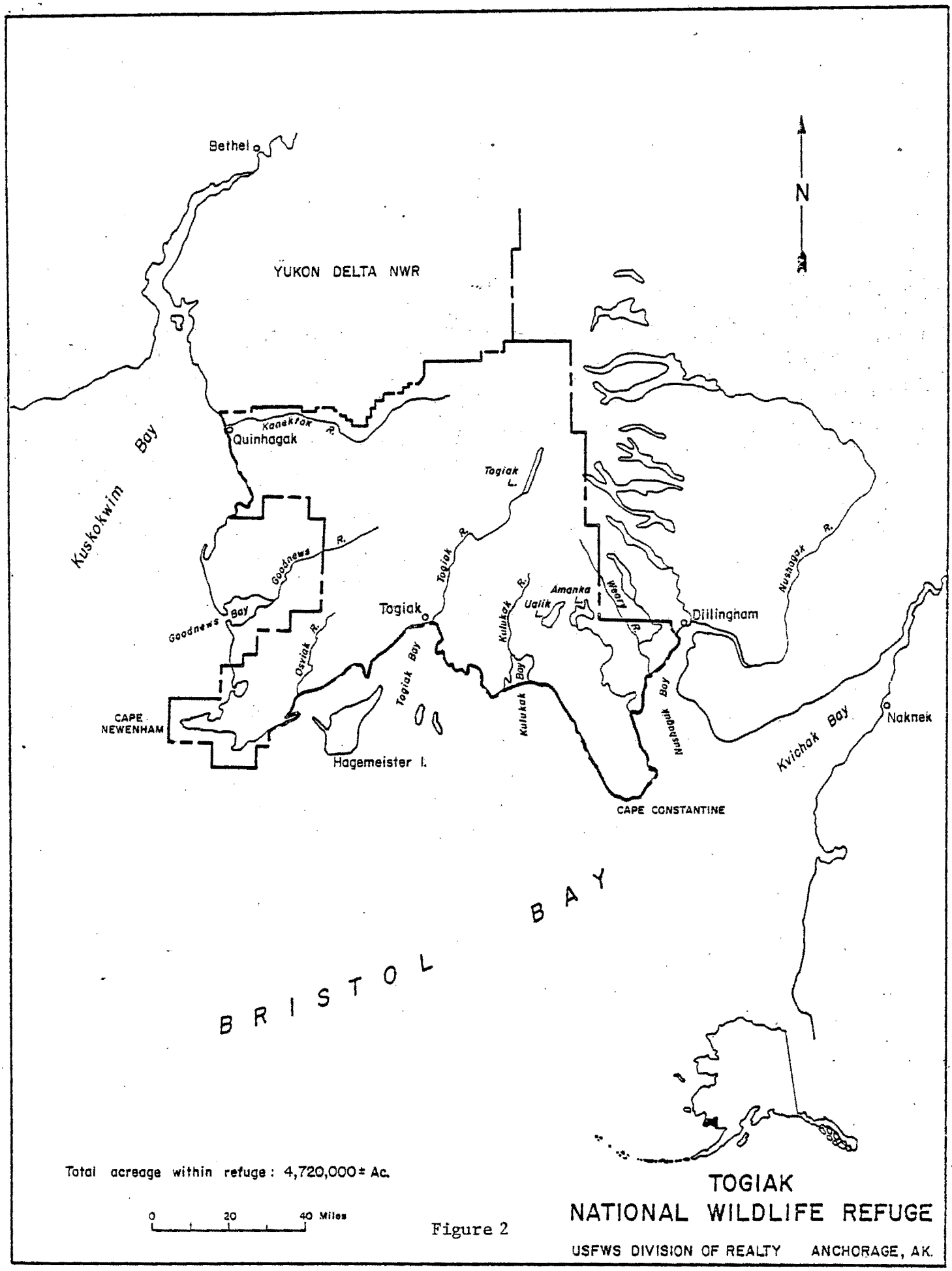


FIGURE 1

Location & Vicinity Map

Togiak, Alaska


Bethel
YUKON DELTA NWR
N
Kuskokwim Bay
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Quinhagak
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Goodnews R.
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Kulukak R.
Amanka L.
Ualik L.
Weary R.
Dillingham
Nushagak R.
Osviak R.
Togiak Bay
Kulukak Bay
Nushagak Bay
CAPE NEWENHAM
Hagemeister I.
CAPE CONSTANTINE
Kvichak Bay
Naknek
BRISTOL BAY
Total acreage within refuge: 4,720,000± Ac.
0 20 40 Miles
TOGIAK
NATIONAL WILDLIFE REFUGE
USFWS DIVISION OF REALTY ANCHORAGE, AK.

Figure 2

PROJECT DESCRIPTION

Originally, two alternatives were proposed for providing additional anchorage facilities at Togiak (Corps of Engineers, 1984). Alternative One, anchorage improvements in Nasaurluq Slough, is the CE's preferred alternative and will be discussed in the following plan description. Alternative Two, a breakwater harbor system, was dropped from consideration due to the extensive maintenance requirements and potential environmental impacts associated with quarry activities at Cape Newenham.

The CE's reconnaissance phase report selected Nasaurluq Slough excavation for further study, with no action as the alternative. The following plan description is derived from the most current information available and is considered to be final.

The proposed plan would include the excavation of 1,730 feet along the south bank of Nasaurluq Slough (Figure 3). This would result in the removal of approximatey 3,800 cubic yards (cy) of material. Due to land use constraints, the slough will not be widened and excavation will be confined to the creek bed. It is presumed that excavation work will be accomplished during low tide so that no work will be done within the waters of Nasaurluq Slough. A float system will be installed after the silt/mud material is removed to create a 1:10 ratio side slope. The area to be developed is approximately two acres. The dredged material will be disposed of in a borrow pit that was recently excavated for the new Togiak airfield.

BIOLOGICAL RESOURCES

Vegetation

There are two distinct vegetative communities immediately surrounding the village of Togiak. The dominant vegetative community is moist tundra interspersed with areas of willow (Salix spp.). Cottongrass (Eriophorum sp.), Labrador tea (Ledum palustre), bog blueberry (Vaccinium uliginosum), grasses and sedges are common. Willows form an almost continuous fringe along Nasaurluq Slough. Sedges, beach rye (Elymus arenarius), and blue-joint grass (Calamagrostis canadensis) comprise the major vegetative cover type along the slough's banks. A sedge flat lies on the north side of the slough mouth at its confluence with Togiak Bay.

Along the shoreline of Togiak Bay is a second vegetative community of sand dune/beach rye complex. The sand spit at the mouth of Nasaurluq Slough consists entirely of this narrow (e.g. 50 feet) fringe community.

Mammals

Although other mammal species inhabit the vicinity of Togiak, few are conspicuous. Muskrats (Ondatra zibethicus) inhabit Nasaurluq Slough, and voles (Microtus spp.) are abundant throughout the area.

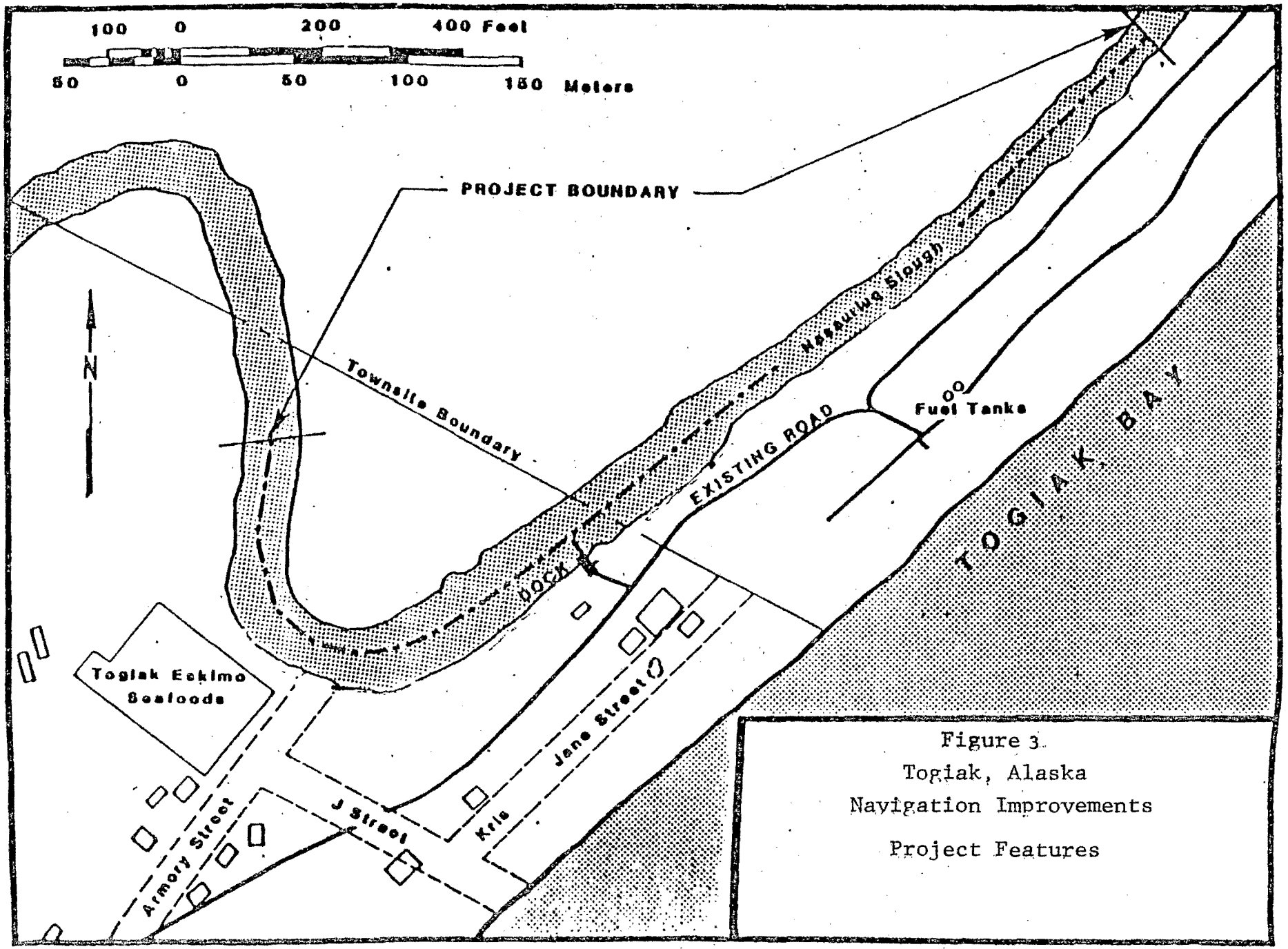

Figure 3.
Togiak, Alaska
Navigation Improvements
Project Features

Birds

Greater numbers of birds are present in Togiak in the summer than at other times of the year. Numerous species of waterfowl and shorebirds utilize the area for nesting. Glaucous-winged (Larus glaucescens) and mew gulls (Larus canus) are common in the Togiak area, due in part to the abundant food source provided by the commercial fish processors. Pintail ducks (Anas acuta) and mallards (Anas platyrhynchos) utilize Nasaurluq Slough. The tundra ponds surrounding Togiak provide nesting habitat for red-necked phalaropes (Lobipes lobatus) and various shorebirds. Sandhill cranes (Grus canadensis) and common snipe (Gallinago gallinago) nest on the open tundra. Tree swallows (Iridoprocne bicolor) are abundant both in and out of the village of Togiak. Arctic terns (Sterna pardisaea) utilize Nasaurluq Slough for feeding, whereas parasitic jaegers (Stercorarius parasiticus) hunt over the tundra and along the seacoast.

Fish

In general, the species of fish that inhabit Nasaurluq Slough are either anadromous or are tolerant of brackish water. Species of fish remained somewhat consistent throughout the length of the slough. Included are starry flounder (Platichthys stellatus), slimy (Cottus cognatus) and great (Myoxocephalus polyacanthocephalus) sculpins, nine-spined (Pungitius pungitius) and three-spined (Gasterosteus culeatus) sticklebacks, rainbow smelt (Osmerus mordax), Alaska blackfish (Dallia pectoalis), arctic lamprey (Lampetera japonica), and juvenile sockeye (Onchorhynchus nerka) and chinook (Oncorhynchus tshawytscha) salmon.

Identification of the juvenile salmonids prompted the admission of Nasaurluq Slough to the "Catalogue of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes" administered by the Alaska Department of Fish and Game under Title 16. The stream has been assigned State Anadromous Fish Stream No. 326-00-10375.

At its head, Nasaurluq Slough is fed by several small tributaries which flow through ponds and open tundra. Although the tributaries are narrow, they are quite deep (3-4 ft) and are often covered with willow. These streams were found to contain only Alaska blackfish (Table 1).

The use of Nasaurluq Slough by juvenile chinook and sockeye salmon has been documented. In addition, local residents indicate that they have observed sockeye, coho (Oncorhynchus kisutch), and chum (Oncorhynchus keta) salmon adults in the slough. Neither field sampling nor interviews with local residents have produced evidence that any species of salmon spawn in Nasaurluq Slough. It is highly probable that the salmon utilizing the slough are associated with the Togiak River. During salmon spawning runs, adults enter the slough by mistake during their search for the Togiak River. Local residents state that adult coho salmon will enter the lower reach of the slough, and then go back out. Conversely, salmon smolt leaving the Togiak River, may travel the short distance (one-half mile) and enter the mouth of Nasaurluq Slough where they continue to rear for an

Table 1. Results of Fish Sampling in Nasaurluq Slough, Togiak, Alaska (19 June 1985).

Approximate Location	Sampling Gear*	Species Captured	Number Captured
2 miles upstream	seine	chinook salmon	10
		rainbow smelt	100+
		starry flounder	4
		slimy sculpin	2
		arctic lamprey	2
4 miles upstream	seine	rainbow smelt	1
		starry flounder	2
		3-spine stickleback	5
		slimy sculpin	4
one-half mile upstream from confluence of feeder streams	electroshocker	Alaska blackfish	10+

*the seine used is 60 feet long and 5 feet tall with a one-quarter inch mesh.

the electroshocker used is the backpack type with six foot long, hand-held electrodes.

undetermined period of time prior to out-migrating to the sea. This explanation is feasible when considering the large size (up to 100 mm) of the chinook salmon smolts that were captured.

There is some question as to the use of Nasaurluq Slough by rainbow smelt. Local residents indicate that adult smelt mass in great numbers at the lower reach of the slough in the fall and as late as December. Very little, if any, information is available on the life history of rainbow smelt in Alaska. Morrow (1980), whose information originates from studies of rainbow smelt on the Atlantic coast, states that adult rainbow smelt congregate near stream mouths in the spring, often long before the ice goes out. These smelt spawn in fresh water or even brackish water behind barrier beaches or the tidal zone of estuaries. Preferred spawning substrate is sandy gravel, pebbles, and rocks, a type of substrate not observed in Nasaurluq Slough. As in the case of the salmonids, rainbow smelt in Nasaurluq Slough could be associated with the Togiak River.

Threatened and Endangered Species

Listed or proposed threatened or endangered species (U.S. Department of the Interior, 1979) for which the FWS has responsibility are not known to occur in the Togiak area.

DISCUSSION

Project Impacts

The excavation of Nasaurluq Slough would result in the removal of silt and mud along 1,730 feet of the lower reach of the slough. This reach experiences significant tidal fluctuations and the area to be excavated, along the south bank, is exposed during low tide. Operation of equipment in the water would degrade water quality by the suspension of a large amount of sediment at the mouth of the slough. This could temporarily disrupt normal migration of fish in and out of the slough. Any sedimentation impacts that do occur will be of short duration, as tidal flushing and stream flow would carry those sediments into Togiak Bay where they will be dispersed. Performing the work at low tide would reduce the adverse impacts to water quality resulting from the excavation of material.

Salmon inhabiting the project area would be dispersed during project construction, but would be expected to return after construction is terminated. Based on data collected to date, the excavation would not destroy or disrupt salmon spawing habitat, as none is known to exist within the project boundary. It does appear, however, that the project area provides a migratory pathway and/or holding area for salmon. If in-water construction were to take place during periods of fish migration or congregation, adverse impacts to the fish resources would result. The physical destruction of fish (particularly juvenile salmonids), fish avoidance and stress factors, and increased suspended sediments would cumulatively result in the degradation of this resource.

Salmon constitute the main source of income for the people of Togiak, and rainbow smelt are used by them for subsistance purposes. Adverse impacts to these species should be avoided by performing excavation work either at low tide (out of the water) or during a time period when concentrations of salmon are not likely to be found in the slough.

It is proposed that excavated material will be disposed of in a borrow pit that was recently excavated for construction of the new airfield. Disposal of excavated material in the existng borrow pit adjacent to the Togiak airfield would not result in adverse impacts to fish and wildlife resources. This disposal site would effectively confine the excavated material and eliminate the risk of erosion and sedimentation into adjacent waters.

The actual width of the slough will not be altered by this project, thereby minimizing adverse impacts to the integrity of the barrier beach (spit) at the mouth of the slough. This is a major concern of the local residents. Much of the present erosion problems originate from human traffic on the beach and stream banks. This project will have a positive project-induced impact by providing wooden ramps for access to the boats, thereby reducing foot and vehicular traffic on the banks of the slough.

A potential project-induced adverse impact is habitat degradation due to the greater human use of the slough after project completion. This impact is expected to be minimal since the project will not change the current use of the area and a large influx of new boats is not expected to occur as a result of the anchorage improvements.

Mitigation Plan

Under the Fish and Wildlife Coordination Act and the National Environmental Policy Act regulations, the FWS has responsibilities to identify impacts and make recommendations that, if implemented, would insure that project-related losses to fish and wildlife resources are mitigated. As part of FWS's participation in the planning and evaluation of the Togiak Navigation Improvements project, a FWS mitigation plan is proposed in accordance with the FWS Mitigation Policy (FR Vol. 46, No. 15, January 23, 1981). The basis from which a mitigation plan is developed is explained in Appendix B.

Based on information about the fish and wildlife resources of the project area, the FWS has identified the following species to be used to assess the environmental impacts of the project, establish mitigation goals, and develop a mitigation plan: 1) sockeye salmon, 2) chinook salmon, and 3) rainbow smelt. Criteria used to determine an evaluation species' habitat value include its relative abundance and productivity.

Based upon those considerations, the FWS has placed the habitats of the evaluation species in the following resource category designations:

Resource Category 2	Resource Category 4
Sockeye salmon	Rainbow smelt
Chinook salmon	

The mitigation goal for resource category 2 is that no net loss of in-kind habitat value is to occur. For Resource Category 4, the mitigation goal is to minimize the loss of habitat value.

This project, as proposed, will not cause a permanent net loss of in-kind habitat value for sockeye and chinook salmon. Construction activities, however, could have a short-term adverse impact on the local salmon populations if equipment is operated in the flowing waters of Nasaurluq Slough when concentrations of juvenile salmonids are present. Operating the equipment at low tide, and out of the water, would avoid this impact. If in-water work is necessary for completion of the project, then this work should not occur between May 30 and September 30 when concentrations of salmon are likely to occur. Adherence to this timing constraint will avoid adverse impacts to migrating, holding, and rearing salmon. Rainbow smelt habitat disruption will also be minimized through use of this plan.

RECOMMENDATIONS

The following recommendations are made on the basis of a field investigation, existing literature, and design information made available to date.

1. All instream work in Nasaurluq Slough (State Anadromous Fish Stream No. 326-00-10375), including water withdrawal, will be subject to a permit from the ADF&G.

2. Excavation work in Nasaurluq Slough should be conducted at low tide and out of the water.

3. Any work performed within the flowing waters of Nasaurluq Slough should be conducted between September 30 and May 30 in order to avoid concentrations of anadromous fish.

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APPENDIX A. List of Common and Scientific Names, Togiak Navigation Improvements.

Scientific Name	Common Name
I. Invertebrates	
Macoma sp.[1/]	macoma clam
Clinocardium nuttallii[1/]	Nuttall's cockle
Mytilus edulis[1/]	blue mussel
Telmessus cheiragonus[1/]	hair crab
Bryozoans	bryozoans
Porifera	sponges
Idotea wosnesenskii	sponges
Crangon sp.	shrimp
II. Vegetation	
Salix sp.	willow
Eriophorum sp.	cottongrass
Ledum palustre	Labrador tea
Calamagrostis canadensis	blue-joint
Elymus arenarius	beach rye
Carex sp.	sedge
Vaccinium uliginosum	bog blueberry
III. Marine Vegetation	
Zostera marina	eelgrass
Laminaria sp.	brown kelp
Fucus sp.	rockweed
IV. Fish	
Salvelinus alpinus	arctic char
Thymallus arcticus	arctic grayling
Oncorhynchus gorbuscha	pink salmon
Oncorhynchus keta	chum salmon
Oncorhynchus nerka	sockeye salmon
Oncorhynchus kisutch	coho salmon
Oncorhynchus tshawytscha	chinook salmon
Osmerus mordax	rainbow smelt
Dallia pectoralis	Alaska blackfish
Platichthys stellatus	starry flounder
Myoxocephalus polyacanthocephalus	great sculpin
Cottus cognatus	slimy sculpin
Pungitius pungitius	nine-spined stickleback
Gasterosteus aculeatus	three-spined stickleback
Lampetra japonica	arctic lamprey
V. Birds	
Uria aalge	common murre
Rissa tridactyla	black-legged kittiwake
Lunda cirrhata	tufted puffin
Phalacrocorax pelagicus	pelagic cormorant
Cepphus columba	pigeon guillemot

Melanitta sp.	scoter
Anas acuta	pintail duck
Anas crecca	green-winged teal
Anas platyrhynchos	mallard
Corvus corax	common raven
Asio flammeus	short-eared owl
Larus glaucescens	glaucous-winged gull
Larus canus	mew gull
Iridoprocne bicolor	tree swallow
Lobipes lobatus	red-necked phalarope
Grus canadensis	sandhill crane
Sterna paridisaea	arctic tern
Stercorarias parasiticus	parasitic jaeger
Passerella iliaca	fox sparrow

VI. Mammals

Ondatra zibethicus	muskrat
Microtus oeconomeus	tundra vole

VII. Marine Mammals

Odobenus rosmarus	walrus
Eumetopias jubata	Steller's sea lion
Callorhinus ursinus	northern fur seal
Phoca vitulina	harbor seal
Balaenoptera musculus	blue whale
Balaenoptera borealis	sei whale
Balaenoptera physalus	fin whale
Balaena glacialis	black right whale
Balaena mysticetus	bowhead whale
Physeter catodon	sperm whale
Eschrichtius robustus	gray whale
Megaptera novaeangliae	humpback whale

1/ shell only

APPENDIX B: Fish and Wildlife Service Mitigation Policy Synopsis

Under the Fish and Wildlife Coordination Act and the National Environmental Policy Act, the Fish and Wildlife Service (FWS) has responsibilities to insure that project-related losses to fish and wildlife resources are identified and mitigated. As part of our participation in project planning, a mitigation plan should be developed in accordance with the FWS Mitigation Policy (FR Vol. 46, No. 15, January 23, 1981) and in consultation with the Environmental Protection Agency (EPA), and the Alaska Department of Environmental Conservation (ADEC). The plan would provide guidance for evaluating and mitigating impacts of the proposed project to fish and wildlife.

A mitigation plan is developed by first selecting fish and wildlife habitats from among the full range of habitats occurring within the area to be impacted by both direct as well as indirect impacts. These are chosen either because they represent resources which are most characteristic of the area or because the Fish and Wildlife Service has mandated responsibilities for them. By narrowing the scope in this way, the analysis can focus on areas where significant changes are most likely to occur and not be unduly burdened by inclusion of areas with low wildlife value.

After identifying important habitats, evaluation species, which function as indicators of habitat quality and quantity, are chosen. Selection of evaluation species has an important role in determining the extent and type of mitigation achieved. A combination of two sets of criteria is typically used to choose species for this purpose. The first is to pick species with high public interest, subsistence, or economic values while the second is to select species which utilize habitats having significant ecological values.

Fish and wildlife habitats are then assigned to one of the four Resource Categories delineated in the FWS Mitigation Policy (Table B-1). Designation of habitat into Resource Categories ensures that the level of mitigation recommended is consistent with the value of that habitat and its relative abundance on an ecoregion or national basis.

The determination of the relative scarcity or abundance of evaluation species' habitat from the national perspective is based upon 1) the historical range and habitat quality and 2) the current status of that habitat. A significant reduction in either the extent or quality of habitat for an evaluation species indicates that it is scarce or becoming scarce, while maintenance of historical quantity and quality is the basis for considering it abundant.

For all Resource Category 1 habitat, the FWS will recommend that all losses of existing habitat be prevented, as these one-of-a-kind areas cannot be replaced. Insignificant changes that do not result in adverse impacts on habitat value may be acceptable provided they will have no significant cumulative impact.

Table B-1. Resource Categories and Mitigation Planning Goals.[1/]

Resource Category	Designation Criteria	Mitigation Planning Goal
1	Habitat to be impacted is of high value for evaluation species and is unique and irreplaceable on a national basis or in the ecoregion section.	No loss of existing habitat value.
2	Habitat to be impacted is of high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section.	No net loss of in-kind habitat value.
3	Habitat to be impacted is of high to medium value for evaluation species and is relatively abundant on a national basis.	No net loss of habitat value while minimizing loss of in-kind habitat value.
4	Habitat to be impacted is of medium to low value for evaluation species.	Minimize loss of habitat value.

[1/] FWS Mitigation Policy (FR Vol. 46, No. 15, 23 January 1981).

Specific ways to achieve the mitigation goal for Resource Category 2 when loss of habitat value is unavoidable include: 1) physical modification of replacement habitat to convert it to the same type which was lost; 2) restoration or rehabilitation of previously altered habitat; 3) increased management of similar replacement habitat so that the in-kind value of lost habitat is replaced; or 4) a combination of these measures. By replacing habitat value losses with similar habitat values, populations of species associated with that habitat may remain relatively stable in the area over time.

The mitigation goal of in-kind replacement of lost habitat, however, cannot always be achieved. When opposition to a project on that basis alone is not warranted, deviation from this goal may be appropriate. Two such instances occur when either different habitats and species available for replacement are determined to be of greater value than those lost, or when in-kind replacement is not physically or biologically attainable in the ecoregion. In either case, replacement involving different habitat kinds may be recommended, provided that the total value of the lost habitat is compensated.

For Resource Category 3, in-kind replacement of lost habitat is preferred though not always possible. Substituting different habitats, or increasing management of different habitats so that the value of the lost habitat is replaced, may be ways of achieving the planning goal of no net loss of habitat value.

For Resource Category 4, the FWS will recommend ways to avoid or minimize losses. If losses are likely to occur, then FWS will recommend ways to immediately rectify them or to reduce or eliminate them over time. If losses remain likely to occur, then the FWS may make a recommendation for compensation, depending on the significance of the potential loss. However, because these areas possess relatively low habitat values, they will likely exhibit the greatest potential for significant habitat value improvements. FWS personnel will fully investigate these areas' potential for improvement, since they could be used to mitigate Resource Category 2 and 3 losses.

APPENDIX C: Agency Correspondence

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF FISH AND GAME

267-2346

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99502

February 1, 1985

1284-IV-291
0185-IV-17

Harlan E. Moore
Chief, Engineering Division
Environmental Resources Section
U.S. Army Corps of Engineers
Pouch 898
Anchorage, Alaska 99506-0898

Dear Mr. Moore:

Re: Navigation Improvements, Togiak - Nasaurluq Slough

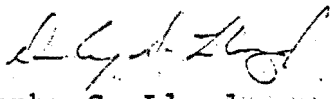
In response to your letter dated January 22, 1985 regarding the need for an Environmental Impact Statement (EIS) for proposed dredging approximately 3800 cubic yards of material from Nasaurluq Slough and construction of a small float system for boat mooring at Togiak, we agree that environmental impacts will likely not be significant. Therefore, we concur that an EIS will not be required for the preferred alternative, which requires no quarrying of rock near Cape Newenham.

Please note that Nasaurluq Slough will soon be included in the Catalog of Streams Important for the Spawning, Rearing, and Migration of Anadromous Fishes, pursuant to AS 16.05.870 and 5 AAC 95.010, and therefore any instream work will require prior approval from the Department of Fish and Game, Habitat Division, Region IV in Anchorage. Moreover, we believe that a timing restriction on dredging within Nasaurluq Slough between June 1 and September 30 may be imposed.

We appreciate the opportunity to comment on this proposed project. If you have any specific questions, please contact Denby Lloyd (267-2333).

Sincerely,

Dennis D. Kelso
Deputy Commissioner



BY: Denby S. Lloyd
Habitat Biologist
Region IV
Habitat Division

cc: Dave Ferrell, USFWS
Brad Smith, NMFS
Wes Bucher, ADF&G

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

REFUGE MANAGER
TOGIAK NATIONAL WILDLIFE REFUGE
P.O. BOX 10201
DILLINGHAM, ALASKA 99576

November 15, 1984

Mr. Dave Ferrell
Fish and Wildlife Service
Western Alaska Ecological Services
Sunshine Plaza, Suite 2B
411 W. 4th Avenue
Anchorage, Alaska 99501

Dear Dave:

Attached are comments prepared by ARM Lee Hotchkiss, concerning the construction of a harbor at Togiak, Alaska. These comments should aid in the preparation of your Planning Aid Report.

Please feel free to contact this office if you have questions.

Sincerely,

Dave Fisher

David A. Fisher
Refuge Manager

DAF:kb

ATTACHMENT

Comments Submitted By: Lee A. Hotchkiss

1. The old airport is closed and a new one was constructed during 1984. It is north of the old airport and is now open.

2. Moorage Demand: Temporary moorage by transient boats participating in the Herring Season will probably increase. These hulls are of the 32-50 foot deeper draft and broader beam class and do not appear to have been considered in the report.

3. The Quarry Rock Source at Cape Newenham may be a problem. Any activity here could cause considerable disturbance to marine mammal haul out areas used by walrus, sea lions, and harbor seals. Also, gray whales use the near-shore waters and Cape Newenham contains large seabird rookeries.

4. Expansion of the slough behind town (Alternative No. 1) would require dredging which would destroy any existing clam or mussel beds, either by removal or silting-over. This could also destroy the fishery habitat now found there. We do not believe the loss to the mollusk community nor to the fishing resource would be all that great, but it could cause those individuals who harvest these resources in the slough to travel further afield--even on refuge lands--to search for a replacement source of food.

5. The dredging activity and resulting siltation of surrounding water could have an adverse effect upon the anadromous salmon runs using the Togiak River drainage. Any activity that could conceivably damage or impact these salmon runs should not be allowed.