

U.S. Fish & Wildlife Service

# Land Conservation Plan

*Options for the protection  
of fish and wildlife habitats*



Yukon Delta  
National Wildlife Refuge

## The Mission

*“The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”*

National Wildlife Refuge System Improvement Act of 1997

## The Purpose

*The major purposes of the Yukon Delta National Wildlife Refuge are:*


*“(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to shorebirds, seabirds, whistling (tundra) swans, emperor, white-fronted and Canada geese, black brant and other migratory birds, salmon, muskox and marine mammals;*

*(ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;*

*(iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses for by local residents; and*

*(iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.”*

Alaska National Interest Lands Conservation Act of 1980



# Executive Summary

## **What is the Yukon Delta Land Conservation Plan?**

Private landowners own or have claims to nearly eight million acres of land within the Yukon Delta National Wildlife Refuge. The LCP identifies which privately-owned lands contain the highest quality fish and wildlife habitats. It also lists options, ranging from informal cooperative agreements, to land exchanges, to selling lands or easements, that some landowners may wish to pursue. The LCP serves primarily to foster communication between the refuge and interested landowners and to help us identify priority areas with high resource value. It provides a framework for working with interested landowners to protect key resources.

**Why do we prepare LCPs?** U.S. Fish and Wildlife Service policy requires that we prepare an LCP for each refuge before we can obtain Land and Water Conservation Funds. The LWCF is the primary source of funding for buying easements or inholdings in Alaska refuges. As discussed below, the LCP process is simply proactive planning.

**The LCP is a planning tool, not an action plan.** The LCP is a proactive planning tool that helps us evaluate opportunities when they arise. For instance, if several landowners approach us with offers to sell lands, the priorities identified in the LCP help us to make wise use of very limited funds. The LCP provides guidance, but does not require any action by the landowner or the Service. Rather it is one of the management tools that helps guide land conservation efforts.

**The LCP provides choices.** The LCP provides options that may, in the right situation, benefit both the landowner and the Service. For instance, a Native corporation may propose a land exchange to obtain additional land around a village site or to trade wetlands for developable land. Another may be interested in selling easements or distant holdings to generate capital. Before pursuing any course of action, both parties must agree that it is in their best interest to proceed.

**Our priorities reflect the quality of the habitat.** We use a computer model to analyze priorities. Criteria which rank fish and wildlife habitats and their ability to contribute to the refuge mission are mapped in overlapping layers with the land status data to give a numerical rank to each parcel of land.

**Public and State involvement is part of the process.** We hold public meetings to discuss the LCP process with local landowners and other interested parties. State agencies review and comment on the LCP prior to publication and distribution.

**Land Conservation Plan  
for  
Yukon Delta National Wildlife Refuge  
Bethel, Alaska**



U.S. Department of the Interior  
Fish and Wildlife Service  
Region 7  
Anchorage, Alaska

September, 2004



Dave Menke, U.S. Fish & Wildlife Service

*Red-throated loon*

**If you have questions or comments about the Yukon Delta Land Conservation Plan, please contact us at one of the following locations.**

**Refuge Manager**

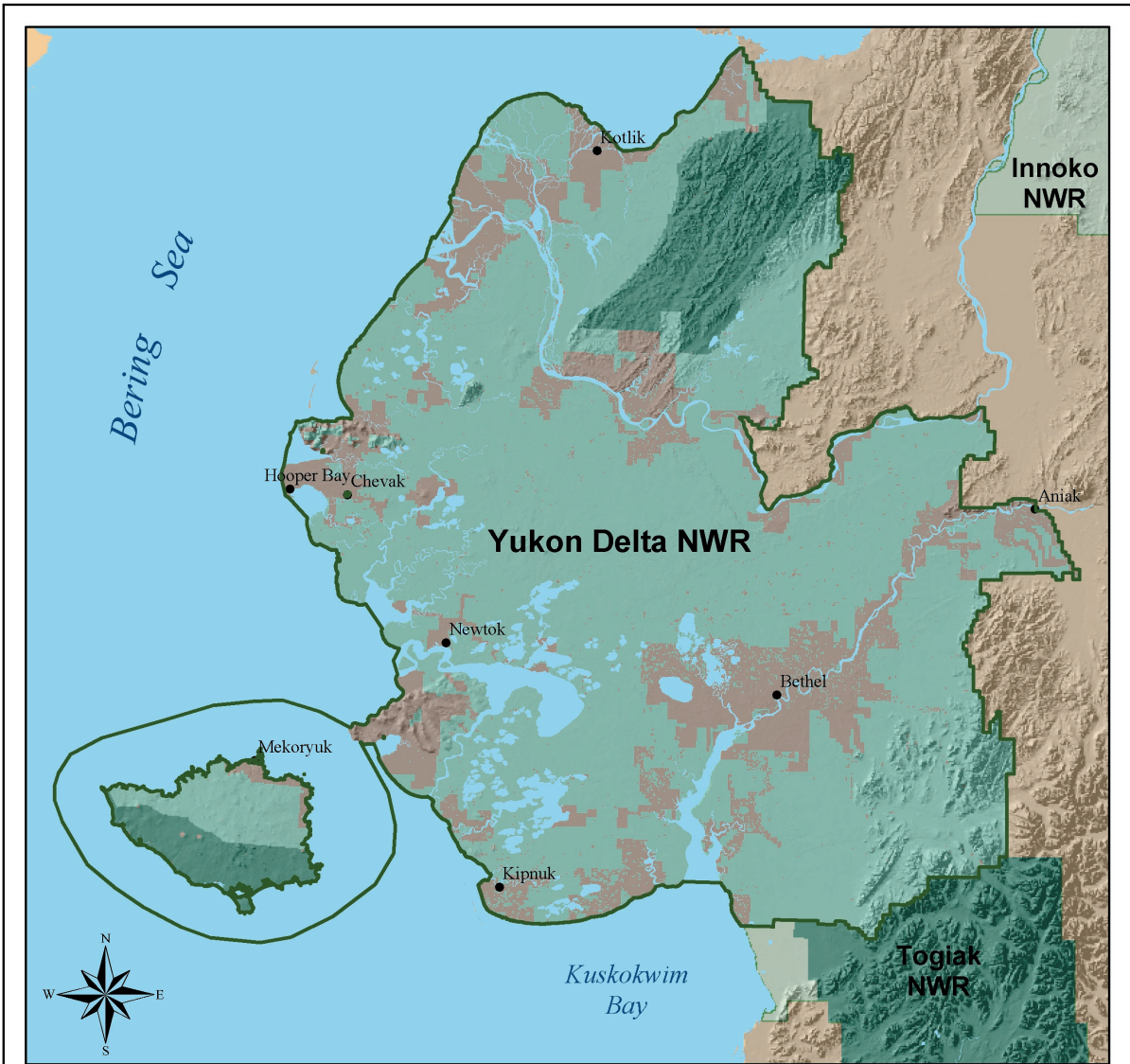
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



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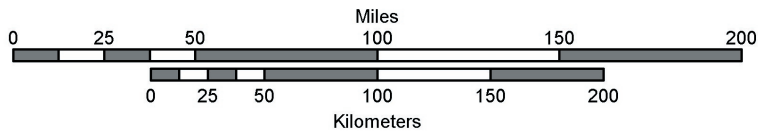
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## Yukon Delta National Wildlife Refuge



-  Yukon Delta Refuge Boundary
-  Other Refuges
-  Yukon Delta Refuge Lands
-  Designated Wilderness
-  Lands Not Administered by Yukon Delta NWR



Land status represents USFWS interpretation of BLM records. Small parcels may not be visible at this scale.

15-0068



# Introduction

The U.S. Fish and Wildlife Service manages the Yukon Delta National Wildlife Refuge as a unit of the National Wildlife Refuge System. The Service is charged with conserving the fish, wildlife and habitats of these refuges for the benefit of present and future generations. However, this task is complicated by the fact that the Service does not own or have management authority over all of the land within the refuge boundaries. Of the 26 million acres of land and water within the Yukon Delta boundary, private landowners have title or claims to nearly 8 million acres\* (Table 1).

*Private landowners own or have claims to about 8 million acres of land within refuge boundaries. However, about 2 million acres of these claims conflict or overlap with other claims.*

*Refuge management may be complicated when refuge lands are interspersed with private lands.*

**Table 1. Land status overview for the Yukon Delta Refuge as of August 2004**

<i>Current Status</i>	<i>Acres</i> <sup>1</sup>
Native Corporation <sup>2</sup> (conveyed)	4,111,620
Native Corporation <sup>2</sup> (selected)	3,422,913
State of Alaska <sup>2</sup> (conveyed/selected)	63,052
Native Allotments (conveyed/selected) <sup>2</sup>	341,050
Other Patents <sup>2,3</sup>	10,464
Other Federal Withdrawals	5,940
Total Claims <sup>2</sup>	7,955,039
Total Refuge Land <sup>4</sup>	16,193,836
Total Conflicting/Overlapping Claims	(2,075,836)
Water Acres <sup>5</sup>	2,579,961

<sup>1</sup> Acreage figures are GIS-calculated approximations and are subject to change. Land status acreage figures in Alaska will not be finalized until conflicting/overlapping claims are adjudicated by the Bureau of Land Management, and all inholdings are surveyed.

<sup>2</sup> Includes conflicting and overlapping claims. Conflicting claims: parcels claimed by two or more entities; overlapping claims: parcels claimed twice by a single village corporation—to fulfill two different ANCSA entitlements.

<sup>3</sup> Other patents include ownership categories such as headquarter sites, soldier's additional homesteads, trade and manufacturing sites, and mission sites.

<sup>4</sup> Refuge lands selected by other entities are excluded.

<sup>5</sup> Approximate GIS-calculated acreage of lakes greater than 50 acres and major rivers, regardless of ownership. The navigability status for most waterbodies within the refuge boundary has not yet been resolved.

\*Acreages are Geographic Information System (GIS) approximations and may differ from the official number published in the USFWS "Annual Report of Lands Under Control of the U.S. Fish & Wildlife Service" as of September 30, 2003.



*A Land Conservation Plan does not obligate the Service or the landowner to take any action.*

Refuge lands are managed to conserve fish, wildlife, and their habitats in their natural diversity. However, fish and wildlife range freely between refuge and private lands and depend on the health of the entire ecosystem. Just as management actions on Service lands can affect private landowners, actions on private lands may affect our ability to conserve wildlife. It is important for us to work with landowners to improve management of the Yukon Delta Refuge. Our success depends on developing partnerships with private landowners. We are particularly interested in working with people whose lands have high fish and wildlife habitat values.

This Land Conservation Plan, or LCP, is the only report that focuses on private lands within the refuge boundaries. It explores the effects of private lands on refuge resources, and provides an opportunity to discuss key refuge issues and ways we can work with private landowners to protect fish and wildlife resources.

### **LCP Products**

The following products of the LCP process are available on CD-ROM:

- **Land Conservation Plan—Options for the Protection of Fish and Wildlife Habitats:** The complete text of the Land Conservation Plan.
- **Land Conservation Plan Summary:** An abbreviated summary of the Land Conservation Plan.
- **Yukon Delta Refuge Map:** A zoomable, printable map in ArcReader format that displays land status and conservation priorities.
- **ArcReader:** Free, downloadable software for viewing the Yukon Delta Refuge map.

*A large component of the land within the Yukon Delta Refuge will always be owned and managed by Native corporations, the State of Alaska, or private individuals. The LCP provides a framework for working with interested landowners to conserve key resources.*



U.S. Fish & Wildlife Service. School children on Numivak Island (circa 1940s).





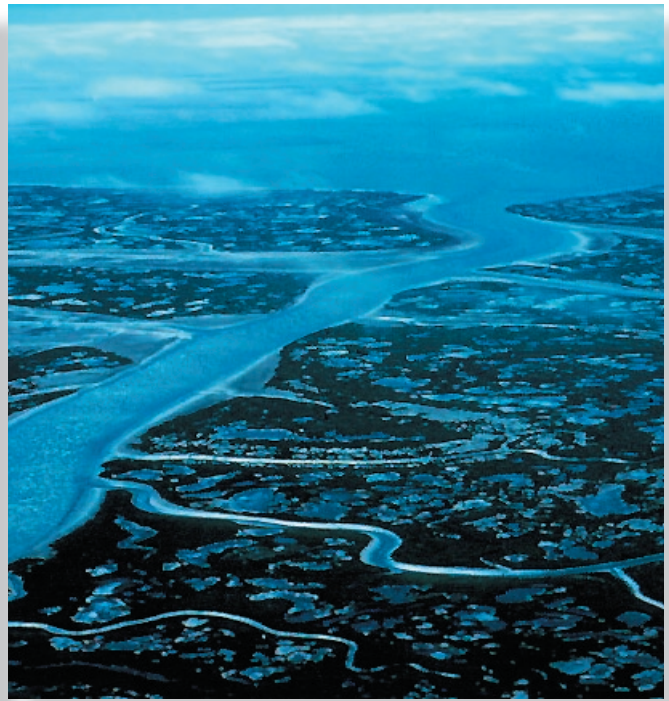
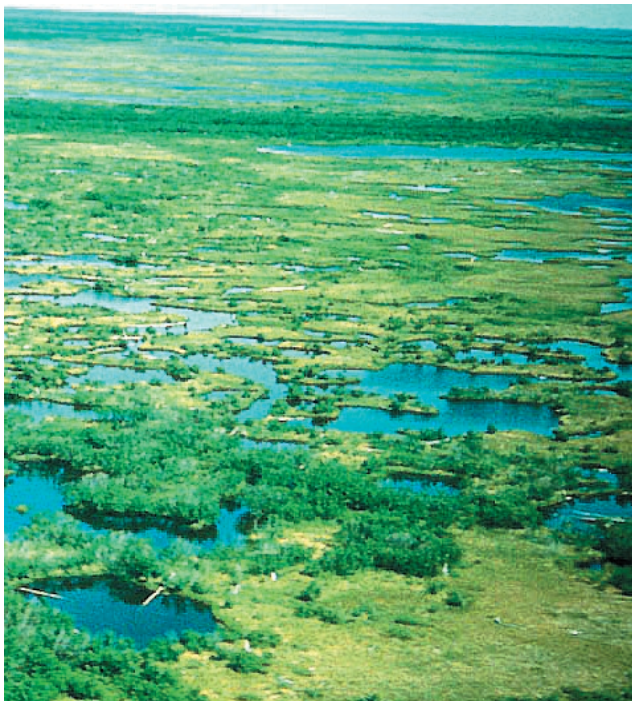
## Important Resources

*In North America, only the Mississippi Delta is larger than the Yukon-Kuskokwim River Delta.*

### Landscape

The Yukon Delta Refuge is the largest unit of the National Wildlife Refuge System. Stretching from Nunivak Island in the Bering Sea, east for 300 miles to the village of Aniak, this refuge spans more than 26 million acres of the Yukon-Kuskokwim Delta. The two largest rivers in Alaska, the Yukon and the Kuskokwim, flow through the refuge. These rivers and their tributaries formed the delta, and they continue to be the major factor shaping the refuge landscape. About 70% of the refuge is a broad, flat delta less than 100 feet in elevation, covered by countless lakes and ponds. Flooding is common along the rivers and in the lowlands, especially during the spring. The extensive coastal wetlands are frequently inundated by the Bering Sea.

The landscape is dominated by low-lying wetlands, but uplands and mountains are found along the northern, eastern, and southern borders of the refuge. The southern extension of the Nulato Hills is located near the refuge's northern boundary. Rising from 1,000 to 3,000 feet in elevation, these rounded hills are the western extension of this large geographic feature. The Askinuk Mountains are located along the refuge's western coast, immediately south of Scammon



*Much of the refuge is low-lying and frequently inundated by the Bering Sea and numerous river systems.*



Brian McCaffery

*The Askinuk Mountains*

Bay. This range covers an area 10 by 40 miles in size and is the only part of the coastal plain that has been glaciated. The Kusilvak Mountains are located approximately 40 miles west of the village of St. Mary's and southeast of Nunavaknuk Lake. Rising 2,300 feet, they extend for eight miles from north to south, and five miles east to west. The Ingakslugwat Hills, north of Baird Inlet, are a group of small volcanic cones, lava flows, and craters, with the tallest reaching 650 feet. These hills may be one of the most recently active volcanic areas on the Delta. The Kilbuck Mountains are the southern extension of the Kuskokwim Range. Located in the southeast part of the refuge, they range from 2,000 to 4,000 feet elevation.

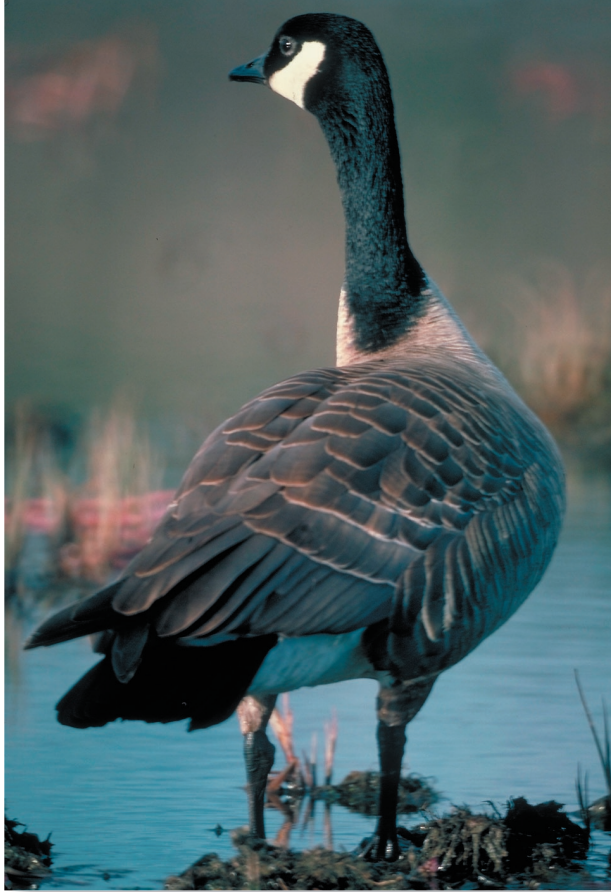
Two major islands are located within the refuge. Nunivak Island lies 20 miles off the coast, and is over a million acres in size. This island is volcanic in origin with several peaks from 1,000 to 1,600 feet high. Coastal bluffs range from 100 to 450 feet high, while sandy beaches along the southern coast merge into active sand dunes greater than 100 feet in height. The lack of extensive beaches and protective foredunes make the active sand dunes particularly susceptible to erosion. The second largest island is Nelson Island, separated from the mainland by the Ninglick River to the north, Baird Inlet to the northeast, and the Kolavinarak River to the east. The southern portion of this island is low, covered with small lakes and streams, while the northern terrain is more rugged with several peaks over 1,300 feet in elevation.

Refuge vegetation is primarily subarctic tundra, underlain by permafrost, supporting a variety of scrub, peatland, heath meadow, marsh, and bog habitats. Tall scrub and forest habitats are found in the eastern interior areas, while alpine tundra occurs in the mountainous areas at higher elevations. Less than five percent of the refuge is forested. Narrow bands of riparian, black spruce-hardwood, mixed black spruce-balsam poplar, and balsam poplar woodlands extend onto the delta along the Yukon and Kuskokwim Rivers and their tributaries. In addition, pockets of black spruce and white spruce are interspersed throughout the Kilbuck and Andreafsky Mountains. None of the wooded areas contain timber suitable for commercial harvest.

## **Fish and Wildlife Resources**

**Birds**—The abundance of lakes, ponds, streams, inlets, bays, and coastal areas within the refuge support an extremely rich and varied community of fish and wildlife species. The Yukon-Kuskokwim Delta supports one of the largest aggregations of water birds in the world. Annually, over one million ducks and half a million geese breed here, and in some summers, up to a third of the continent's northern pintails can be found on the refuge. Waterfowl from all four North American flyways depend on the wetland habitats of the Yukon-Kuskokwim Delta. In addition, nearly 40,000 loons, 40,000 grebes, 100,000 swans and 30,000 cranes return to nest on the refuge each spring. About 900,000 young ducks are produced here each year, more than 40% of the statewide total. The high concentration of nesting and brood rearing habitats for waterfowl, shorebirds, and seabirds give it national significance. Additionally, the Delta meets all of the criteria to be considered a Wetland of International Importance under Article 2 of the Ramsar Convention.

*The high concentration of nesting and brood rearing habitats for waterfowl, shorebirds, and seabirds give international significance to the refuge.*



*The refuge is extremely important to all four species of Arctic nesting geese. The entire world population of cackling Canada geese (left), the smallest race of Canada goose, nests within about 15 miles of the coastline.*

*Most of the world's population of emperor geese (above), about 80% of breeding Pacific brant (below), and tens of thousands of white-fronted geese also nest on this huge, productive delta.*



*The Pacific flyway population of greater white-fronted geese are among the first waterfowl to return to the delta each spring. Most nest here and winter from central California to Mexico.*



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Millions of shorebirds use the refuge for both breeding and staging. In terms of both density and species diversity, the Delta is the most important shorebird nesting area in the country. Shorebirds are impressive long-distance migrants, undertaking annual migrations that may exceed 10,000 miles. During migrations, most species rely on productive wetlands sites where they stop to rest and refuel. Intertidal habitats in the Yukon-Kuskokwim Delta and along the north side of the Alaska Peninsula support millions of migrating shorebirds, especially sandpiper species such as dunlin, western sandpiper, and red knot (Gill and Jorgensen 1979, Gill and Handel 1990). In fact, the Delta's vast intertidal zone is the most important wetland for post-breeding shorebirds on the west coast of North America.

*Several paleotropical songbirds breed on the refuge. Some of these breed no where else in North America. During the non-breeding season, paleotropical species migrate westward into the "old world" tropics of Asia, Africa, or India.*

Some of the shorebird species that nest in the refuge have very restricted breeding ranges. For instance, the black turnstone nests only in Alaska, and most nest along the Yukon Delta coastline. Bristle-thighed curlews nest in only two small, disjunct regions: the Andreafsky Wilderness within the refuge and the central Seward Peninsula (Tibbetts, pers. comm.).

Many species of landbirds breed within the refuge. Some old world species, including the bluethroat, white wagtail, yellow wagtail, and northern wheatear breed nowhere else in the United States. These species migrate to Asia during the non-breeding season. Other species leave their refuge nesting grounds to winter in the lower-48 States, Mexico, the Caribbean, or Central and South America.

Cliffs and islets along the coast of Nunivak Island provide nesting sites for an estimated 500,000 seabirds, primarily common murres and black-legged kittiwakes, but also pelagic, red-faced, and double-crested cormorants, glaucous-winged and glaucous-winged x glaucous gull hybrids, horned and tufted puffins, parakeet and crested auklets, and pigeon guillemots.

*During the breeding season, horned puffins often raft in flocks on inshore waters close to their colonies. They disperse widely during the winter months.*



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Nineteen species of raptors have been recorded on the refuge, including golden eagles, bald eagles, and peregrine falcons. The Kisaralik River is among the most important areas on the refuge for nesting raptors, and supports one of the densest populations of breeding golden eagles in North America. Along approximately 100 km of river in late April and early May of 2001, 16 active cliff nests (10 golden eagle and 6 gyrfalcon nests) were documented within 1.6 km of the river.

*Peregrine falcons are among the raptors that nest on the refuge. Their dramatic nation-wide declines helped increase awareness of DDT and other chemical contaminants. The species has rebounded throughout much of its range.*



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# Shorebirds

*Rock sandpiper*



*Susan Steinmacher*

*Short-billed dowitcher*



*Dave Menke*

*Black oystercatcher*



*Barry Reswig*

*Pacific golden-plover*



*Lee Karney*

*Black turnstone*



*Many of the shorebirds that nest in the Yukon Delta Refuge have breeding ranges that are largely or completely limited to Alaska. Shorebirds with restricted ranges are particularly vulnerable to localized disturbances.*

*Black turnstones nest only in Alaska and most nest along a narrow fringe of the Yukon Delta coastline. The turnstone's tendency to nest in the lowest vegetated intertidal regions makes it vulnerable to habitat loss or change due to a rise in global sea levels.*

*The bristle-thighed curlew nests in only two areas: the Andreafsky Wilderness and central Seward Peninsula. The total breeding population, estimated at 3,200 pairs (Gill et al. 1990), is among the smallest of any shorebird. There is evidence that the population is being affected by anthropogenic factors on its wintering grounds in the South Pacific.*

*Bristle-thighed curlew*







Tim Bowman, U.S. Fish and Wildlife Service

*Some shorebirds appear to fly non-stop from their staging grounds in Alaska to distant wintering areas. Each fall, nearly 100,000 bar-tailed godwits depart staging areas on the Bering Sea coast for wintering grounds in Australia and New Zealand. There is strong evidence that many fly non-stop—a distance of nearly 7,000 miles. In order to make what may be the longest nonstop migration of any bird, bar-tailed godwits carry the greatest known fat loads of any migrant bird (McCaffery and Gill, 2001). High quality staging habitat is crucial for building the fat reserves needed for these long journeys.*

**Fish** – Waters within the boundary, including the coastal Bering Sea, provide habitat for at least 40 species of fishes. The Yukon and Kuskokwim rivers, support regionally and internationally significant salmon fisheries. Waters flowing through the refuge contribute substantially to the commercial and/or subsistence harvests of chinook, chum, coho and sockeye salmon in Kuskokwim Bay, Norton Sound, and the lower Yukon and Kuskokwim rivers. Yukon-Kuskokwim origin salmon also contribute to the commercial harvests (harvested incidentally in the sockeye fishery) in the Area M and False Pass fisheries of the Alaska Peninsula and bycatch from the North Pacific groundfish fisheries. Sheefish, several species of whitefish, Alaska blackfish, burbot, northern pike, Dolly Varden, rainbow trout, and grayling are important resident freshwater species found on the refuge. Near-shore ocean habitats harbor Pacific herring, halibut, tomcod and starry flounder.



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*Several streams, including the Kisaralik and Kwethluk rivers, support populations of rainbow trout.*

**Marine Mammals** – Several species of marine mammals use the coastal lands and near-shore waters of the refuge. Some provide a vital subsistence resource for coastal villages. Pacific walruses, spotted seals, ringed seals, and Pacific bearded seals are hunted on the ice in spring, and seals are hunted in bays and estuaries during the summer. Harbor and Dall porpoises, northern fur and harbor seals, and beluga, fin, gray, killer, and minke whales also inhabit near-shore waters.

**Large Mammals** – Historically, caribou were abundant on the Yukon-Kuskokwim Delta. During their peak in the 1860's, they were found throughout the refuge, even crossing the pack ice to reach Nunivak Island. From the 1860s to 1990s, caribou nearly disappeared from the area, with remnant herds using the Kilbuck and Andreafsky mountains. In the 1990s, tens of thousands of the burgeoning Mulchatna Caribou Herd began crossing north of the Kilbuck mountains and entering portions of the lower Kuskokwim River on an annual basis. It is uncertain whether this trend will continue.

*Large mammals such as moose, bear, wolf, lynx, and caribou are found on refuge lands.*

Moose were rare on the delta prior to 1950. Populations are still very low over many portions of the refuge, but are increasing along the Yukon River and have reached their highest densities in the area between the villages of Russian Mission and Holy Cross.

Wolves are present in low to medium densities in the northern and western parts of the refuge. Small numbers of lynx occur in the Andreafsky Wilderness and along major river corridors in the western portion of the refuge. Both black and brown bears use the refuge. Brown bears are most common in the Andreafsky and

*In 1997, the Alaska-breeding population of the Steller's eider was listed as threatened under the Endangered Species Act. Once considered a "common" breeder in the central Yukon-Kuskokwim Delta, only a very small breeding population remains.*



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Kilbuck mountains and near major river corridors. Black bears can be found in the forests and riparian corridors of the eastern portion of the refuge.

**Threatened or Endangered Species** – There are four threatened or endangered species currently or historically known to use the refuge. Historically, the Eskimo curlew used the tundra near St. Michael during the spring and fall for staging before and after migrating. However, this species has not been documented near St. Michael since the 19<sup>th</sup> century.

Small numbers of endangered Steller sea lions haul out on the rocks at Cape Romanzof and on Nunivak Island, near the northern extent of their range. The western population of Steller sea lions, which inhabits waters west of 144<sup>o</sup> W. longitude, declined by about 80% between the late 1970s and mid-1990s.

Only a small part of the Steller's eider population, at most a few thousand pairs, breeds in Alaska, with the majority continuing on to Russia. However, the waters adjacent to the refuge are extremely

*The spectacled eider is a threatened diving duck that spends most of the year in marine waters. Breeding pairs move onshore to nest in wet, coastal tundra, typically within a few meters of shallow ponds or lakes.*



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*Pacific walrus*



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*Pacific bearded seal*



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*Several species of marine mammals use the near-shore waters and coastal areas of the refuge. Some provide an important source of meat, fur, or oil for area residents.*

*The walrus is a gregarious species that winters in the Bering Sea pack ice and follows the receding ice northward in the spring. The bearded seal is primarily a solitary species that is always closely associated with moving ice. Harbor seals are non-migratory, but may make limited movements in response to prey availability. They are usually solitary in the water, but may haul out in large groups on land.*

*Harbor seal*



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*The Yukon Delta's coastal zone is the most important nesting area worldwide for emperor geese, Pacific brant, tundra swans and cackling Canada geese.*

important to a large portion of the population. Each spring, tens of thousands of eiders stage on the Kuskokwim Shoals along the refuge's southern coastline prior to moving to their arctic breeding grounds. Each fall, tens of thousands migrate south past Cape Romanzof, with several thousand stopping at the Kuskokwim Shoals and along the shoreline of Nunivak Island to molt.

Spectacled eiders historically nested along much of the western coast of Alaska. From the 1970's to the 1990's, the breeding population on the Yukon-Kuskokwim Delta declined by more than 96%. Currently, the delta is one of only three primary nesting areas. Only about 4,000 pairs nest there today.

**The Coastal Zone** - The refuge's most productive wildlife habitat is found in the coastal region bordering the Bering Sea. This narrow strip of land is unquestionably the most productive goose nesting habitat in Alaska and is the most important nesting area worldwide for tundra swans, Pacific brant, emperor geese, and cackling Canada geese. Half of Alaska's waterfowl are produced here. In addition, a large fraction of the Pacific Rim or world populations of bristle-thighed curlews, black turnstones, bar-tailed godwits, red knots, western sandpipers, dunlins and rock sandpipers nest or stage in the coastal zone. Shorebirds depend on food-rich staging areas to build fat reserves in preparation for non-stop migrations that often exceed a thousand miles. Apparently there are few places that have the right combination of resources, for in some cases 50% or more of the population may visit a single site. The staging areas on the Yukon-Kuskokwim Delta are critically important to the hemispheric populations of these species.

*The coastal zone is an extremely important staging area for shorebirds. These intertidal habitats are a crucial food resource to millions of migrating shorebirds, especially sandpiper species such as dunlin, western sandpiper (pictured), and red knot.*



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## Land Status

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*The Yukon Delta National Wildlife Refuge was established by ANILCA in 1980.*

*Nearly 8 million acres are owned or claimed by Native corporations or other entities.*

The Alaska Native Claims Settlement Act of 1971 was the major factor shaping land ownership patterns within the Yukon Delta Refuge. This Act authorized the formation of village and regional Native corporations, and established procedures enabling these organizations to select and gain title to large blocks of Federal land.

When Congress subsequently established the Yukon Delta Refuge, the boundaries were drawn roughly along major ecological features, such as watershed boundaries, regardless of existing land ownership patterns. Consequently, the refuge boundaries incorporated many lands that were owned or claimed by individuals, Native corporations, or the State of Alaska.

The exterior boundaries of the refuge encompass approximately 26,358,350 acres, including about 2.3 million acres of marine submerged land around Nunivak Island. About 16,199,507 acres of land are unencumbered by other claims and are administered by the refuge. Regional and village Native corporations currently own or claim more than 7.5 million acres. In addition, numerous privately-owned small parcels, including Native allotments, mission sites, homesteads, and other private patents, are scattered across the refuge. The remaining sections of this chapter will summarize the history and current land ownership patterns on the refuge.

### History

The present boundaries of the Yukon Delta Refuge incorporate a number of historic preserves and reservations dating to the early 1900s (Figure 1). The first of these, the Yukon Delta Reservation, was established in 1909 by President Theodore Roosevelt (Executive Order 1041). The Reservation set aside more than 10 million acres south of the Yukon River as a preserve and breeding ground for native birds. However, the life of the reservation was short-lived; the E.O. was revoked thirteen years later by Thomas Harding (E.O. 3642).

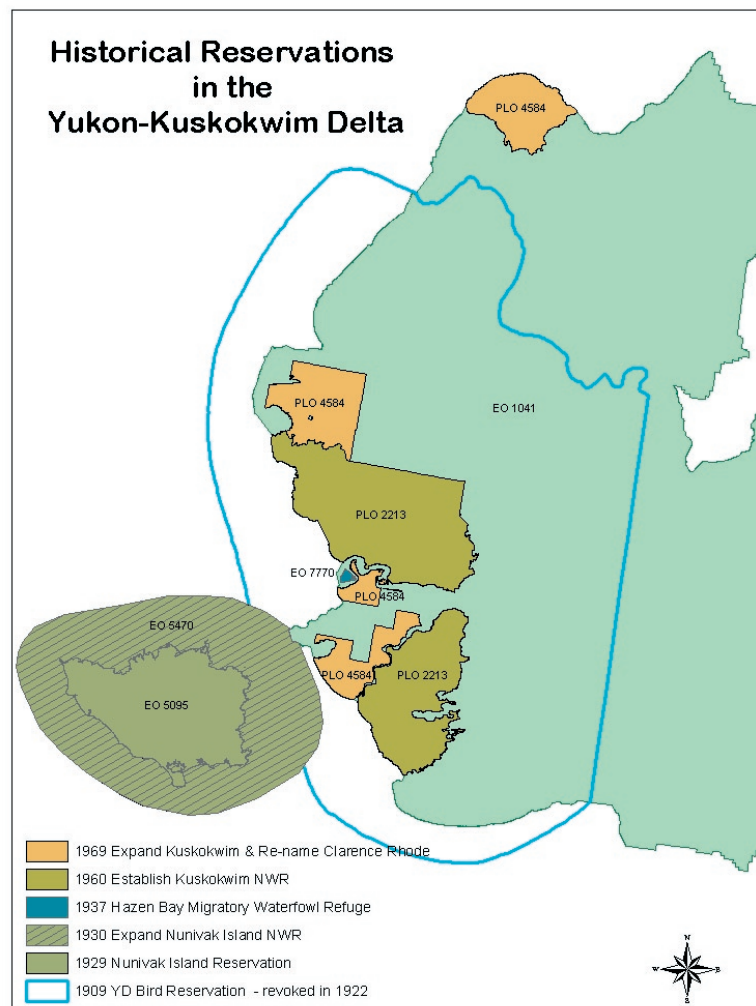
In 1929, Herbert Hoover established the Nunivak Island Reservation (E.O. 5095). The island was reserved for experiments in the crossbreeding and propagation of reindeer and native caribou, musk ox reestablishment studies, and as a breeding ground for native birds, wild game and fur-bearers. Two years later, President Hoover expanded the Nunivak Island Reservation to include Triangle Island and all unnamed islands and rocks adjacent to Nunivak.

In 1937, Franklin Roosevelt established the Hazen Bay Migratory Waterfowl Refuge (E.O. 7770) when he reserved Nunivakchak and Krigegek Islands as a refuge and breeding ground for migratory birds and other wildlife. A few years later, the name was changed to Hazen Bay National Wildlife Refuge.

In 1960, Interior Secretary Fred Seaton established the 1.8 million acre Kuskokwim National Wildlife Range (PLO 2213) as a “refuge, breeding ground and management area for all forms of wildlife”. The wildlife range included two disjunct areas: Area 1 extended from Hooper Bay to Baird Inlet Island and east to Aropuk Lake. Area 2 extended from Nelson Island to Dall Lake to the south shore of Baird Inlet. The PLO protected the rights of “the natives in the area to hunt, fish, trap and carry on their other normal activities”. The following year the range was renamed the Clarence Rhode National Wildlife Range. In 1969, Interior Secretary Stewart Udall added prime waterfowl breeding habitat to the Range (PLO 4584) by adding three more units (Nelson Island, Kokechik River, and Yukon units).

Finally, on December 2, 1980, President Jimmy Carter signed the Alaska National Interest Lands Conservation Act (94 Stat. 2371). Among other things, ANILCA created the Yukon Delta Refuge by adding 13,400,000 acres of public land to the existing Clarence Rhode Range, Hazen Bay Refuge, and Nunivak Island Reservation.

*The Yukon Delta Refuge incorporated several historical refuges and wildlife ranges.*



*In 1969, the Kuskokwim Refuge was renamed in honor of Clarence Rhode, a former Alaska Director of the Fish & Wildlife Service whose plane disappeared in 1958. The Clarence Rhode Refuge was incorporated into the Yukon Delta Refuge in 1980.*



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*Village corporations were able to select lands under the authority of ANCSA §12(a) and §12(b).*

*Forty-six village corporations own land inside the refuge boundary.*

### **Village Native Corporation Land**

The Alaska Native Claims Settlement Act of 1971 legally settled Native aboriginal claims, while accommodating State and conservation interests. Much of the land in the Yukon-Kuskokwim Delta was available for conveyance to village Native corporations.

Currently, about 4,103,913 acres have been conveyed to 46 village corporations and approximately 3,388,665 acres have been selected (Table 1). However, this figure includes 2,008,526 acres of conflicting and overlapping selections. Conflicting selections occur whenever a single parcel of land is selected by more than one village or entity. Overlapping selections occur whenever a given parcel is selected twice by a single village corporation—to fulfill both a 12(a) and a 12(b) entitlement.

Sections 12(a) and 12(b) of ANCSA set rules for the village corporation selection process. The general land entitlement framework required that a 25-township area surrounding each Native village be made available for land selection and conveyance to the respective village corporation. This land entitlement is commonly referred to as the “12(a) entitlement”. The acreage of the entitlement ranged from 69,120 to 161,280 acres depending on the number of shareholders enrolled in the village corporation. In addition, each regional corporation (e.g. the Calista Corporation)



**Table 2. Surface land status of the Yukon Delta Refuge as of August 2004**

Category of Lands	Landowner	Acres Conveyed <sup>1</sup>	Acres Selected	Total Acres <sup>2</sup>	Conflicting Land Claims <sup>3</sup>	Estimated Water Acres <sup>4</sup>
<b>Federal - Refuge</b>	U.S. Fish & Wildlife	16,199,507		16,199,507	6,620	1,966,508
<b>Other Federal Government</b>	Department of Defense	4,892		4,892	278	12
	Department of Transportation	126		126	130	
	Department of Homeland Security (US Coast Guard)	809		809	510	10
	Department of Interior (BLM, BIA)	84		84	38	2
	Department of Health & Human Services (Public Health Service)	29		29	57	
	<b>Total Other Federal</b>		<b>5,940</b>		<b>5,940</b>	<b>1,013</b>
<b>State Government</b>	State of Alaska	<b>61,639</b>	<b>1,412</b>	<b>63,051</b>	<b>3,391</b>	<b>3,786</b>
<b>Native Allotments</b>	Many	<b>255,262</b>	<b>85,788</b>	<b>341,050</b>	<b>37,688</b>	<b>6,808</b>
<b>Regional Native Corporation</b>	Calista Corp. (Regional)	5,205	24,096	29,301	11,009	1,700
	Doyon Corp (Regional)	2,502	1	2,503		6
	<b>Total Regional Corp.</b>	<b>7,707</b>	<b>24,097</b>	<b>31,804</b>	<b>11,009</b>	<b>1,706</b>
<b>Other Private</b>	Many	<b>10,464</b>		<b>10,464</b>	<b>77</b>	<b>149</b>
<b>Village Native Corporation</b>	Akiachak Ltd	91,481	49,214	140,695	11,327	4,722
	Alakanuk Native Corp.	139,082	74,317	213,399		18,034
	Askinuk Corp.	88,938	51,768	140,706	1,001	6,584
	Atmautluak Ltd	71,129	103,573	174,702	105,371	38,490
	Azachorok Inc.	112,314	114,471	226,785	101,337	8,140
	Bethel Native Corp.	123,829	98,107	221,936	6,373	15,829
	Chefarmmute Inc.	78,000	63,794	141,794	1,245	7,709
	Chevak Company	129,834	81,685	211,519	10,352	29,168
	Chuloonawik	68,353	33,700	102,053	0	10,010
	Emmonak Corp.	133,964	49,710	183,674	667	14,978
	Iqfijuaq Corp.	92,516	76,977	169,493	70,284	5,908
	Kasigluk Inc.	86,523	77,222	163,745	539	22,659
	Kokarmuit Corp.	96,770	78,540	175,310	72,990	3,906
	Kongnikilnomuit Yuita Corp.	68,510	36,418	104,928	18	12,359
	Kotlik Yupik Corp.	114,795	109,867	224,662	111,319	19,847
	Kugkaklik Ltd	84,988	117,309	202,297	96,590	9,489
	Kwethluk Inc.	128,889	81,018	209,907	80,787	8,840
Kwik Inc.	64,783	186,380	251,163	180,464	28,560	
Masereculiq Inc.	62,268	22,531	84,799	7,847	1,893	
Napakiak Corp.	106,245	85,877	192,122	23,394	33,540	

Category of Lands (Continued)	Landowner	Acres Conveyed <sup>1</sup>	Acres Selected	Total Acres <sup>2</sup>	Conflicting Land Claims <sup>3</sup>	Estimated Water Acres <sup>4</sup>
	Napaskiak Corp.	99,697	111,568	211,265	96,222	22,305
	Nerklikmute Native Corp	68,550	37,867	106,417	9,007	2,507
	Newtok Corp	62,048	111,718	173,766	105,655	41,387
	Ngta Inc	62,487	78,765	141,252	38,901	6,054
	Nima Corp.	89,335	57,073	146,408	339	6,771
	Nunakauiak Yupik Corp.	105,938	72,390	178,328	91	12,654
	Nunapiglluraq Corp.	66,488	29,489	95,977	80	13,225
	Nunapitchuk Ltd	89,933	155,847	245,780	156,353	44,086
	Ohog Inc.	47,717	32,100	79,817	32,296	1,223
	Oscarville	61,116	89,712	150,828	79,580	13,308
	Paimiut Corp.	70,991	53,900	124,891	14,936	11,798
	Pilot Station Native Corp.	114,146	33,871	148,017	24,618	1,986
	Pitkas Point Native Corp.	62,441	56,798	119,239	43,742	1,811
	Qanirtuug Inc.	22,982	10,633	33,615	10,791	106
	Qemirtalet Coast Corp.	93,520	126,744	220,264	119,779	4,997
	Russian Mission Native Corp.	39,896	36,676	76,572	36,686	2,609
	Sea Lion Corp.	126,950	116,277	243,227	465	25,383
	St. Mary's Native Corp.	104,739	44,823	149,562	44,823	235
	St. Michael Native Corp.	9,503	26,347	35,850	10,707	388
	Stebbins Native Corp.	92,678	56,128	148,806	23,461	1,958
	Swan Lake Corp.	87,652	49,156	136,808	0	23,882
	The Kuskokwim Corp.	244,445	123,777	368,222	98,199	5,333
	Tulkisarmute Inc.	81,188	34,975	116,163	1,600	3,206
	Tuntutuliak Land Ltd.	89,778	105,308	195,086	95,052	6,702
	Tununrimiut Rinit Corp.	104,805	108,492	213,297	82,905	43,724
	Umkumiutel Ltd	61,680	35,755	97,435	333	1,494
	<b>Total Village Corporation</b>	<b>4,103,913</b>	<b>3,388,665</b>	<b>7,492,578</b>	<b>2,008,526</b>	<b>599,797</b>
	<b>Total Conveyances/Selections</b>			<b>7,944,888</b>		
	<b>Total Area within Refuge Boundary</b>			<b>26,258,350</b>		

<sup>1</sup> Includes patented and Interim Conveyed (IC) lands. Only land claims within the refuge boundary are reported. Many corporations have additional claims outside the refuge.

<sup>2</sup> All acreages are GIS-calculated approximations and may differ from official acreage figures reported elsewhere. All figures include conflicting and overlapping selections and land that is covered by water.

<sup>3</sup> Overlapping land claims include: (1) parcels claimed by more than one village or entity; and (2) parcels claimed twice by a single village corporation—to fulfill both a 12(a) and a 12(b) entitlement.

<sup>4</sup> Approximate GIS-calculated acreage of unadjudicated major rivers and water bodies larger than 50 acres, regardless of ownership. Navigability status for most waterbodies inside refuge boundaries has not yet been legally determined.

was given the discretion to allocate additional acreage to village corporations. This allocated acreage is known as the “12(b) entitlement”. The Calista Corporation chose to divide the 12(b) allocation based on village corporation enrollment. Most village corporations have selected sufficient lands to fulfill their 12(b) entitlements, but very little land has been conveyed.

*Insufficient available land prevented some villages from meeting their entitlements. ANCSA 11(a)(3) authorized these villages to select land in designated “deficiency areas”.*

Sixteen of the Native villages in the Calista region were unable to select sufficient lands adjacent to the village to complete their 12(a) entitlement. Nine of these villages are located within or adjacent to refuges created prior to ANCSA, including the Nunivak Island Reservation and the Clarence Rhode National Wildlife Refuge. ANCSA conveyance rules limited village conveyances within these “old refuges” to 69,120 acres, regardless of their entitlement acreage. An additional seven villages were unable to meet their entitlements because of their close proximity to one another. The overlapping withdrawal areas around these villages created a situation where there was insufficient available land for each village to obtain their full entitlement. Villages unable to fulfill their entitlement for either of these reasons had to select their remaining entitlement from other public lands in designated “deficiency areas”, authorized by Section 11(a)(3) of ANCSA.

By the time these deficiency land withdrawals expired, all but the Bethel Native Corporation and NIMA Corporation had selected sufficient lands to fulfill their entitlements. Section 1410 of ANILCA gives these underselected village corporations another opportunity to fulfill their land entitlements by authorizing the Secretary of the Interior to withdraw twice the amount of unfulfilled entitlement, and to give the village corporation 90 days from receipt of notice to select from the withdrawn lands. These withdrawals are limited to lands that were previously withdrawn for the respective village corporations, including deficiency areas. Under the authority of Section 1410, the Bethel Native Corporation has identified an additional 61,125 acres of land to satisfy their full entitlement under Section 12. The NIMA Corporation has also begun the process to select additional acreage in the Dall Lake deficiency area.

*Refuge land status will continue to change as selected lands are conveyed, relinquished or rejected.*

The land status within the refuge will continue to change as selected lands are conveyed, relinquished, or rejected. Several corporations have selected lands in excess of their entitlement that will eventually be relinquished. Land status may also change because of negotiated or legislated land exchanges.

*In April 2004, the Service and the village of Newtok finalized a land exchange.*

The Service has negotiated land exchanges with several villages. In April 2004, the Service and the village of Newtok finalized an exchange that will enable the village to relocate to a more stable location. The traditional village site on the Ninglick River has been eroding at a rate of about 90 feet per year. Under the terms of the land exchange, the Newtok Corporation relinquished 4,956 acres of irrevocable prioritized selections and received 10,943 acres of refuge uplands on Nelson Island. In return the United States received 7,145 acres of corporation wetlands in Aknerkochik.

A pending land exchange with St. Mary’s Native Village Corporation would consolidate ownerships by exchanging about 7,040 acres of village selections for an equal amount of refuge lands. Except for the final conveyance documents issued by the BLM, all other steps of the exchange process have been completed.

A proposed exchange with the NIMA Corporation of Mekoryuk would enable the corporation to acquire additional surface and subsurface estate on Nunivak Island in exchange for about 37,000 acres of corporation lands near Dall Lake.

### **Regional Native Corporation Lands**

Regional corporations hold title to about 7,707 acres of land and have selected an additional 24,097 acres within the Yukon Delta Refuge. More than 11,000 acres of these claims, however, conflict with other land claims.

Land selections by regional corporations were authorized under several different provisions of ANCSA. Under ANCSA §14(h)(1), regional corporations could select significant cemetery sites and places with historic value. The Calista Corporation has 25,917 acres of 14(h)(1) claims in the refuge. A total of 5,196 acres have been conveyed and 20,721 acres are selected. Doyon Limited has one 14(h)(1) selection, totaling 1.4 acres.

Section 14(h)(8) of ANCSA authorized land conveyances to regional corporations. Under this provision, a total of 131 acres has been selected by the Calista Corporation. In addition, the Doyon Corporation has 2,502 acres of conveyances, under the authority of ANCSA §12(c), in the far eastern portion of the refuge.

*Two regional corporations, the Calista Corporation and Doyon Limited, own or have claims to nearly 32,000 acres in the refuge.*



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*Under the authority of ANCSA Section 14(h)(1), the Calista Corporation claimed 955 cemetery and historic sites within refuge boundaries.*

In general, ANCSA conveyance rules granted regional corporations the subsurface rights to the lands conveyed to village corporations [Section 14(f)]. The basic idea was to give villages control of the surface lands necessary to supply their subsistence and economic needs and to give the regional corporations the right to extract valuable mineral interests from the subsurface estate. The rules differed however, if those lands were located within refuge boundaries (i.e., refuges that were established prior to the passage of ANCSA in 1971). When village corporations received title to land within these pre-ANCSA refuges, conveyance rules specified that the subsurface was not to be conveyed to the regional corporation, but would remain under the control of the Service. In compensation, the regional corporation could select an equivalent acreage of “in lieu” subsurface from designated areas that were not part of the refuge system in 1971. In partial compensation for village conveyances in the former Clarence Rhode, Hazen Bay, and Nunivak refuge areas, the Calista Corporation has claimed about 1,260 acres of “in lieu” subsurface selections within the Tuluksak River drainage on the far eastern border of the refuge. In addition, the Corporation has selected 587,385 acres of subsurface elsewhere.

*In 2001, the Calista Corporation received 39.4 million in treasury certificates as part of a legislated land exchange with the Service.*

In 2001, a legislated land exchange between the Service and the Calista Corporation was completed. Under the terms of the exchange, the Service acquired fee title to 29,579 acres, a conservation easement on another 17,356 acres and title to the subsurface estate of 161,938 acres of village corporation lands. In return, the Calista Corporation received \$39.4 million in credits to acquire Federal surplus properties outside of Conservation System Units. The Corporation opted to liquidate the account and has since received 39.4 million in treasury certificates.

## **Native Allotments**

Until its repeal in 1971, the Native Allotment Act of 1906 authorized Alaskan Natives to claim up to 160 acres of land. In addition, a 1998 amendment to ANCSA (Section 432 of P.L. 105-276 [43 U.S.C. 1629g]) authorized qualified Alaskan Native Vietnam veterans to apply for an allotment if they had not previously done so. The 1998 law addressed the concern that military service may have prevented some Native veterans from applying for an allotment under the 1906 Act. The application period for these new allotments closed on January 31, 2002.

*A total of 255,262 acres have been conveyed as Native allotments.*

To date, a total of 1,812 allottees have been deeded 255,262 acres. Another 85,788 acres are selected, including a total of 59 Vietnam veteran allotment claims (about 6,667 acres). Many of these Vietnam veteran selections conflict with selections made by other individuals and organizations including village and regional corporations.

*Certain Vietnam veterans or their heirs could apply for an allotment (160 acres or less) under the provisions of the Vietnam Veterans Allotment Act of 1998 as amended (Public Laws 105-276 and 106-554).*

## **Other Private Patents**

There are a number of other small private patents within the boundaries of the refuge. These include patents issued to individuals or entities under several different statutes. Congress extended the nation’s principal land laws to Alaska in 1884. Many of these laws were designed to encourage private settlement and improvement of public lands.

*Other private patents were issued for homesteads, trade and manufacturing sites, mission sites, and headquarters sites.*

Two patents for homesteads, totaling 68 acres, were issued under the Homestead Act of 1862 and one patent (six acres) was issued for a Soldiers Additional Homestead. Soldiers Additional Homestead entries were open to certain war veterans who had received a homestead of less than 160 acres. These veterans were allowed to claim enough public land to make up the difference between the acreage of their homestead and 160 acres. In addition to homestead entries, 47 acres (11 parcels) were patented as homesites. Homesites were limited to 5 acres or less and were to be used solely for residential purposes.

Between 1915 and 1970, six patents were issued for Trade and Manufacturing sites, totaling 160 acres. The Trade and Manufacturing Act of 1898 allowed a cash entry for up to 80 acres of land to be used as a place of business.

Five patents, totaling about 21 acres, were issued for Headquarters sites under the Headquarters Site Act of 1927. Headquarters sites could be up to five acres in size and were to be used for a productive industry such as commercial fishing, trapping, hunting camps, prospecting or mining.

From 1911 to 1914, a total of six patents (approximately 544 acres total) were issued to the Roman Catholic Church, Society of Brethren, and the Pioneer Educational Society. These patents were grants of public land for church missionary stations.

There are a total of 47 patents (4,360 acres) for townsites or Native townsites, and six airport conveyances (5,258 acres) within the refuge.

### **Other Federal Lands**

*Other Federal agencies control about 6,000 acres of land within the refuge.*

Other Federal agencies control about 5,940 acres of land within the refuge boundaries. The largest of the Federal withdrawals is the nearly 4,900 acre U.S. Air Force withdrawal at Cape Romanzof. The Cape Romanzof Long Range Radar Site was one of 10 original Aircraft Control and Warning sites in the Alaska air defense system that became operational in the early 1950s. The Cape Romanzof AC&W site operated for about 30 years before its conversion to a Minimally Attended Radar site in 1984.

PLO 2020 (11/17/59) and PLO 3428 (8/12/64) reserved lands for use by the U.S. Army's Alaska National Guard. There are National Guard withdrawals in 11 villages within the refuge, totaling about 16 acres. In addition, the U.S. Army appropriated land under 44 L.D. 513 for National Guard sites in two other villages within the refuge. Until its repeal in 1976, the instructions on page 513 of Volume 44 of the Land Decisions (January 13, 1916) established a procedure for Federal agencies to appropriate public land without a formal withdrawal. The process consisted of simply notifying the BLM of the intent to appropriate land with the inclusion of maps or field notes that described the location and extent of the proposed use. Any improvements constructed on the site became the property of the United States. The appropriated lands are treated as a right-of-way interest to the United States in any subsequent patents. The right-of-way terminates only when it is no longer needed or used by the United States and applicable disposal procedures have been followed.

Executive Order 3406 (2/13/21) withdrew more than 6,500 acres throughout Alaska for U.S. Coast Guard light stations and other navigational aids. Within the Yukon Delta Refuge, there are about 800 acres of land withdrawn for U.S. Coast Guard uses. The largest tract, surrounding the Pt. Romanof light, is nearly 600 acres in size. Smaller withdrawals are located at the north entrance to the Yukon River, the Pastolik River, and Cape Stevens.

Other Federal lands within the refuge include about 70 acres withdrawn for use by the Federal Aviation Administration in Bethel and Aniak.

### **State of Alaska**

*The State of Alaska owns nearly 62,000 acres of land within the refuge.*

The State of Alaska currently holds title to approximately 61,639 acres of land within the Yukon Delta Refuge and has selected an additional 1,412 acres. Most of these lands were acquired through Federal grants authorized by the Alaska Statehood Act (PL 85-508). This Act entitled the State to select 102,550,000 acres of vacant, unappropriated and unreserved land under the general grant, and to select an additional 400,000 acres to promote development and expansion of established communities. The State was also granted title to most of the existing roads, airfields, and associated facilities under the Alaska Omnibus Act (Public Law 86-70).

### **Ownership of Lands Beneath Navigable Waters**

In general, the lands beneath tidelands and inland navigable waters were granted to the State of Alaska by the Equal Footing Doctrine, the Submerged Lands Act of 1953, and the Statehood Act of 1958. However, lands beneath water bodies that were reserved or withdrawn by the Federal government prior to statehood on January 3, 1959, may have been retained by the United States.

*In most cases, ownership of submerged lands within refuge boundaries depends on whether the water body is navigable.*

If the U.S. did not reserve or withdraw submerged lands, then the ownership of submerged lands is determined on the basis of navigability. If a water body is determined to be navigable, the underlying bed of the river or lake belongs to the State; if non-navigable, the bed belongs to the adjacent landowner(s). The term “navigable” has a legal definition and does not simply refer to whether a boat can navigate the body of water. Disagreements over what waters are navigable or non-navigable are resolved through the Federal courts.

*The State of Alaska is seeking quiet title actions to resolve ownership of certain submerged lands.*

From 1992-1997, the State of Alaska notified the Secretary of Interior of its intent to file real property quiet title actions to resolve submerged land ownership beneath a number of Alaska lakes and streams. The Notice of Intent filed by the State included a list of 15 rivers and lakes located within the Yukon Delta Refuge. Since filing the notice, the State has taken no further action to quiet title to these submerged lands.

Judicial action through the Quiet Title Act has been the primary means of clearing title to submerged lands. However, recent Bureau of Land Management regulation changes regarding recordable Disclaimers of Interest may provide an administrative means to clear title to submerged lands. Disclaimers of Interest are legal documents that allow the Secretary of Interior, acting through the BLM, to disclaim land interests that have terminated or are invalid.

In February 2003, the State filed its first Disclaimer application for submerged lands beneath the Black River in northeast Alaska and has indicated its intent to file additional applications. No applications have yet been filed for submerged lands within the Yukon Delta Refuge.

Adjudicating the extent and boundaries of navigable waterways will take many years to resolve. In the meantime, the Service is working with the State on a case-by-case basis regarding management of major waterways that may be determined navigable.

*Until its repeal in 1976, Revised Statute 2477 authorized the development of public access routes across unreserved public land.*

### **RS-2477 “Highways”**

The State of Alaska asserts numerous claims to roads, trails, and paths across Federal lands under Revised Statute 2477. This section of the Mining Act of 1866 (codified as 43 U.S.C. 932) provided that “the right-of-way for construction of highways over public lands, not reserved for public use, is hereby granted.” RS 2477 was repealed by the Federal Land Policy and Management Act of 1976, subject to valid existing claims. Under authority of the Federal Land Policy and Management Act, the Bureau of Land Management expanded the regulations at 43 CFR 1864 to allow the State of Alaska and others to apply for Federal “disclaimers” for routes of travel that applicants believe qualify as RS 2477 rights-of-way.

The State considers a number of historical transportation routes within Alaskan refuges to be valid RS-2477 claims. Twenty eight routes totaling nearly 1,200 miles are located within the Yukon Delta Refuge (Table 3). In addition to specific routes, the State also claims section line easements within the refuge. If any of these claims are determined to be valid, they could be developed as transportation corridors by the State.

*The State has identified 28 possible RS-2477 claims in the refuge.*

Identification of potential rights-of-way does not establish the validity of these claims, nor the public’s right to use them. In the absence of specific regulation or law, the validity of all RS 2477 rights-of-way will be determined on a case-by-case basis, either through the courts or by legally binding agreement of all landowners.

### **17(b) Easements**

Section 17(b) of ANCSA requires the Federal government to reserve easements for access to public lands or waters whenever land is conveyed to Native corporations. These easements are reserved to ensure access to public lands and waters that would otherwise be completely isolated by conveyed Native corporation lands. These easements can be linear easements (i.e., roads and trails), or one-acre site easements for use as temporary campsites and/or to change modes of transportation. Each 17(b) easement reserves a right to use land owned by another for a specified purpose. Public activities, such as recreation and hunting are not authorized on the easement or the private lands surrounding or through which the easement reservation was made. The conveyance document describes in detail each 17(b) easement and the specific use(s) reserved by that easement.

Currently, there are sixteen 17(b) site easements on the Yukon Delta NWR, and forty 17(b) easements for existing trails. However,



*Easements reserved under section 17(b) of ANCSA provide access across private lands to public lands and waters.*

**Table 3. Mileage of State-claimed RS-2477 routes within the Yukon Delta Refuge**

<i>Reference Number</i>	<i>Route Name</i>	<i>Total Mileage</i>
21	Akiak-Crooked Creek	61.84
22	Akiakchak/Akiak-Phillips	101.57
1495	Akulurak-Kotlik Trail	55.35
24	Aniak-Tuluksal Trail	65.52
28	Bennet's Cutoff Trail	17.91
31	Bethel-Kasigluk Trail	22.80
30	Bethel-Quinhagak Trail	78.18
32	Bethel-Tuluksak	40.25
59	Crooked Creed-Aniak Trail	0.21
389	Flat-Aniak Trail	0.21
92	Holy Cross-Kaltshak (Kalskag)	34.60
93	Hooper Bay-Scammon Bay	36.87
406	Johnson River-Kinak Trail	35.98
116	Kinak-Kipnuk Trail	90.56
120	Kotlik-Marshall	137.58
5	Marvel Creek Cat Trail	21.46
505	Nilumat Creek-Towak Mountain Trail	4.14
1783	Ophir Creek-Bear Creek Trail	4.23
168	Paimute-Marshall Trail	38.81
317	Paimute-Portage Trail	33.20
323	Scammon Bay-Hamilton-St. Michael (winter trail)	107.33
190	St. Michael-Kotlik Trail	37.56
336	Tanunak-Toksook Bay Trail	6.48
327	Tanunak-Umkumiut	6.92
335	Tuluksak-Kalskag Trail	43.13
217	Unknown	13.04
220	Upper Landing-Bear Creek Trail	55.72
229	Yukon-Kuskokwim Portage Trail	44.51
<b>Total Miles</b>		<b>1,195.97</b>

<sup>1</sup> Information from Alaska DNR RS-2477 digital data, 1995.

additional 17(b) easements may be created as the Bureau of Land Management conveys the remaining land entitlements to Native corporations.

*There are no active lode or placer mining claims in the refuge.*

### **Mining Claims/Oil & Gas Leases**

Historically, there were 77 lode and placer mining claims within the refuge. Most were located in the Kilbuck Mountains in the southeastern quarter of the refuge. Most claim applications were filed in the 1960s and were abandoned by the mid 1980s. Currently, there are no active claims within the refuge. However, there are gold mining operations on the Tuluksak River near Nyac, outside of the refuge boundary. Placer gold was discovered in the Tuluksak drainage in 1908. Since that time about 0.5 million ounces of placer gold have been recovered.

There are no valid oil and gas leases on refuge lands. However, there are eight pending oil and gas lease applications (totaling 20,392 acres) on file with the Bureau of Land Management. All were filed in 1968, but leases were never issued. The lease applications were “grandfathered in” under the authority of the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (101 Stat. 1330-256, 259). The BLM has no authority to release these applications unless: 1) their issuance is precluded by some other law; or 2) the refuge determines that oil and gas leasing is incompatible with refuge purposes.

*The Yukon Delta Refuge contains two designated Wilderness areas, a Wild and Scenic River, and a unit of the Western Hemisphere Shorebird Reserve Network.*

### **Wilderness and Special Status Areas**

With the passage of ANILCA in 1980, Congress established two Wilderness areas inside the Yukon Delta NWR. The 1,300,000 acre Andreafsky Wilderness is located in the mountainous terrain in the northeast corner of the refuge, while the southern portion of Nunivak Island became the 600,000 acre Nunivak Wilderness. Using the same Legislation, Congress designated the Andreafsky River and all its headwaters, including its East Fork, as a Wild and Scenic River. This designation covers approximately 265 river miles, of which approximately 198 miles lie inside the Andreafsky Wilderness. The Wild and Scenic portion of the river includes an additional 13 miles of refuge lands outside the Wilderness boundary, and another 54 miles which crosses private lands. In 1968, portions of both the former Clarence Rhode National Wildlife Range and the Hazen Bay Migratory Waterfowl Refuge were designated the Clarence Rhode National Natural Landmark. In 2000, the Andreafsky Wilderness and vast expanses of the refuge’s coastal meadows were designated a hemispheric reserve in the Western Hemisphere Shorebird Reserve Network. The designation reflects its importance to the millions of shore and water-birds which use the refuge each year for breeding or building fat reserves for long migrations.

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*Each year, about 30,000 cranes, 100,000 swans and 40,000 loons (clockwise from top) return to nest within the Yukon Delta Refuge.*



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# Refuge Management Concerns

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*The Yukon Delta Refuge is managed to respect the rights of private landowners while still conserving refuge resources.*

*There will always be large blocks of private lands within the Yukon Delta Refuge.*

*Land conservation measures can help us maintain the health and integrity of the entire system.*

The Yukon Delta Refuge is managed to conserve native fish and wildlife populations and their habitats, while providing opportunities for subsistence and compatible types of recreation. In practice, management issues are often very complex, and decisions may represent a compromise between the conflicting values and competing interests of various user groups. The task is further complicated by the patchwork of public and private lands within refuge boundaries.

A large component of the land within the Yukon Delta Refuge will always be owned and managed by Native corporations, the State of Alaska, or private individuals. Refuge goals and policies are designed to accommodate the rights of these landowners while conserving the refuge's natural resources. However, building cooperative agreements and/or acquiring key lands or easements from willing owners can help us address management concerns.

This section is not an exhaustive discussion of all refuge management issues. Instead, it will briefly review some of the refuge management concerns that might be addressed through particular land actions.

## **Maintaining Healthy Ecosystems**

The Yukon Delta Refuge currently supports relatively undisturbed and intact ecosystems. Maintaining the integrity of these systems is one of our primary concerns. Characteristics such as species diversity, functioning of natural ecological processes, patterns and connectivity of lands and waters, and the balance between species and their environment are indicators of the health of the system. While humans can be an integral part of such a system, they also have the potential to alter its delicate balance.

**Disruption of Natural Balance** - Every species is part of a food web. These webs, which represent feeding relationships among the various species, may be relatively simple or quite complex. In an undisturbed natural system, predator and prey may coexist in a kind of equilibrium. Their interactions may result in cycles in population numbers, but each species coexists with the others through time. In many cases, humans have been a part of this equilibrium for eons. However, when new or rapidly expanding human populations are added to the equation, the impacts can be both complex and unexpected.

For instance, certain species readily adapt and thrive near human populations. Their success may then impact other species in the food web. Ravens, for example, are adept at scavenging discarded human food wastes and thrive near human habitation. The local raven population may increase as food resources become more dependable

*New or expanding human populations may alter the equilibrium of the natural system.*

*Some species may thrive near human habitation at the expense of other species. Ravens and red foxes are among the species that readily adapt to humans.*

*Minimizing fragmentation helps maintain natural species diversity.*

*By acquiring key parcels, we may be able to minimize negative impacts to fish and wildlife in the refuges.*

*Commercial lodges and ecotourism operations on private lands can improve the opportunities for public use and enjoyment of adjacent refuge lands.*

*Human activities concentrated near key habitats can displace sensitive wildlife species.*

and more abundant. This increase may in turn depress numbers of the raven's natural prey, as the artificially-buoyed raven population preys on seasonally available eggs of seabirds and other species. Without a source of human food, the growing raven population would likely plummet when its natural food supply is exhausted, allowing the prey species to recover. However, the addition of the human component—and a reliable back-up food supply—may permanently alter the equilibrium of the natural system.

**Fragmentation** -From the standpoint of maintaining integrity and biodiversity, it is important to protect the natural pattern and connectivity of habitats. Larger blocks of habitat are better for maintaining some wildlife populations than smaller blocks; connected blocks of habitat are better than isolated ones. Well-planned development can minimize or prevent adverse impacts by preserving migration corridors and concentrating development in localized areas away from sensitive habitats and wildlife concentrations.

**Habitat Loss and Displacement** - In some sensitive locations, land uses such as major construction projects, resource extraction, and road construction have the potential to displace wildlife, alter critical habitat, and impact fish and wildlife populations. These land uses may modify the surface vegetation, change water flow and drainage patterns, increase soil erosion and sedimentation, and fragment or degrade key wildlife habitats.

In some cases, wildlife may abandon key habitats or stop using traditional migration routes. Fencing may influence animal movements or prevent access to former habitat areas. Domesticated animals, especially dogs and cats, may kill or harass wildlife. Unintentional pollution from faulty septic systems and landfills, as well as run-off from roads, construction sites, or storage areas can pollute lands and waters. Fuels, oil, cleaning agents, and sewage are among the common pollutants that find their way into surface waters. These chemicals can easily spread long distances via waterways, thus affecting fish, wildlife, and water quality far from the source.

Some private lands within the refuge have the potential for development as camps, lodges, or eco-tourism operations. When operated with skill, these commercial services and facilities improve opportunities for public use of refuge lands and waters. Compatible recreational activities such as hunting, fishing, wildlife observation, photography, and environmental education are recognized in law as priority public uses on National Wildlife Refuges and are encouraged and promoted on refuge lands. In some situations, however, lodges can act as a point from which human disturbance spreads out into the surrounding refuge lands. Popular destinations and major travel routes may be subjected to much greater levels of use if there are commercial guides or lodges in operation. If this use occurs in the more sensitive habitats, wildlife species may be affected.

Tundra swans, for example, are very sensitive to disturbance during the nesting season. They are likely to abandon nest sites that are repeatedly disturbed by airplanes, boats, or foot traffic. Minimizing

disturbance in key habitats during critical time periods is essential to the continued health of species that are sensitive to noise and visual disturbance during part of their life cycle.

## Wilderness Values

The Wilderness Act of 1964 defines Wilderness as “untrammelled by man ... retaining a primeval character and influence, and without permanent improvements or human habitation.” Wilderness offers “outstanding opportunities for solitude or a primitive and unconfined type of recreation”.

The Service is committed to the preservation of refuge Wilderness qualities. However, certain uses on private lands have the potential to affect the aesthetic, experiential, and symbolic values of adjacent Wilderness areas. Even

noise and visual presence can have effects that reach beyond property boundaries to degrade Wilderness values on surrounding refuge lands.

Section 1110(a) of ANILCA, which addresses Alaskan Wilderness areas, authorizes the use of snowmachines (during periods of adequate snow cover and frozen river conditions), motorboats, and airplanes, for traditional activities and for travel to and from villages and homesites. In addition, under §1110(b) any landowner with a valid refuge inholding including a Wilderness inholding, is ensured adequate and feasible access to their property, for economic or other purposes. Access routes across Wilderness lands to private parcels may degrade Wilderness characteristics and disrupt the quietude of refuge visitors seeking a Wilderness experience using non-motorized access methods.

Complex intermixed land ownership patterns can complicate Wilderness management. In the Andreafsky Wilderness, about 51,722 acres have been conveyed to, or selected by, private landowners. The conveyances include two Native allotments totaling 77 acres, and a 4,456 acre parcel owned by the Stebbins Village Corporation. An additional 47,189 acres of selections (15 Native allotments totaling 795 acres, 44,862 acres of village selections by the Stebbins Village Corporation, and seven historic and cemetery sites totaling 1,532 acres by Calista Incorporated) are still being reviewed by the Bureau of Land Management. Within the Nunivak Wilderness, there are currently 82 historic and cemetery sites, totaling 4,506 acres, conveyed to Calista Incorporated. An additional 661 acres of selections (nine Native allotments totaling 468 acres, and 12 historic or cemetery sites totaling 193 acres) are still being reviewed by the Bureau of Land Management.

Human activity or development on these private inholdings has the potential to affect the Wilderness qualities of adjacent refuge lands. The historic and cemetery sites selected by Calista Incorporated are important cultural sites that are unlikely to be developed, but

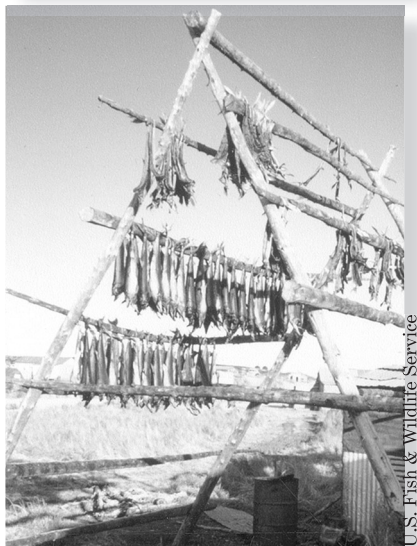
*Some species may thrive near human habitation at the expense of other species. Ravens are among the species that readily adapt to humans.*



*Noise, permanent structures and other evidence of human presence can alter nearby Wilderness values.*

*Access to refuge inholdings is guaranteed by ANILCA.*

*Wildlife-dependent recreational activities are recognized in law as priority public uses on National Wildlife Refuges.*



*Providing the opportunity for a subsistence lifestyle is a priority of the refuge.*

lands owned by village corporations and Native allotments could potentially be developed in ways that would affect the Wilderness character of surrounding refuge lands.

## **User Group Conflicts**

Residents of communities within the Yukon Delta Refuge devote a considerable amount of time to subsistence hunting, fishing, and gathering. The subsistence lifestyle is part of the cultural fabric of Native communities. Providing the opportunity for this lifestyle is one of the primary purposes of the Yukon Delta Refuge.

Wildlife-dependent recreational activities are also recognized in law as priority public uses on National Wildlife Refuges. Currently, there is little recreational use of the refuge by people other than local residents. However, both regional and national publications have recently featured articles on the outstanding sport fishing and floating opportunities offered by area waters. Increasing recreational use of refuge lands can lead to conflicts between different user groups.

Visitors often have values and cultural backgrounds that differ substantially from those of local residents. For instance, many sport fishers employ catch-and-release fishing. Often local residents view catch-and-release fishing as disrespectful and fear that it may result in a loss of those resources for future generations. Local residents are also concerned that sport hunting will affect either the local abundance, or the migration path of traditionally harvested animals. Local communities and kinship groups often view certain areas as traditional subsistence-use sites. When subsistence users find a traditional site occupied by recreational users, conflicts can occur. Direct confrontations are rare, but subsistence users may be displaced from their usual fishing or hunting time or place.

Recreational users may also inadvertently stray onto private lands that are scattered throughout the refuge. It is often difficult for refuge visitors to tell where private lands begin. Trespass issues and competition for refuge resources may lead to conflicts between visitors and local residents.

## **Consolidating Land Ownership Patterns**

Land ownership patterns can substantially influence resource management options for wildlife refuges. Within the Yukon Delta Refuge, most of the lands selected by or conveyed to village and regional Native corporations are found in large contiguous blocks surrounding the villages. Many of the individual Native allotments are also concentrated in these areas. However, in certain parts of the refuge land ownership patterns are more complex. Isolated parcels and long narrow corridors of private land are found within large blocks of refuge-administered lands. These private parcels can fragment wildlife habitats, affect natural disturbance processes, and limit the management tools available to refuge managers.

Complex land ownership patterns also increase the potential for conflict between landowners and refuge users. Refuge visitors are often unaware of ownership boundaries, and may wander onto or use private lands the same as refuge lands.



# Resource Protection Methods

*In addition to Alaska-specific Federal laws, such as ANCSA and ANILCA, and applicable State land use laws and regulations, landowners must also comply with nationwide environmental legislation such as the Federal Clean Water Act, the Clean Air Act, and the Endangered Species Act.*

*Section 14(h)(1) of ANCSA affords some resource protection to cultural sites.*

## Existing Resource Protections

**State and Federal Laws and Regulations:** Various Federal, State and local laws have been enacted to protect certain key resources. For example, development in the vicinity of lakes or rivers is subject to State water quality laws and the Federal Clean Water Act. Other Federal laws regulate human activities affecting migratory birds, wetlands, and threatened or endangered species.

The State imposes regulations to conserve fish and game species. Fishing, hunting and trapping regulations strive to limit harvest to a sustainable level. The Alaska Department of Fish and Game has the primary responsibility for managing and conserving resident fish and wildlife populations throughout the State.

Coastal areas, including the Yukon Delta, are afforded some protection through the Alaska Coastal Management Program. Local coastal management plans help ensure that development actions or other activities that may affect the uses or resources of the coastal zone are undertaken in a manner consistent with the State coastal management program. The Yukon Delta Refuge is within the Cenaliulriit and Bethal Coastal Resource Service Areas. These districts developed local coastal management plans, with extensive community involvement, to help ensure coastal resource protection. Development actions that are within, or affect, the coastal zone must comply with this local plan.

**Mineral Development:** No recoverable quantities of oil have been discovered on the Yukon Delta and the potential appears to be low. However, private landowners can pursue oil and gas development on their lands if they choose. By contrast, oil and gas exploration and development on refuge lands would only be allowed if the Secretary of the Interior determined these uses to be in the national interest and if the refuge Comprehensive Conservation Plan were amended (CCP amendments include a public review process and the completion of a refuge compatibility determination). Seismic and geophysical exploration would require a Special Use Permit with site-specific stipulations to ensure compatibility with refuge purposes and consistency with CCP management objectives.

Under the authority of Section 304(c) of ANILCA, the refuge is closed to new locations, entries, and patents. Mineral assessment techniques that do not have lasting impacts are permitted throughout the refuge, but such activities require a Special Use Permit complete with provisions to ensure compatibility with refuge purposes and consistency with CCP management objectives.

**14(h)(1) Selections:** ANCSA Section 14(h)(1), grants a limited level of resource protection by allowing regional Native corporations to acquire culturally significant cemetery sites and historical places.



Sites must be certified by the Bureau of Indian Affairs prior to conveyance. Since these sites have cultural, religious, or historical significance, corporation shareholders are unlikely to develop them, thus preserving natural resource values as well as cultural values.

Nearly 5,200 acres have been conveyed under the provisions of 14(h)(1). More than 20,720 acres have been selected, but have not yet been reviewed by the BLM.

*Participation in any Service resource protection option is entirely voluntary.*

*The Service will consider only those resource protection options beneficial to both the landowner and the Service.*

*A cooperative agreement is a working partnership between a landowner and the Service.*

*A lease is a short-term rental of property.*

## **Options for Additional Resource Protection**

Interested landowners can work with us in a variety of ways to further protect natural resources on their lands. The options range from simple cooperative land management agreements, to selling key parcels of land to the Service. It is important to understand that these options are entirely voluntary on the part of the landowner. We will take no action unless the landowner wants to work with us. Together the Service and a willing landowner may find that one of the following methods provides a mutually beneficial way to protect the resources.

**Cooperative Agreement:** A landowner and the Service may establish a formal written agreement in which each party agrees to manage the land in a manner that benefits wildlife (Sections 304(f) and 809 of ANILCA). For example, a landowner may agree to maintain or restore important wildlife habitats located on their lands. In return, we may help develop land management plans or provide expertise and assistance restoring damaged wildlife habitats.

Cooperative agreements place no legal restrictions on the land. No money is involved, and either party may cancel the agreement after giving adequate notice to the other party. Because landowners or management priorities may change, cooperative agreements do not grant permanent protection to fish and wildlife resources. However, cooperative agreements can help develop positive, working relationships between local landowners and the refuge.

**Lease:** A lease is a short-term agreement for full or specified use of a parcel of land. The lease generally gives the Service occupancy rights and the landowner receives a rental payment based on fair market value. When the lease is terminated, all rights revert back to the landowner. This option is useful when management objectives are short-term, or the owners are unable to provide other forms of land transfer. We will rarely enter into a long-term lease because the cost of the lease can eventually exceed the cost of purchasing the land outright.

**Easement:** An easement is the transfer of limited property rights to another. Easements specifically allow or prohibit certain land uses. For example, an easement may allow public access across the property or restrict certain types of development that are not compatible with resource management objectives. Easements are legal agreements that become part of the title to the property and are usually permanent. If the property is sold or inherited, the easements continue as part of the title.

A conservation or non-development easement is one of the most common easements acquired for land protection. Designed to prevent destruction or degradation of wildlife habitat, these easements often limit or prevent land development while allowing

*A conservation easement is a transfer of limited property rights and is intended to restrict certain types of development.*

*The golden-crowned sparrow, hermit thrush, and fox sparrow (clockwise from right) are among the songbirds that nest on the refuge.*

*In 1997, biologists documented 22 species of neotropical songbirds on Cape Romanzof alone. In addition, they identified seven paleotropical species. At least three of these old-world species were nesting in the area.*

James Leupold, U.S. Fish & Wildlife Service



U.S. Fish & Wildlife Service



Lee Karney, U.S. Fish & Wildlife Service

the landowner to retain the property. They may also allow refuge staff to manage uses of the land to benefit wildlife. Typically, we consider purchasing conservation easements only when lands supporting key wildlife habitats are at high risk for development. The terms of each conservation easement are unique. We must work with the landowner to develop the specific conditions or restrictions to be included in a particular conservation easement. Once in place, conservation easements must be monitored by refuge staff to ensure that the terms of the agreement are being met.

Easements usually reduce the market value of a piece of property. The tax assessed value of property with a conservation easement is often lower than the market value. The result is a tax savings for the landowner, but only if the land is taxable. The tax relief benefits of conservation easements are rarely important in Alaska since undeveloped Native corporation lands cannot be taxed, and only incorporated boroughs or municipalities tax property owners. Conservation easements are occasionally used in Alaska, but are generally used only for large parcels of land.

*A land exchange is the trade of lands having equal market value.*

**Land Exchange:** Sometimes a landowner wants to trade land for other lands managed by the Service. We are willing to consider these proposals in situations where both parties will benefit. For example, a landowner may wish to trade an isolated tract of wetlands for a more accessible upland parcel that is less costly to develop. A land exchange may help consolidate land ownership, eliminating isolated tracts or checkerboard ownership patterns. However, because there are high administrative costs associated with land exchanges, we usually pursue exchanges only when large acreages are involved, when the parcel we would acquire by the Service has very high habitat values, and/or when the exchange would result in a significant consolidation of lands.

Usually the lands, or interests in lands to be exchanged must have approximately equal market value as determined by an appraisal. The market value for a property is based on the price paid for similar land being sold at the same time in the same general area. For the purposes of a land exchange, oil, gas, and mineral rights are considered interests in land. Due to differences in per acre land value, the size of parcels being exchanged may be quite different. In cases where the lands to be exchanged have substantially different values, cash payments may be used to make up the difference.

Most exchanges are of lands having equal value. However, Section 1302 of ANILCA authorizes exchanges of lands with unequal value in special circumstances. In these situations, both parties to the exchange must agree, and the Secretary of the Interior must determine the exchange to be in the public interest.

**Donation:** Some people choose to donate lands or interests in lands to the Service to benefit conservation programs and receive tax benefits. Land preservation may be an important legacy within a landowner's family, and land donation is a means of achieving that legacy. The landowner may place restrictions or reservations on the donated property. For example, a donor may want to reserve life-use of the donated land. In this case, the Service receives title to the land, but the donor has the right to continue to use the property during their lifetime, in accordance with the terms of the deed. Another option, donation by will, takes effect only upon the death of the donor.

*Permanent resource protection and tax benefits are incentives for land donations.*

Rather than making a donation directly to us, a landowner might consider donating land to a private conservation organization. Several organizations, such as The Nature Conservancy and The Conservation Fund, accept donations of land for wildlife conservation. These organizations may hold and monitor the donation themselves, or they may put the donated land in trust for future addition to the refuge. Donations of land to a conservation organization can often be accomplished quickly.

When a landowner donates lands to the Service or a conservation organization they may be eligible for some Federal income tax benefits. For additional information, interested landowners should consult with a tax advisor, local Internal Revenue Service office, or a private conservation organization that specializes in land conservation.

**Purchase:** In some cases, a property owner may want to sell their land to the Service. Purchasing land is the most direct means we have for obtaining land title. However, funding for land acquisition

*The Service may buy land from a willing seller.*

is very limited and competitive. Consequently, we must carefully prioritize the use of these funds. In most cases, lands we purchase are considered a high priority for resource protection at the National level.

Our policy is to buy land only from people willing to sell. All purchases by the Federal government must be based on fair market value as determined by qualified appraisers. Usually, we only consider “fee title purchase” which means the government would acquire most rights to the property. However, in some cases the landowner may choose to withhold certain rights (such as use reservation, water rights, or mineral rights), or we may choose not to acquire these land interests. As with land donations, many types of use reservations can be negotiated.

*In Alaska, we must offer landowners the opportunity to exchange lands before we will consider purchase.*

In Alaska, the Service must offer to exchange lands prior to purchasing them outright (Public Law 105-277, Section 127). If the landowner is only interested in selling, he or she must indicate that the exchange offer was refused before the land purchase can proceed. Lands purchased by the refuge are managed in the same manner as the surrounding refuge land.

As with donations, non-profit conservation organizations may be able to purchase lands with exceptional wildlife values from a willing landowner. These organizations might then sell or donate the lands to the Service at a later date. Regardless of the method used to purchase lands, our policy is to buy land only from willing sellers.

*We do not condemn land in Alaska.*

**Condemnation:** The Alaska Native Claims Settlement Act stipulated that ANCSA lands could not be condemned (taken without the consent of the owner). Then in 1987, an amendment to ANCSA made all Native land and interests in land, conveyed pursuant to ANCSA, subject to condemnation for public purposes. However, it is a long-standing Service policy in Alaska that lands will not be acquired through adverse condemnation. We will acquire land only from landowners who want to sell their land.

*Funds for acquisition are limited, and the Service can only consider lands having a high priority for resource protection.*

**No Action:** Sometimes the landowner or the Service may decide not to take action to protect wildlife resources on a particular piece of property. There are several reasons for a “no action” decision. Some landowners may not be interested in the land protection options available, and our policy is to work only with owners who want to work with us. On the other hand, even if the landowner is interested, we may decide that a parcel does not contain key wildlife habitat or that further protection is not warranted.

A final reason for “no action” is that the Service may not have funding to pursue resource protection on a parcel of land. There are millions of acres of inholdings in Alaskan wildlife refuges and many of our methods have an associated cost. Many landowners desire to sell their properties, but acquisition is expensive. Even if we wanted to, we could not afford to acquire all refuge inholdings. There will always be inholdings in Alaska refuges, and cooperation with private landowners is often the best way to achieve fish and wildlife conservation on private lands.

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*Low densities of wolves, moose, and lynx are present in the refuge.*



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# Resource Protection Priorities

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We set land conservation priorities for non-Federal lands inside the Yukon Delta Refuge by considering habitat values, land ownership patterns, and other factors. We quantify and use some of these criteria in a GIS computer model. Other criteria are more subjective and must be considered on a case-by-case basis.

The following sections explain why we develop land protection priorities, how priorities are established, and the priorities for the Yukon Delta Refuge.

## **Background: The Alaska Priority System**

In 1988, the Alaska Submerged Lands Act (Public Law 100-395) mandated that the Service identify statewide acquisition priorities for all inholdings within national wildlife refuges in Alaska. This was a huge task. Within the boundaries of the 16 Alaska refuges there are 16 million acres of land that have been conveyed to Native corporations, private parties, or the State. To rank these inholdings, the Service developed the Alaska Priority System (APS), a geographic information system model that overlays species distribution and abundance data with land status information.

The first step in using the APS model was to map the distribution and relative abundance of key species within each Alaska refuge. We concentrated on those species and groups for which we have a Federal trust responsibility, including migratory birds, endangered species, certain marine mammals and anadromous fish, and species whose conservation was identified in ANILCA as a purpose of individual refuges. We also mapped geographic areas within each refuge that had important management concerns involving public use, access, and wilderness management. Using a computer model this information was combined with the land status information and each private parcel was given a numeric score and a statewide rank for acquisition.

Although originally developed to set statewide acquisition priorities, the model was subsequently modified for prioritizing parcels within individual refuges. We now use the model to rank privately-owned habitats for individual refuge Land Conservation Plans.

## **Habitat Rankings for the Yukon Delta Refuge**

We modified the APS model to address resource issues specific to the Yukon Delta Refuge. For instance, we added to the GIS model some species identified by the refuge staff as being of special interest or concern.

*APS scores indicate which lands have the highest value to fish and wildlife.*

*We do not intend to acquire all lands with high resource values.*

*Cooperative agreements and conservation easements are valuable tools for protecting resources on large tracts of private land.*

A map displaying the rankings we obtained from the APS model for all non-Federal lands inside the refuge is available on CD-ROM. We classified private lands as high, medium, or low priority, with approximately 31% of the total acreage of private lands classified as high, 31% as medium, and 38% classified as low priority. Lands identified as high priority have the highest value fish and wildlife habitats. In general, the highest ranking private lands are coastal areas and riparian corridors.

Although many private parcels have high resource values, we do not intend nor expect to purchase all of these lands. For many high-value lands, current uses are relatively compatible with wildlife, and additional resource protection measures are unnecessary. Even if additional protection is warranted and the landowner wishes to sell, limited funding is a concern. We are unlikely to acquire sufficient funds to purchase more than a small fraction of the high-value private lands within the refuge.

In addition, land acquisition is not always the best means for addressing resource threats or management concerns. We must consider if land acquisition actions, such as purchases, exchanges, or conservation easements would be effective in reducing impacts to refuge resources. Developing cooperative agreements or pursuing other management or administrative strategies may provide a more cost effective way to resolve a potential threat to refuge resources.

### **Other Factors Influence Priorities**

Our GIS model ranks lands based on their biological values, but other factors may influence our priorities. These factors are more subjective than the GIS scores, but they can influence our actions, especially when we have the opportunity to buy land. For instance, if several landowners wish to sell parcels with similar priority scores, these factors can help us choose the wisest use for limited funds. Some of the factors we consider are:

- the location of a parcel relative to villages, other private lands, and to refuge land
- the potential to consolidate ownership patterns and simplify management
- the type and ease of access to a parcel
- current and potential uses

**Location:** Whenever a landowner offers to sell, we consider the location of the parcel in relation to other private lands. Acquiring small parcels embedded in a larger block of private land provides little benefit to refuge resources and can create additional management problems. Habitats located near a village or commercial development may already be affected by development. Acquiring a conservation easement or title to these lands may provide little benefit for fish and wildlife. Therefore, small parcels located near villages or within conveyed lands are usually low priority for additional protection measures.

On the other hand, small, isolated parcels embedded in refuge lands have the potential for far-reaching impacts on adjacent refuge resources, depending on their use and location. The parcel may act

*The Service seldom acquires small parcels embedded in larger tracts of private lands or lands adjacent to villages.*

*Consolidating lands may simplify management for both the refuge and private landowners.*

*We consider access issues when setting land protection priorities.*

as a point from which human disturbance, habitat destruction or pollution radiates out into surrounding refuge lands. Protecting these isolated tracts can be very beneficial.

Isolated private tracts may also complicate or preclude some types of management. For example, the difficulty and expense of protecting isolated private parcels may exclude the use of certain habitat restoration techniques, such as prescribed burning, on adjoining refuge lands.

**Consolidation:** Land ownership patterns within the refuge affect resource protection priorities. It is advantageous to both the Service and private landowners to manage large contiguous holdings, rather than numerous small tracts interspersed with lands controlled by other landowners. In most cases, Native corporation lands are relatively compact and contiguous. The most notable exceptions are the private lands around the villages of Newtok and Chevak where relatively narrow tracts of private lands radiate outward along river corridors. In some cases, landowners may wish to consolidate their holdings by exchanging lands with the Service. Large land exchanges are time consuming and expensive, but can be justified when the expected benefits are substantial.

The thousands of small parcels within the refuge are much less consolidated than corporation land. Hundreds of small parcels are entirely surrounded by refuge lands. Acquisition of key parcels can be an important mechanism to consolidate refuge lands.

**Access:** The Yukon Delta Refuge, like most national wildlife refuges in Alaska, is open to public access in compliance with §1110 of ANILCA. This includes the use of snowmachines, motorboats, airplanes, and non-motorized surface transportation for conducting traditional activities, and travel to and from villages and homesites. However, the Service can regulate access if necessary to protect refuge resources from damage. In addition to public access, the Service must provide reasonable access to all inholders. In some situations, access needs of private landowners could become a concern for the refuge. For instance, constructing a road through sensitive nesting habitat to develop private lands could impact refuge wildlife populations.

When we develop land conservation priorities, we must consider our responsibility to accommodate access to inholdings, provide opportunities for public use of refuge lands, and protect fish and wildlife resources from the impacts of these uses. In some cases, we may be interested in acquiring certain lands to improve public access or to manage access for the purpose of protecting resources in key areas.

**Land Use and Site Characteristics:** When setting priorities, we consider existing or potential land uses that could harm wildlife, their habitats, or other important refuge resources. Certain parcels are more likely to be developed in ways that can harm wildlife. Site characteristics, location, or even proximity to popular recreation sites can make a parcel very attractive for building a commercial lodge, or camp. Other sites, especially those near roads or villages, may have a higher potential for commercial or residential development. Some may have the potential for commercial resource extraction due to the abundance of a quality commercial resource. The ease and economic feasibility of transporting equipment,





*Sport fishing, hunting, and other types of wildlife-dependent recreation are important priority uses of the refuge.*



products, and labor to and from the extraction site also affects development potential.

A wide variety of land use practices can affect wildlife and habitats. Direct effects such as destruction of nesting habitat may be easily identified and measured. Indirect effects, such as habitat fragmentation or human disturbance in key habitat areas, may be much more difficult to quantify. Certain uses on private lands may affect important resources found on adjacent or

even distant refuge lands. For example, commercial or industrial development along a river which flows into a refuge can impact downstream lands. Spilled fuel, oil, or chemicals can be easily transported into the refuge, contaminating water and habitats far from the source.

Development on private lands can have more subtle, indirect impacts on refuge resources as well. Lodges, camps, or other commercial facilities often use adjacent refuge land for recreational activities, including hunting, fishing, or wildlife viewing. In most cases, these types of uses are compatible with refuge purposes and are encouraged. However, there is the potential for refuge impacts if these facilities or activities occur within sensitive wildlife habitats or near populations vulnerable to human disturbance.



*Certain land uses on private property can affect important resources on adjacent refuge lands.*

*The GIS score reflects the natural resource value of the parcel. Other factors may influence our priorities, but they are evaluated separately.*

*Many large blocks of corporation land have high habitat value, but are not in need of additional conservation measures.*

*The Kokechik Peninsula is a premier goose-nesting area. We recommend additional conservation measures to protect nesting birds.*

The potential threat posed by a specific type of land use or development may vary substantially depending on where the parcel is located. Land uses that could seriously impact lands supporting key wildlife habitats may be of only minor concern in a less sensitive area. For instance, a commercial lodge operating on a remote lake critical to nesting tundra swans might be a concern, while a similar operation on a lake used by less sensitive species might not.

The potential threats to refuge wildlife populations and their habitats, and our ability to minimize them, are important considerations in developing a Land Conservation Plan. Parcels with exceptional wildlife values may not be a high priority for protection if it is likely the land will always be used in wildlife-compatible ways. Conversely, the imminent risk of incompatible land use practices could elevate a lower ranking parcel to higher priority. Both the resource value of the land and the potential opportunity for reducing impacts to refuge resources influence our priorities.

### **Yukon Delta Land Conservation Priorities**

The large number of private parcels within the Yukon Delta Refuge precludes establishing specific protection measures for each parcel. Instead, we identified groups of private tracts located within specific areas or parcels sharing similar characteristics that are high priorities for additional conservation measures. In general, the coastal zone and riparian corridors have the greatest value to wildlife resources. However, many of the private lands in these areas do not need additional conservation measures at this time.

Most large tracts of Native Corporation land are consolidated around villages and pose little threat to adjacent refuge resources. In some cases, however, increasing levels of human use on private lands may be affecting overall productivity. The Kokechik Bay area, one of the premier goose nesting areas in the world, has suffered a dramatic increase in off-road vehicle traffic in recent years. The area supports high densities of nesting emperor geese, cackling Canada geese, and Pacific brant, and lower densities of greater white-fronted geese. Surveys conducted during the late 1980s indicated that more than 10% of the world populations of both cackling Canada geese and emperor geese were using the area (USFW 1988a). Spectacled eiders, tundra swans, lesser sandhill cranes, and many species of shorebirds also nest and molt in the Kokechik Bay area.

The increase in off-road vehicle use in this productive area has concerned both the landowner, Sea Lion Corporation, and the Service. We recommend employing additional resource protection methods in this region. A cooperative management agreement or conservation easement that restricts motorized use during the summer months could be a viable means of minimizing disturbance to nesting bird populations and preventing further degradation of wildlife habitat.

Many of the small, isolated tracts in the coastal zone, along river corridors, and in the Wilderness have high resource protection priorities. Private tracts within these biologically rich areas have the potential to impact key wildlife habitats. Acquiring scattered parcels located within sensitive habitats (e.g. important goose



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*Large blocks of Native corporation land surround each community within the refuge (Mountain Village pictured above). Generally, consolidated large parcels pose less threat to refuge resources than do small, isolated inholdings in sensitive wildlife areas.*

*Land acquisition opportunities will be considered on a case-by-case basis.*

*Either the Service or the landowner can decide not to pursue additional land protection measures.*

nesting areas along the coast) would ensure their protection and simplify refuge management by consolidating land ownership patterns. Again, we do not propose to acquire all parcels that are identified as high priorities. However, should there be willing sellers, acquiring parcels in these geographic areas would merit strong consideration.

Scattered small parcels that are not along the coastline or riparian corridors tend to have moderate to low priorities. Although small parcels may be easily bought and sold on the open market, limited access makes it unlikely that these lands will be developed. These parcels also tend to have lower biological values because they are located far from the more productive wetland and riparian habitats. However, acquiring these parcels would consolidate land ownership patterns. Any opportunity to purchase these parcels should be considered on a case-by-case basis.

Small parcels and corporate lands located near communities are considered low priority for most resource protection actions and are generally excluded from further consideration.





# Effects of Resource Conservation Measures

Refuge management actions may affect people and other refuge resources as well as fish and wildlife. In this chapter, we briefly address potential effects of land protection measures on the human environment, including cultural resources and the local economy.

## Effects on Cultural/Paleontological Resources

In addition to abundant natural resources, the refuge preserves a rich historical legacy. Not usually considered prime fossil territory, Yukon Delta Refuge has a small variety of paleontological localities. They appear split between three broad time periods: Permian (286-245 million years ago); Jurassic to Cretaceous (213-65 million years ago) and Pleistocene (2 million to 10,000 years ago). As expected, the older materials are found in the mountains and hills on the fringe of the refuge, however several reported Pleistocene (mammoth) localities are located across the lowlands.

*Pleistocene-era fossils have been found within the refuge.*

People have likely lived on the refuge for over 9,000 years. Historically, three Yup'ik Eskimo groups lived within the boundaries of the refuge. Intensive contact with the outside world came relatively late to the Yukon Delta. In the early 1800s, the Russians established trading outposts at St. Michael and sent missionaries to Ikoqmiut, later called Russian Mission. The area's traditional culture is still strong and vibrant, a dominant force in the region today.

*The Yukon Delta has likely been populated for 9,000 years or more.*

There are 528 historic sites in the region listed on the Alaska Heritage Resources Survey database. Most of these are archaeological, but the list also includes trails and historic buildings. In addition, the Calista Corporation claimed 955 historic and cemetery sites under Section 14(h)(1) of the Alaska Native Claims Settlement Act. These include 505 historic sites, 336 cemeteries, 101 sites that are both, and 14 that are unspecified. These 14(h)(1) claims include archaeological sites, historic villages and camps, mythological locations, and resource sites. During investigation of the 14(h)(1) sites, hundreds of place names documenting additional villages, camps, use areas, resource locations and mythological sites were recorded.

*The Service will protect cultural resources on acquired lands.*

Despite this relatively large body of information many additional sites undoubtedly exist. The information available reflects past survey effort and was collected in response to specific legal requirements. Systematic surveys and oral history collection would undoubtedly identify many more historic and culturally important locations.

The Service is committed to protecting cultural resources on refuge lands and willing to assist private landowners in protecting resources on their lands. The assistance may take the form of advice, jointly prepared preservation plans, or technical assistance.

*Remains of a sod barabara.*



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If the Service acquires properties containing cultural resources, they are protected under section 106 of the National Historic Preservation Act of 1966. The Act requires Federal agencies to consider the effects of agency actions on cultural properties. The sites are also protected under the Archaeological Resources Protection Act which requires permits for research and provides criminal and civil penalties for looting or vandalism of sites.

### **Effects on Landowners**

The communities of Akaichak, Akiak, Alakanuk, Aniak, Atmautluak, Bethel, Cheforak, Chevak, Eek, Emmonak, Hooper Bay, Kasigluk, Kipnuk, Kongiganak, Kotlik, Kwethluk, Kwigillingok, Lower Kalskag, Marshall, Mekoryuk, Mountain Village, Mapakiak, Nightmute, Nunapitchuk, Oscarville, Pilot Station, Pitkas Point, Russian Mission, Saint Mary's, Scammon Bay, Sheldon Point, Tooksook Bay, Tuluksak, Tuntutuliak, Tununak, Upper Kalskag and Newtok lie within the boundaries of the Yukon Delta Refuge. Six other communities, Chuathbaluk, Holy Cross, Napamiute, Quinhagak, Saint Michael and Stebbins are located just outside. The refuge headquarters is located in the local transportation hub of Bethel.

*Implementing this plan will have minimal effects on most local residents.*

Although there are many people living within the refuge borders, implementing the recommendations of this Land Conservation Plan will have little effect on most landowners. Most permanent residents within the refuge live in, or near, one of the local communities within

large blocks of privately-owned land. Generally, the large blocks that surround these communities, and the small private parcels embedded in them, are unsuitable for acquisition by the Service.

Most other private lands are undeveloped and owned by Native corporations or by Native allottees. Most of these lands are used primarily for subsistence purposes. Some landowners interested in selling could receive a cash payment for their land. However, in Alaska, we must offer to exchange lands prior to purchasing lands outright (Public Law 105-277, Section 127). If the landowner is interested only in selling, he or she must indicate that the exchange offer was refused before the purchase can proceed.

In some cases, landowners may be interested in exchanging their land for Service-owned land that is more suitable for development. For example, privately-owned wetlands with high wildlife value might be exchanged for Service land in more desirable building locations, or for Service-owned subsurface (sand, gravel, rock, etc.) beneath private lands. In some cases, land exchanges can help consolidate both public and private holdings. However, the Service will consider land exchanges only if they will benefit the refuge as well as the private landowner.

The Land Conservation Plan could benefit large landowners by providing opportunities to improve management of both private and public resources through cooperative management agreements or conservation easements.

Any land the Service acquires is preserved in its present state, or restored to natural conditions, and managed in the same manner as the surrounding or nearby refuge lands

*Some landowners may wish to exchange their lands for others with greater development potential.*

*Riverbank erosion is threatening some Yukon Delta villages (Chevak pictured at right). The Service and the village of Newtok recently completed a land exchange that will enable the village to move to a more stable site.*



## Effects on the Economy

*A mixed subsistence/cash economy predominates in Yukon Delta communities.*

The communities of the Yukon Delta support a mixed subsistence / cash economy. Most residents rely heavily on hunting, fishing, and gathering to obtain food and materials for their own consumption. Fish play an important part in the subsistence cash economy and account for 30-60 percent of the yearly food supply in most Yukon-Kuskokwim Delta villages. It's estimated that over 50 percent of all of the State's rural subsistence fishing activities occur within the Yukon and Kuskokwim River drainages. Approximately 1,300 families participate in the annual harvest of salmon in the Kuskokwim drainage alone.

Commercial fishing has been the largest source of non-governmental employment and income for area residents. However, the abundance of salmon stocks is often cyclical and recent declines have seriously reduced opportunities for commercial, recreational, and subsistence harvest. The commercial salmon harvest for both the Yukon and Kuskokwim drainages has dropped dramatically from the levels of the mid 1990's, and the commercial season for the Yukon was canceled entirely in 2001.

*The demand for visitor services is likely to increase.*

Currently recreational use of the refuge by people living outside the local area is low, but these lands and waters provide some excellent opportunities for sport fishing and hunting. Regional and national publications have recently featured articles promoting fishing and floating on rivers such as the Aniak, Kwethluk, Kasigluk, Kisaralik and Andreaufsky. As these hunting and fishing areas become better known, the demand for visitor services is expected to increase. The Service gives preference to local residents and to those Native corporations that were most directly affected by the establishment of the refuge (ANILCA § 1307(b)), when contracting for the provision of visitor services. Visitor services include any service available for a fee, such as providing food, accommodations, transportation, tours, and guides, with the exception of guided sport hunting and fishing (ANILCA § 1307(c)). In addition, Native lands are given priority consideration in the siting of refuge administration sites and visitor facilities. Native lands may be leased, or acquired by purchase or exchange.

*Lands or buildings for refuge administrative sites or visitor services may be leased from Native corporations.*

Land protection measures may have a positive effect on these industries. Land conservation measures within the refuge boundaries may prove beneficial by helping to protect the watersheds and drainages that serve as spawning and rearing areas for anadromous species. Conservation of habitat and resources through public stewardship will benefit recreational use, as well as commercial fishing offshore. Managing the resource to provide habitat for wildlife and fish will ensure that hunting, fishing and other recreational opportunities continue.

*Land protection measures help ensure healthy watersheds and populations.*

The local economy may benefit if an active land acquisition or exchange program develops in the future. Some landowners could receive a cash payment for their land, or for an interest in their land (such as a conservation easement). The local economy receives direct benefits from the refuges through the Refuge Revenue Sharing Act. Designed to assist communities located near refuges, the Act authorizes annual payments to the local government for any inholdings acquired by a refuge. If local communities are not yet organized into a regional government with taxing authority, the payments authorized under this act are paid to the State.

*Local governments receive annual revenue sharing payments when the Service acquires inholdings.*

*Tourism will likely increase as recreational fishing and hunting and boating opportunities are promoted.*



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*In Alaska, most refuge lands are open to public access.*

*In general, traditional public access is maintained on lands acquired by a refuge.*

*A subsistence priority for rural residents is ensured on acquired lands.*

### **Effects on Public Access**

Access is a component of public use that can be affected by land ownership. In Alaska, most refuge lands are open to public access. Most non-local visitors access the refuge via air taxi or private plane, while local residents rely on the full range of access modes identified under ANILCA Section 1110. In addition, subsistence users are permitted access using motorboats, snowmobiles and other means of surface transportation. However, access can be regulated if needed to protect refuge resources. In some cases, specific types of access may be prohibited, but only after public hearings and a determination that the use is detrimental to area resources.

Section 17(b) of ANCSA provides public access across Native corporation lands. This section provided for public use easements across lands and at periodic points along major waterways within Native conveyed lands. There are currently fifty-six 17(b) easements within the refuge boundaries, including easements for forty trails, and sixteen one-acre sites. Unfortunately, recreationists often have difficulty determining whether they are on public or private land, especially in areas of checkerboard ownership. The result is a tendency to use private lands as though they are part of the refuge.

Any new land acquired by the refuge will be managed in the same manner as the surrounding refuge lands. Traditional public access to the acquired property will generally be maintained. The refuge may impose some regulations on public use to protect resources, but in the long-term, private landowners are more likely to restrict public access or require user fees. All commercial ventures occurring on the acquired lands, including guided fishing and hunting, would be subject to the same special use permit restrictions required on adjacent refuge land.



## Effects on Subsistence

Subsistence is a primary purpose of this refuge. Furthermore, Title VIII of ANILCA established in law special protection for subsistence activities on most Federal lands in Alaska. Rural residents receive a priority to harvest wildlife for subsistence purposes on all refuge lands where the Federal Subsistence Board has determined that there is a customary and traditional use of a particular wildlife population or fish stock. However, the subsistence harvest may be restricted or prohibited if wildlife population numbers fall to dangerously low levels. Subsistence harvest is resumed when populations recover to healthy levels.

Unlike private land acquisitions, acquisition by the Service ensures a subsistence priority for rural residents on the acquired lands. The benefit to residents may be limited at times by special harvest restrictions, or because there is no subsistence priority for certain species. For further information, see the Subsistence Management Regulations for Federal Public Lands in Alaska (USFWS 2003).

*It is likely that people have lived in the Yukon Delta region for more than 9,000 years. Strong and vibrant cultural traditions are a defining force in the region.*



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# Evaluating Resource Conservation Proposals

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When a landowner or the Service proposes resource protection measures, each proposal is evaluated individually. In most cases, land conservation decisions on the Yukon Delta Refuge will be based on the following guidelines:

*Many factors influence our land protection priorities.*

*Emerging development pressures or management concerns may cause priorities to change over time.*

*A parcel surrounded by private land is generally unsuitable for acquisition.*

*In general, isolated parcels with high biological value warrant land protection.*

*We consider the ecology of the entire area.*

## **1. Relative rank in the GIS model**

- Our GIS model divides the total acreage of non-Federal lands within the refuge boundary into three priority categories according to relative resource value.
- High priority lands within the Yukon Delta Refuge have sufficient resource values for the Service to consider acquiring an interest in the land.
- Typically, higher ranked lands are acquired before lower ranked lands.
- Lower priority lands may have noteworthy resources that warrant protection.

## **2. Special management values**

- Protecting or acquiring certain non-Federal lands could help the refuge meet specific management goals and objectives.
- Special management values include consolidating refuge ownership or improving management of public access.

## **3. Development potential and its effect on refuge resources**

- While some types of development may increase the opportunities for public use and enjoyment of the refuges, others may seriously impact refuge wildlife, habitats, or other resources. The threat of incompatible development adds urgency to the need for protection.

## **4. Effect of land conservation measures on overall refuge management**

- Land conservation measures should simplify, not complicate, refuge management.
- We seldom acquire tracts of land close to concentrated residential developments or those embedded in larger blocks of private property.

## **5. Effect of land conservation measures on biological integrity, diversity, and the environmental health of the refuge**

- Land conservation strategies should preserve or increase biological diversity, integrity and environmental health.
- To protect key habitats or geographic areas, we may consider adopting similar land protection measures across all lands in the area of interest, regardless of their GIS ranking.

*APS scores are a relative ranking, so even parcels with low scores may have noteworthy resource values that warrant protection.*

*All our land protection methods require the cooperation of the landowner. We will take action only if the landowner is interested.*

*Funding shortfalls may limit our ability to take action.*

*The Service does not prioritize subsurface interests.*

*The important goose nesting habitats of the coastal zone are in mixed public and private ownership.*

- We are interested in strategies that allow us to work cooperatively with landowners to protect the ecosystem now and in the future.

**6. Landowner's willingness to work with us to protect natural resources on their land**

- We acquire land or interests in lands only from willing sellers.
- Interest in land can be obtained by lease, easement, exchange, donation, or fee title purchase.
- Cooperative agreements with landowners may adequately protect resources if acquisition is not necessary, or if the landowner is willing to consider resource protections other than selling specific land interests.

**7. The availability of funds for land acquisition or other protection measures**

- Funds are not always available for land protection measures.
- Each refuge must compete nationally with other Federal wildlife refuges for acquisition funding.

Subsurface interests are not prioritized in our land protection plans. In Alaska, the Service rarely acquires subsurface interests because: 1) surface use is already regulated wherever the surface is refuge land; and 2) the vast amount of privately-owned surface land must receive primary consideration. We generally acquire subsurface interests only through special mandates in response to legislative action.



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## Public Involvement

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Wildlife conservation is the driving mission behind the National Wildlife Refuge System, but refuges ultimately benefit people, today and for generations to come. ANILCA states that one purpose for designating Conservation System Units in Alaska, including National Wildlife Refuges is to:

*“...preserve for the benefit, use, education and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values...”*

*We encourage landowners, and other interested public, to be involved in the land conservation planning process.*

Refuge lands represent many things to many people. Alaska refuges have an allure that can capture the hearts and minds of people in distant locales. These people care about refuge lands even though they may never experience them firsthand. Refuge lands have a different significance for those who live, work, and play within refuge borders. Generations of Alaska Natives have depended on the cyclical flow of the seasons to provide food, shelter, and a link to their cultural past.

Since land protection measures can influence wildlife resources and the management of wildlife refuges, we want to involve the public in the planning process. Input from interested individuals helps us tailor land protection plans to meet the needs of landowners, wildlife, the Service, and the public. We encourage landowners and interested members of the public to learn more about these refuges and help us identify important land conservation and management issues.

*The Service contacted the public early in the planning process.*

The planning process began with statewide public meetings in Anchorage and Fairbanks during October 1990 to announce the beginning of the land protection planning process for all refuges in Alaska. These statewide meetings were followed by public meetings specifically focused on the Yukon Delta Land Conservation Plan. Between November of 1990 and January of 1991, we held public meetings in 14 communities within the Yukon Delta Refuge. Through interpreters, the refuge and planning staff outlined the objectives of the Yukon Delta Land Conservation Plan, answered questions, and recorded issues or comments expressed during the meetings. The information from these meetings was compiled and summarized. Later in 1991, work was suspended on the Yukon Delta Land Conservation Plan because the computer technology was not sufficiently advanced to allow data analysis of such a large and complex spatial area.

We reinitiated work on the Yukon Delta LCP in July of 2002. After reviewing notes and summaries from the previous public meetings, we met with the Refuge Information Technicians in January of 2003, to plan our continuing public involvement program. Based on recommendations from this meeting, the refuge staff met with key representatives from the local communities, Native groups and other interest organizations to brief them on the status of the Yukon Delta LCP, and to answer questions and provide additional opportunities for comment. These groups were also told that we would willingly schedule additional meetings at the request of any interested individuals or groups.

*If you have any questions or would like to request a meeting, please contact the Yukon Delta Refuge.*

### **Land Protection Plan Revision**

Land ownership on the Yukon Delta Refuge will change as land is conveyed, subdivided, or sold. We maintain a computerized database of land ownerships and a list of owners who express an interest in land conservation opportunities. The following page contains a form that landowners can use to express an interest in working with us. Just fill in the form, tear it out, fold it, and mail it to the address preprinted on the back.

We will periodically review the Yukon Delta Land Conservation Plan. If land ownership or land uses change enough to alter our land protection priorities, we will consider revising the plan. Whenever we propose significant revisions, we will notify landowners and the public.

Our policy is to prepare land conservation plans for each refuge. These plans serve primarily to foster communication between the refuge and interested landowners and to help us identify our priorities. They do not require us to take any specific actions. This plan helps us identify areas with high resource value and provides a framework for working with interested landowners and managers to protect key resources.

*Land protection planning is an ongoing process.*



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**Landowners:** Would you like to work with us to protect wildlife on your land?

**Refuge Planning Participants:** Would you like to receive future mailings concerning the Yukon Delta Refuge Land Conservation Plan?

Please use this form to express your interest in the refuge Land Conservation Plan. The information you provide here will be used primarily for planning purposes, and does not constitute an offer to buy land.

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

Please check this box if you would like your name added to the Yukon Delta Land Conservation Plan mailing list.

There are 6 basic options that have been identified in the Plan. Please check the options in which you have interest.

**No Action** (I am not interested in participating)

**Cooperative Agreement** (An agreement between a landowner and the Service to help each other manage land. No money is involved.)

**Conservation Easement** (Landowner keeps title to land but sells development rights to the Service).

**Exchange** land for other Federal land

**Sell** land to the Fish and Wildlife Service

**Donate** land to the Fish and Wildlife Service

**Legal Description** of my parcel or allotment (on the Deed or other official correspondence):

T \_\_\_\_\_ N \_\_\_\_\_ R \_\_\_\_\_ E \_\_\_\_\_ Section \_\_\_\_\_ Lot \_\_\_\_\_  
\_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_

If you have any questions, please contact:

Refuge Manager  
Yukon Delta National Wildlife Refuge  
P.O. Box 346, Stop 535  
Bethel, Alaska 99559  
(907) 543-3151

U.S. Fish and Wildlife Service  
Division of Conservation, Planning & Policy  
1011 E. Tudor Road  
Anchorage, AK 99503  
(907) 786-3357

**Please fold form and mail to address on other side.**

Fold Here

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From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Place  
Stamp  
Here

To: U.S. Fish & Wildlife Service  
Division of Conservation, Planning & Policy  
1011 East Tudor Road  
Anchorage, Alaska 99503-6119



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