

U.S. Fish & Wildlife Service

Land Protection Plan

*Options for the protection
of fish and wildlife habitats*

Alaska Peninsula and Becharof National Wildlife Refuges

The Mission

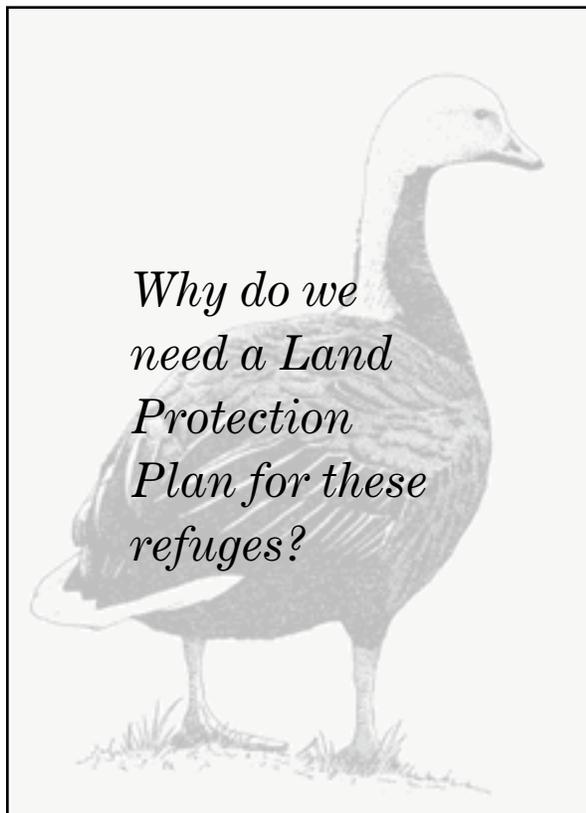
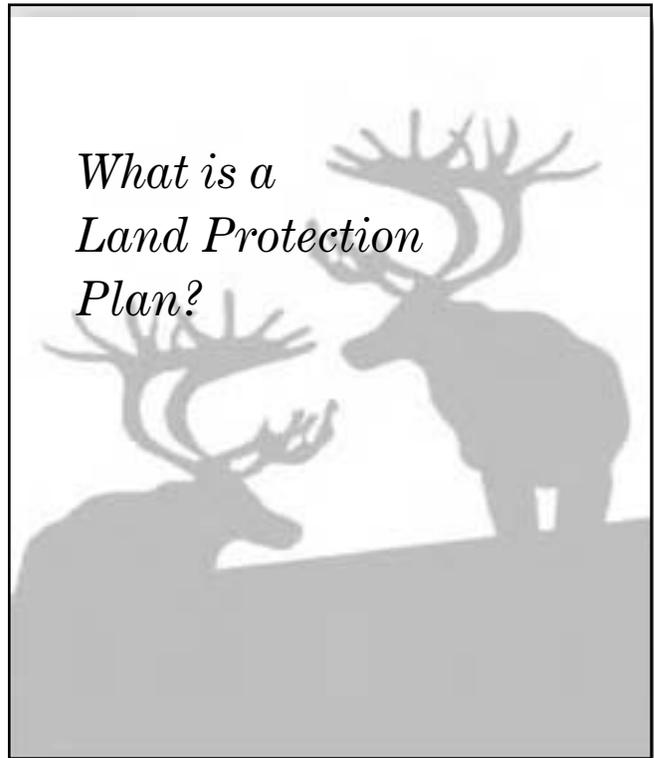
“The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future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

National Wildlife Refuge System Improvement Act of 1997

Summary

U.S. Fish and Wildlife Service policy requires that a Land Protection Plan (LPP) be prepared for each National Wildlife Refuge prior to initiating land acquisition or land protection projects. The Alaska Peninsula/Becharof Land Protection Plan identifies those privately-owned lands within the boundaries of the Alaska Peninsula and Becharof National Wildlife Refuges that provide key fish and wildlife habitats. These lands are ranked as high, medium, or low priority (Figures 11 through 14), depending on their relative value to fish and wildlife resources.

In some cases, we may be willing and able to buy some of these lands, but *only* from people who wish to sell. Some landowners may desire help conserving fish and wildlife on their lands, even though they are not interested in selling. The LPP identifies ways that we can work together with the landowner to help conserve wildlife habitats on these privately-owned lands. For instance, we may buy a conservation easement, enter into a cooperative management agreement, or trade lands. In many cases,



privately-owned fish and wildlife habitats are already sufficiently protected and we do not recommend taking any action.

An important role of the refuge system is to maintain and restore fish and wildlife and their habitats for the continuing use and benefit of the American people. The Alaska Peninsula and Becharof Refuges contain important habitat for salmon, caribou, brown bears, and many other species. These refuges were established to conserve the species and habitats of the area. We want to maintain these wildlife populations so that people can enjoy them now and in the future.

Unlike other refuge documents, the LPP focuses on privately-owned lands within refuge boundaries. However, the LPP does not obligate the private landowner nor the Service to implement any land protection measure. Rather, it is a management tool that guides refuge land protection activities and provides the framework for refuge and private landowner cooperation.

**Land Protection Plan
for
Alaska Peninsula and Becharof National Wildlife Refuges
King Salmon, Alaska**



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

December, 2002

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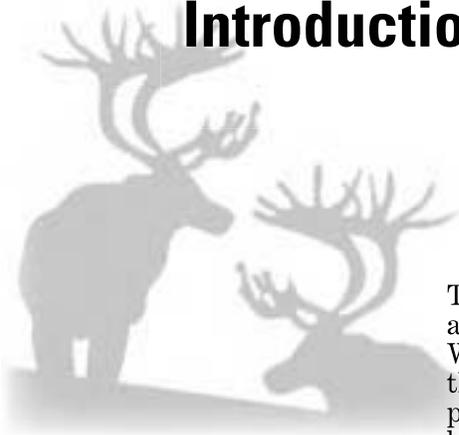
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Introduction



The U.S. Fish and Wildlife Service manages the Alaska Peninsula and Becharof National Wildlife Refuges as part 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 4,932,600 million acres within the administrative boundaries, private landowners have title or claims to approximately 918,137 acres, or nearly 19% (Table 1).

Private landowners have claims to about 19% of the land within the boundaries of the refuges.

Table 1. Land status overview for the Alaska Peninsula and Becharof Refuges as of January 2002

<i>Current Status</i>	<i>Acres</i> ¹
Native Corporation (conveyed)	527,519
Native Corporation (selected) ²	423,382
State of Alaska	1,155
University of Alaska	1,140
Native Allotments (conveyed/selected) ³	7,810
Other Patents ⁴	1,041
Other Federal Withdrawals	0
Conflicting Selections	-43,910
Total land claims within the administrative boundary (surface estate)	918,137

¹ *Acreege figures are approximate and subject to change. Land status acreage figures in Alaska will not be finalized until conflicting claims are adjudicated by the Bureau of Land Management, and all inholdings are surveyed.*

² *Includes conflicting selections: lands that are selected by both a Native Corporation and another entity.*

³ *Includes selections that conflict with others.*

⁴ *Other patents include ownership categories such as headquarter sites, soldier's additional homesteads, trade and manufacturing sites, coal lands, and mission sites.*

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

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 Alaska Peninsula and Becharof Refuges, and to preserve the ecological integrity of the Alaska Peninsula. Our success depends on forging partnerships with private landowners. We are particularly interested in working with people whose lands have high fish and wildlife habitat values.

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

Objectives

The goal of this Land Protection Plan is to identify opportunities for interested landowners to help us conserve key fish and wildlife values on private lands within refuge boundaries. The LPP is intended to guide land protection activities on the refuge and provide a framework for cooperation between interested private landowners and the Service. The objectives of this document are to:

1. Identify private lands within the refuges.
2. Identify the key natural resources we need to protect, and show how they may be affected by the presence of private lands.
3. Describe the various methods available for resource protection.
4. Describe how the Service sets priorities for natural resource protection.
5. Identify the resource protection priorities for the Alaska Peninsula and Becharof Refuges, and recommend protection measures.
6. Evaluate the effects these protection measures may have on landowners and other refuge users.

A Land Protection Plan does not obligate the Service to actively acquire interests in private lands.

Brown bears inhabit the entire Alaska Peninsula. An omnivorous species, they eat roots, plants, and berries, as well as animal prey and carrion. Bears gorge on salmon during fish runs and may gain as much as 400 pounds of body fat prior to winter denning.



U.S. Fish & Wildlife Service



Land Status



The Alaska Peninsula and Becharof National Wildlife Refuges were established by ANILCA in 1980.

Almost one-fifth of the land within the Refuges is owned or claimed by Native corporations or individuals.

The fur trade attracted Russians to the area during the early 19th century.

The Alaska Native Claims Settlement Act of 1971 was the major factor shaping land ownership patterns within the Alaska Peninsula and Becharof Refuges. 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 Alaska Peninsula and Becharof Refuges, the boundaries were drawn roughly along major ecological features, such as watershed boundaries, regardless of existing land ownership patterns. Consequently, the boundaries of the Alaska Peninsula and Becharof Refuges incorporated many lands that were owned or claimed by individuals, Native corporations, or the State of Alaska.

The exterior boundaries of the Alaska Peninsula and Becharof Refuges¹ encompass approximately 4,932,600 acres (Figure 1). Native corporations own or have claims to nearly 18% of this land. In addition, numerous privately-owned small parcels, including Native allotments, mission sites, and other private patents, are scattered across the refuges. Table 2 and the remaining sections of this chapter will detail some of the history, major land actions, and current land ownership patterns on the Alaska Peninsula/Becharof Refuges.

History

Humans have occupied the Alaska Peninsula for at least 10,000 years. The oldest signs of human use within the refuge boundaries were uncovered at the Ugashik Narrows, a short, narrow outlet joining Upper and Lower Ugashik lakes. Materials from the site date to about 7,000 B.C. and are typical of the Paleo-Arctic tradition. Prehistorically, ten major cultures used the Alaska Peninsula. Historically, four major ethnic groups met on or near the Peninsula, including the Aleut, Aluutiq, Yup'ik Eskimo, and Athabascan Indian.

Russian explorers first visited the Pacific coast in the mid-1700s. Russians seeking furs were attracted by the large number of sea otters and other furbearers in the area. By the early 1800s, the fur trade was well established throughout the Peninsula and many Native villages were being “Russianized” by missionaries of the Russian Orthodox Church. Along with commerce and Christianity,

¹ Since 1983, the Alaska Peninsula Refuge, Becharof Refuge, and Seal Cape of the Alaska Maritime Refuge have been jointly administered by the staff of the Alaska Peninsula Refuge, headquartered in King Salmon. The name Alaska Peninsula/Becharof Refuges will be used to refer to all units under shared management.

Table 2. Surface land status of the Alaska Peninsula/Becharof Refuges as of January 2002

Landowner	Acres Conveyed ¹	Acres Selected	Total Acres	Remaining Entitlement ²
Aleut Corporation 14(h)(1) Selections	0	198,600 ³ 31	198,631	
Alaska Peninsula Native Corporation (Port Heiden, South Naknek, Ugashik)	24,075	32,130	56,205	32,130
Bay View, Inc. (Ivanof Bay)	78,461	19,626	98,087	3,041
Bristol Bay Native Corp. (Regional) 14(h)(1) Selections	10,129	44,142 125	54,396	
Chignik Lagoon Native Corp.	89,086	13,147	102,233	6,380
Chignik River, LTD. (Chignik Lake)	90,419	15,277	105,696	9,542
Far West, Inc. (Chignik)	115,628	4,430	120,058	3,458
Koniag, Inc. (Regional) 14(h)(1) Selections	0	5,468 ⁴ 1,757	1,757	0
Lesnoi Corporation (Woody Island)	0	12,339 ⁴	12,339	
Natives of Akhiok, Inc.	0	32,530 ⁴	32,530	
Oceanside Corporation (Perryville)	85,184	13,202	98,386	8,742
Pilot Point Native Corp.	28,756	5,068	33,824	5,068
Shumagin Native Corp.	5,781	30,978	36,759	
Native Allotments	5,990	1,820	7,810	
Other Private	1,041	0	1,041	0
State of Alaska University of AK	1,155 1,140	0 0	2,295	0
<i>Conflicting Selections⁵</i>	0	-43,910	-43,910	
Total Surface	536,845	336,423	918,137	

¹ Includes acreages patented or Interim Conveyed (IC). Only land claims within the refuge boundary are reported. Many corporations have additional claims outside the refuges. Conveyed and selected acreage figures are from the Bureau of Land Management's Alaska Lands Information System database except where noted.

² That portion of the remaining entitlement that may be conveyed within refuge boundaries.

³ Acreage estimate calculated from GIS coverage.

⁴ Invalid selections that have not yet been removed from BLM records. These lands will remain under refuge management and were not included in the total acreage of selected lands.

⁵ Acreage selected by more than one entity.

Ten village corporations and three regional corporations have claims in the refuges.

the white men also brought hardship and disease to the Native population. The Aleuts were often forced to work for the Russians and were exposed for the first time to foreign diseases. It is estimated that the overall Aleut population declined by 50% within the first 10 years of Russian colonization, as a result of disease, starvation or warfare (Jones and Wood 1973).

In 1867, the United States purchased Alaska from Russia. The declining fur trade was gradually replaced by commercial fishing. In 1888, the Fisherman's Packing Company of Astoria, Oregon, became interested in the fishing prospects of the Chignik area. The following year, a cannery was built on Orzinski Bay at the southern end of the Chignik Unit. Soon canneries sprang up all along the Alaska Peninsula. By the 1940s, many small outlying villages had been abandoned as more and more people moved into various cannery settlements.

Numerous oil and gas seeps attracted early prospectors to the Alaska Peninsula.

In the early 1900s, oil exploration began on the Alaska Peninsula. Oil and gas seeps in the vicinity of Puale Bay, formerly known as Cold Bay, attracted several prospectors, including the Pacific Oil and Commercial Company. Shallow wells drilled in this area from 1902 to 1904 are among the earliest examples of scientifically-based exploratory wells. The wells failed to produce viable quantities of oil and interest waned until the Mineral Leasing Act of 1920 injected renewed vigor into the search for oil.

Commercially viable quantities of oil were never discovered.

By 1922, the village of Kanatak in Portage Bay had grown into a boomtown of 2,000 inhabitants. It boasted one of the best available ship anchorages along the Pacific coast and became a jump-off point for personnel and equipment headed to the oil fields. Standard Oil, Associated Oil, Union Oil, and Tide Water Associated Oil all drilled in the area—without success. A total of 25 exploratory wells were drilled on or near the refuges. The last well was drilled and abandoned in 1985. Today there are no valid oil leases on refuge lands. However, there are still 94 pending oil and gas lease applications on file with the Bureau of Land Management. Most were filed in the 1960s, 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). Although interest in the area has waned, 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.

Establishment of the Refuges. The events leading to the establishment of the Alaska Peninsula and Becharof Refuges began in 1971 when virtually all public lands in Alaska were withdrawn for classification and study as possible additions to the national network of parks, forests, or wildlife refuges. However, as the statutory expiration date of the withdrawals approached, Congress had not yet reached agreement on which of these lands should be included in parks, refuges, or other Conservation System Units.

Fearing that the lands would become available for other forms of appropriation, the Secretary of Interior invoked his emergency withdrawal powers to set aside approximately 110 million acres throughout Alaska, including what is now the Alaska Peninsula Refuge (PLO 5653). These lands were withdrawn for a period of three years, with the intent of protecting their resource values until Congress could enact legislation that afforded permanent

protection. One month later in December, 1978, President Carter designated an additional 56 million acres as national monuments, including the Becharof National Monument (Presidential Proclamation 4616). These actions by the Secretary and the President extended protection to the land until Congress could act.

The effort to set aside lands for conservation purposes culminated on December 2, 1980, when the Alaska National Interest Lands Conservation Act (PL 96-487) was signed into law. Among other actions, ANILCA established the Alaska Peninsula National Wildlife Refuge, redesignated the Becharof Monument as a unit of the National Wildlife Refuge System, and created the Alaska Maritime Refuge by merging 11 existing refuges and adding additional lands (including the Seal Cape area adjacent to the Alaska Peninsula Refuge).

In 1983, management of all the refuge lands on the Alaska Peninsula was split between two offices. The Alaska Peninsula Refuge staff, located in King Salmon, assumed management of the two northern units (Ugashik and Chignik Units) of the Alaska Peninsula Refuge, the 9,900 acre Seal Cape area of Alaska Maritime, and the Becharof Refuge. The Izembek Refuge staff, in Cold Bay, assumed management of the two southern units of the Alaska Peninsula Refuge (Pavlof and North Creek Units) and the Izembek Refuge. There were both biological and logistical reasons for this decision and it has facilitated management of all four refuges.

Although the “administrative” boundaries have shifted, the legal boundaries have not. A legislative proposal to legally adjust the boundaries of several Alaskan refuges, including the Alaska Peninsula Refuge, was first submitted to Congress in 1988, but has not yet passed into law. This boundary adjustment would not add or remove lands from the refuge system, but would legally transfer the administrative control of certain lands from one refuge to another.

All lands administered out of the Alaska Peninsula Refuge headquarters in King Salmon were considered in the development of this plan. The name, Alaska Peninsula/Becharof Refuges, will be used throughout this plan to refer to all lands comprising the Ugashik and Chignik Units of Alaska Peninsula Refuge, the Becharof Refuge and the Seal Cape area of Alaska Maritime Refuge.

Native Village Corporation Land

The Alaska Native Claims Settlement Act of 1971 had the greatest impact on land ownership patterns in what are now the Alaska Peninsula and Becharof Refuges. With the passage of ANCSA, Congress settled Native aboriginal claims, while accommodating State and conservation interests. Much of the land within the refuge boundaries was available for selection by a number of village corporations.

Currently, about 517,390 acres, about 10%, of the land within the boundaries has been conveyed to eight village corporations, representing ten villages (Table 2, Figure 2). An additional 178,727 acres have been selected by 10 village corporations, representing 12 villages. However, this figure includes both invalid selections and 42,677 acres of conflicting selections in which one village selection overlaps with a selection made by another village or other entity.

The Ugashik and Chignik Units of the Alaska Peninsula Refuge, the Becharof Refuge, and Seal Cape of the Alaska Maritime Refuge are managed out of the Alaska Peninsula Refuge headquarters. In this report, the name “Alaska Peninsula/Becharof Refuges” refers to all these units.

Village corporations hold title to about 10% of the land in the refuges.

**Figure 2
NATIVE CORPORATION LANDS**



Chignik Unit
of the
Alaska Peninsula
National Wildlife Refuge



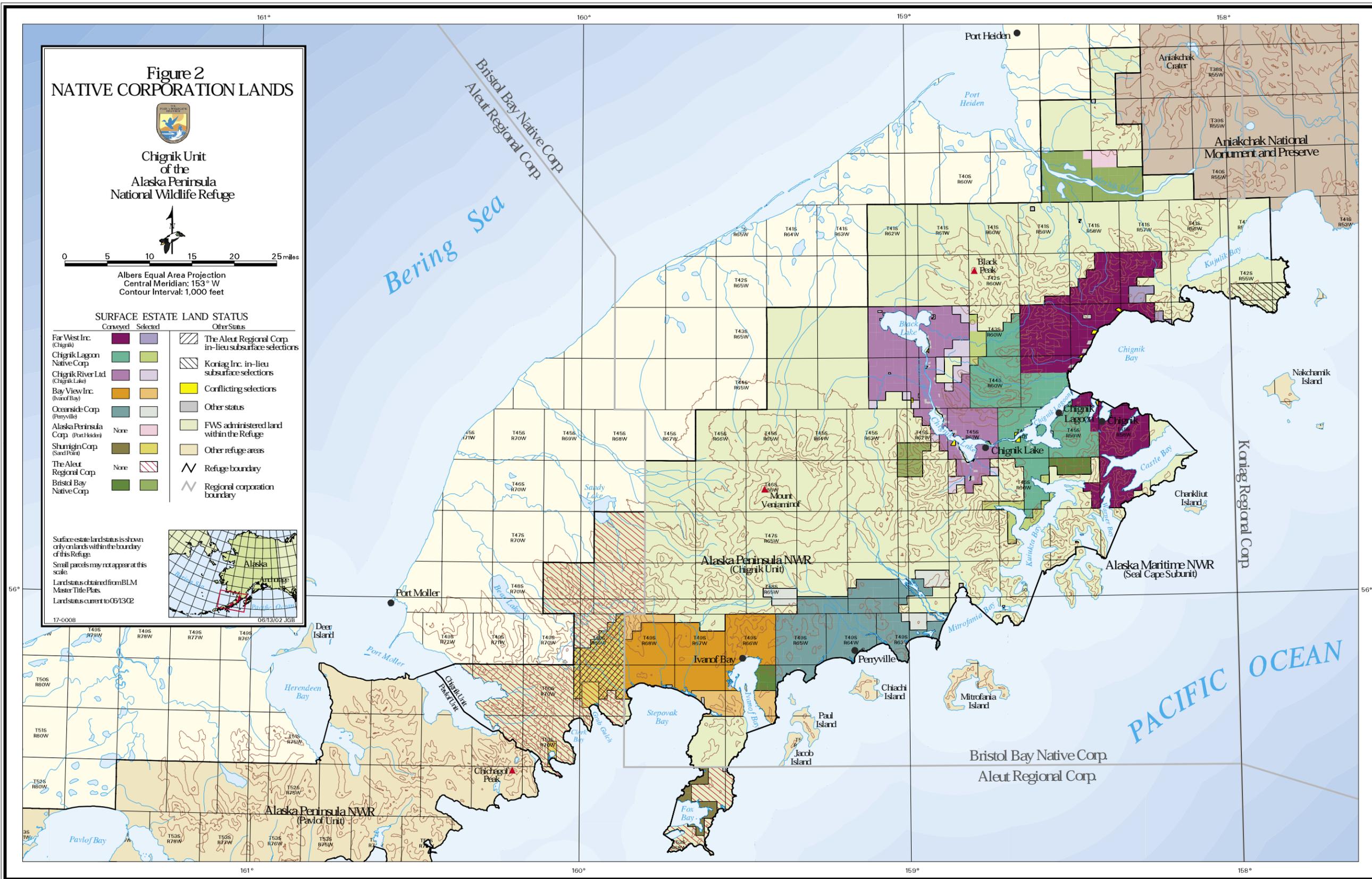
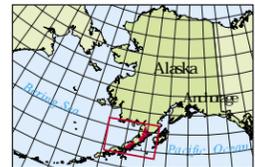
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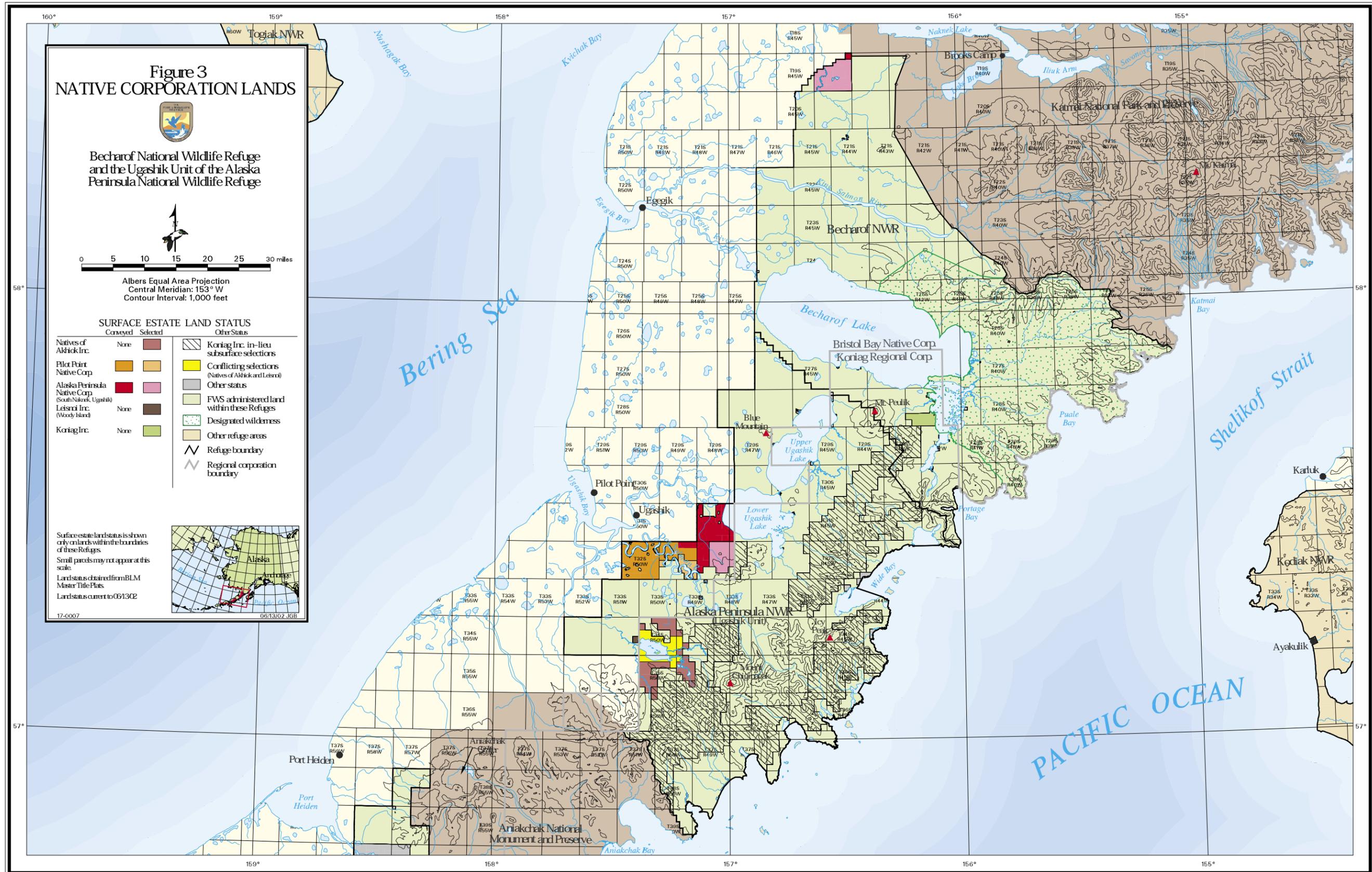
Albers Equal Area Projection
Central Meridian: 153° W
Contour Interval: 1,000 feet

SURFACE ESTATE LAND STATUS

Conveyed		Selected		Other Status	
Far West Inc. (Chignik)	[Dark Purple]	[Light Purple]	[Hatched]	The Aleut Regional Corp. in-lieu subsurface selections	[Hatched]
Chignik Lagoon Native Corp.	[Green]	[Light Green]	[Hatched]	Koniag Inc. in-lieu subsurface selections	[Hatched]
Chignik River Ltd (Chignik Lake)	[Purple]	[Light Purple]	[Yellow]	Conflicting selections	[Yellow]
Bay View Inc. (Wood Bay)	[Orange]	[Light Orange]	[Grey]	Other status	[Grey]
Oceanside Corp (Penyville)	[Teal]	[Light Teal]	[Light Yellow]	FWS administered land within the Refuge	[Light Yellow]
Alaska Peninsula Corp. (Port Heiden)	None	[Pink]	[Light Orange]	Other refuge areas	[Light Orange]
Shumigin Corp (Sand Point)	[Brown]	[Light Brown]	[Hatched]	Refuge boundary	[Hatched]
The Aleut Regional Corp	None	[Hatched]	[Hatched]	Regional corporation boundary	[Hatched]
Bristol Bay Native Corp	[Dark Green]	[Light Green]			

Surface estate land status is shown only on lands within the boundary of this Refuge.
Small parcels may not appear at this scale.
Land status obtained from BLM Master Title Plats.
Land status current to 06/13/02





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

Sections 12(a) and 12(b) of ANCSA set rules for the village corporation selection process. The general land entitlement framework required that lands in the immediate vicinity of Native villages be available for conveyance to the respective village corporation. This land entitlement is commonly referred to as the “12(a) entitlement”. The actual acreage of the entitlement depended on the number of shareholders enrolled in the village corporation. In addition, each regional corporation was given the discretion to allocate additional acreage to village corporations. This allocated acreage is known as the “12(b) entitlement”. Within the Alaska Peninsula Refuge, some village corporations selected the same parcel of land to fulfill both their ANCSA 12(a) and 12(b) entitlements. There are about 56,000 acres of land within the refuges that were selected twice by a single village corporation—to fulfill both a 12(a) and a 12(b) entitlement.

Five of the villages with claims in the refuges are located inside the boundaries; seven are located elsewhere.

Not all the villages with land claims in the refuges are located within the refuge boundaries. A total of nine villages with selections or conveyances in the refuges are located on the Alaska Peninsula. Five of these are inside the refuge boundaries and an additional four are located outside the refuges on the north side of the Peninsula. The remaining three villages are located elsewhere—two on Kodiak Island and one in the Shumagin Islands. These latter three villages were able to select lands within the refuges because of another provision of ANCSA. This provision [Section 11(a)(3)] addressed the special situation encountered whenever village corporations were unable to select enough land near their villages to fulfill their 12(a) entitlement, either because the village was surrounded by unavailable land or by water.

Although the general land entitlement framework established by ANCSA was adequate in most cases, it did present a problem in some areas. Some villages are located on small islands where there is simply not enough land to fulfill the ANCSA entitlement. Other villages, including the Kodiak Island villages, are located in “old refuge” areas which predated ANCSA. Land conveyances in these refuges were limited to 69,120 acres, less than the full entitlement of all but the smallest villages.

A provision of ANCSA authorized several Kodiak villages to select land within the refuges.

To make more land available for some of these villages, a large block of land on the Alaska Peninsula was set aside as a “deficiency withdrawal area”, under the authority of Section 11(a)(3) of ANCSA (PLO 5177 and PLO 5175, as amended by PLO 5394). Land within the Alaska Peninsula/Becharof Refuges was selected by the Shumagin Corporation (Sand Point), as well as by several Kodiak Island corporations, including the Natives of Afognak, Inc., Port Lions Native Corporation, Nu-Nachk-Pit, Inc. (Larsen Bay), Ouzinki Native Corporation, Natives of Akhiok, Inc., and Lesnoi, Inc. (Woody Island).

In 1980, a total of 48,165 acres of land within this deficiency area was conveyed to the Afognak Native Corporation, a corporation formed by the merger of Natives of Afognak, Inc., and Port Lions Native Corporation. However, when the Alaska National Interest Lands Conservation Act was passed later that year, it contained a provision directed at these “deficiency villages” on Kodiak Island. Section 1427 provided an opportunity for these villages to join the Afognak Joint Venture—and receive land on Afognak Island—in exchange for returning any conveyances, and relinquishing all

The Kodiak villages opted to relinquish their land claims on the Peninsula in exchange for lands on Afognak Island.

entitlements, on the Alaska Peninsula. In early 1991, the Afognak Native Corporation reconveyed to the United States everything it owned on the Alaska Peninsula. All other Kodiak Island corporations chose to relinquish their selections on the Peninsula. The Bureau of Land Management's land status database for the Alaska Peninsula currently lists selections by Lesnoi, Inc., and Natives of Akhiok, Inc., (Table 2 and Figure 3). However, these selection rights were extinguished under the provisions of ANILCA Section 1427(b)(3). These invalid selections will eventually be removed from the BLM database.

The land status within the refuges will continue to change as selected lands are conveyed, relinquished, or rejected. It is likely that some village selections will eventually be relinquished. The Shumagin Corporation, for example, is overselected (12(b) selections) by approximately 315,000 acres, of which about 30,950 acres are within the Chignik Unit. It is possible that the Shumagin Corporation may relinquish some or all of these lands.



There are five villages within refuge boundaries. Each is surrounded by a large block of village corporation land.

U.S. Fish & Wildlife Service

Regional Native Corporation Lands

Combined Surface/Subsurface Estate. Another provision of ANCSA [Section 14(h)(8)] authorized land conveyances to regional corporations. Under this provision, a total of 10,129 acres (including the subsurface estate) has been conveyed to the Bristol Bay Native Corporation. In addition, three regional corporations including the Bristol Bay Native Corporation, Koniag, Inc., and The Aleut Corporation, have selections within the refuges totaling about 248,210 acres (Table 2, Figures 2 and 3).

The Bristol Bay Native Corporation is the only regional corporation with conveyances in the refuges.

It is likely, however, that most of these regional selections will eventually be relinquished. The Aleut Corporation has only 55,000 acres remaining in its ANCSA 14(h)(8) entitlement, but has selected approximately two million acres, including more than 199,000 acres in the Chignik Unit alone. The majority of the Corporation's entitlement would be satisfied by the terms of the proposed Adak Land Exchange. If the land exchange is ultimately approved by

The Aleut, Bristol Bay and Koniag regional corporations all have selections in the refuges under ANCSA 14(h)(8). However, the Koniag selections are invalid [ANILCA §1427(b)(1)] and the Aleut selections will likely be relinquished.

Three regional corporations have selected more than 1,900 acres as Cemetery and Historic Sites.

The Aleut Corporation and Koniag, Inc., have a combined total of 427,930 acres of subsurface selections in the refuges.

The Aleut Corporation, the Corporation would relinquish most of their selections within the Alaska Peninsula/Becharof Refuges to fulfill the terms of the agreement.

According to Bureau of Land Management records, Koniag, Inc., has about 5,470 acres of 14(h)(8) selections in the refuges. However, these selections became invalid when Koniag agreed to relinquish all 14(h)(8) selections on the Alaska Peninsula in exchange for land on Afognak Island under the authority of ANILCA §1427(b)(1) and §1427(b)(3). These selections will eventually be removed from the BLM records.

In addition to 14(h)(8) selections, regional corporations could select significant historic places and cemetery sites under the authority of ANCSA Section 14(h)(1). All three regional corporations have 14(h)(1) selections in the refuges. A number of the original selections were either certified ineligible by the Bureau of Indian Affairs or were rejected by the Bureau of Land Management because of land status conflicts. However, there are currently 1,913 acres of 14(h)(1) selections in the refuges. All have been certified as eligible and will likely be conveyed to the respective regional corporations.

Subsurface Estate Only. In general, ANCSA conveyance rules granted regional corporations the subsurface rights to the lands conveyed to village corporations [Section 14(f)]. Under this provision, the Bristol Bay and Aleut Regional Corporations have received approximately 517,390 acres of subsurface estate beneath patented village corporation lands within the refuges. As additional village surface selections are conveyed, the corresponding subsurface estate will be conveyed to the respective regional corporation.

The basic idea behind ANCSA was to give villages title to the surface lands they needed 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 remained 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. One of these designated areas was on the Alaska Peninsula.

There are about 427,930 acres of subsurface selections, including “in lieu” selections, within the refuge boundaries (Figures 1). The Aleut Corporation has selected about 26,076 acres of “in lieu” subsurface and Koniag Inc., has selected 401,855 acres of subsurface under several different provisions of law.

Pursuant to Section 1427, Koniag, Inc., is entitled to the subsurface estate beneath lands originally conveyed to the Afognak Native Corporation (ANC reconveyed the surface estate back to the United States in 1991). In addition, Koniag is entitled to an “in-lieu” subsurface estate equivalent in acreage to the surface estate

Under P.L. 94-204, §15, Koniag, Inc., is entitled to a limited subsurface estate of about 150,000 acres in the Alaska Peninsula/Becharof Refuges and Aniakchak National Monument.

In 1994, the Service acquired 61,743 acres of Koniag's oil and gas interests in Yantarni Bay.

Koniag, Inc., has a remaining subsurface entitlement of 274,302 acres on the Peninsula and has prioritized about 274,322 acres. The corporation is negotiating with the Service and the National Park Service to exchange these interests.

A total of 75 Native allotments (97 parcels) have been conveyed.

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).

conveyed to villages within the Kodiak National Wildlife Refuge (a pre-ANCSA refuge). However, ANILCA §1427 specifies that conveyances under this provision are limited to the oil and gas interests and the right to use sand and gravel in connection with oil exploration or oil field development.

Koniag, Inc., is also entitled to the limited subsurface estate (oil, gas, and hard rock minerals only) of 150,000 acres of Alaska Peninsula lands specified in an amendment to ANCSA (Section 15 of P.L. 94-204, as further amended by Section 911 of ANILCA). Most of the land selected under this provision is within the boundaries of Aniakchak National Monument.

Koniag's total remaining subsurface entitlement on the Peninsula (including National Park Service lands) is about 274,300 acres. Currently, there are 427,930 acres of Koniag subsurface selections within the Alaska Peninsula/Becharof Refuges (Figure 3).

However, it is unlikely that Koniag, Inc., will retain its subsurface interests on the Peninsula. Some of the oil and gas interests that were conveyed to Koniag in 1980, pursuant to Section 1427, have already been acquired by the Service. In 1994, the Service acquired 61,743 acres of subsurface oil and gas interests in the Yantarni Bay area. Koniag's interest in this land waned after an exploratory oil and gas well failed to produce. In 1988, Koniag sold its interests to a third party. Eventually the oil and gas interests were purchased by the Trust for Public Lands and subsequently sold to the Service.

Koniag, Inc., the Service, and the National Park Service are currently negotiating a land exchange for Koniag's prioritized subsurface selections in the refuges. The exchange is mandated by the Omnibus Parks and Public Lands Management Act of 1996 (Section 303 of P.L. 104-333).

Native Allotments

The passage of the Native Allotment Act in 1906 made it possible for Alaskan Natives to claim up to 160 acres of land. However, the first application for an allotment in this area was not filed until 1965; the first patent was issued in 1974.

Currently, there are a total of 126 Native allotment parcels, totaling 7,810 acres, within the refuges. A total of 75 Native allotments (5,990 acres) have been conveyed. Each allotment is comprised of one to four separate parcels, totaling 97 parcels. Another 29 parcels (1,820 acres) are selected. Many of these selections conflict with other selections, including selections made by village corporations (1,170 acres) and lands claimed as Soldiers Additional Homesteads (22 acres).

In addition, certain qualified Alaskan Native Vietnam veterans had the opportunity to apply for an allotment within the refuge under the provisions of a 1998 amendment to ANCSA (Section 432 of P.L. 105-276 [43 U.S.C. 1629g]). The 1998 law was passed in response to the concern that some Native veterans may have missed their opportunity to apply for an allotment because of their military service. The application period closed on January 31, 2002. Under this Act, there are a total of 19 new allotment claims in the refuges, including four claims within the Becharof Refuge and 15 within the Alaska Peninsula Refuge.

Soldiers Additional Homesteads

In 1884, Congress extended the nation's principal land laws to Alaska. These laws extended the authority for entry of both homesteads and Soldiers Additional Homesteads.

About 530 acres have been patented as Soldier's Additional Homesteads.

There are 43 parcels (totaling approximately 530 acres) within the refuge boundary that were originally patented as Soldiers Additional Homesteads. These parcels range in size from less than 2 acres to 57 acres. The practice of rewarding war veterans with land grants began after the American revolution and continued for as long as the nation remained land rich and cash poor. 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 select enough public land to make up the difference between the acreage of their homestead and 160 acres.

The first large-scale migration of non-Natives to the Alaska Peninsula area arrived in pursuit of salmon, and many of the early patents reflect this history. Within the present refuge boundary, the earliest patent of this type was issued in 1910; many others were issued prior to 1920. The Northwestern Fisheries Company, the Alaska Packers Association, Moosehead Fishing and Mining, Colombia River Packers Association, Sledge Fishing and Mining, and Nautilus Fishing and Mining, all received Soldiers Additional Homestead patents prior to 1922.



U.S. Fish & Wildlife Service

Most Native allotments and other small parcels are undeveloped. However there are a number of cabins and hunting/fishing lodges constructed on private lands.

Other private patents were issued for Trade & Manufacturing sites, Mission sites, Coal Lands, and Headquarters sites.

Other Private Patents

There are a number of other small private patents within the boundaries of the two refuges. Among these, are patents issued to individuals or companies under four different statutes.

Between 1904 and 1984, four patents were issued for Trade and Manufacturing sites, ranging from 23 to 73 acres and totaling 170 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. In 1904, the Chignik Bay Packing Company, a commercial fish processing company, was issued the first private patent for lands now within the Alaska Peninsula Refuge.

In 1920, one patent was issued to the Thompson Valley Coal Company for 316 acres in the Chignik Bay area under the Coal Lands Act of 1873 (17 Stat. 607). This Act provided for cash entry and patent to lands believed to be chiefly valuable for coal extraction.

Three patents, totaling about 12 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.

In 1914, a total of four patents (approximately 13 acres total) were issued to the Russian Greek Orthodox Church. These patents were a grant of public land for church missionary stations. All four sites are located on the Pacific coastline.

State of Alaska/University Lands

Approximately 1,155 acres of land in the Wide Bay area were conveyed to the State of Alaska, via Tentative Approval, in 1966.

In 1976, the State of Alaska also filed a General Purposes Grant application for about 23,000 acres of land near Lower Ugashik Lake. However, the BLM determined that this selection was invalid and rejected the application. There are no other State selections within the two refuges.

The Alaska Department of Natural Resources and the State University system together control about 2,295 acres within the Ugashik Unit of the Alaska Peninsula Refuge.

The University of Alaska holds title to five parcels of land (1,140 acres) within the Ugashik Unit of the Alaska Peninsula Refuge. Two of these parcels are located near other State lands in the Wide Bay area. The remaining three parcels are located on the northeastern shoreline of Upper Ugashik Lake.

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.

If the U.S. did not reserve or withdraw submerged lands, then the ownership of submerged lands is determined on the basis of navigability. The term “navigable” has a legal definition and does

Ownership of submerged lands within refuge boundaries depends on whether or not the water body is navigable.

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

The State of Alaska and the Federal government disagree over the requirements to establish a valid RS-2477 claim.

The State has identified 5 possible RS-2477 claims in the refuges.

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.

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). In 1992, 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 rivers and lakes located within the Alaska Peninsula/Becharof Refuges. Since filing the notice, the State has taken no further action to quiet title to these submerged lands. The Federal courts will have the final authority in resolving any disputes over ownership.

RS-2477 “Highways”

Revised Statute 2477 (enacted in 1866 and 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.” The intent of the statute was to promote public highway construction as the western states were settled. Until its repeal in 1976, this statute authorized the development of various public access routes across unreserved public lands.

Under a validated RS-2477 claim, the Federal government retains ownership of the land, and the State is granted a right-of-way for a public highway. However, the State of Alaska and the Federal government disagree over what was required to establish a valid RS-2477 claim. The Federal government asserts that evidence of construction is required. However, the State contends that RS-2477 rights-of-way could be established through a variety of means other than actual construction of a highway.

Many of the State’s right-of-way claims are based on historic information identifying trails used in the early 1900s by trappers, miners, or Native people. These claims rely on the interpretation that a statement declaring “formal acceptance of a right-of-way grant” by a state or local government is sufficient to validate right-of-way claims under RS-2477.

Several attempts to resolve the disagreements over RS-2477, and establish procedures for validating right-of-way claims under this statute, have been unsuccessful. In 1996, Congress mandated that no rules governing RS-2477 claims would become effective until specifically authorized by an act of Congress. Until Federal legislation is passed, the validity of RS-2477 claims will be determined through the courts on a case-by-case basis.

The State considers a number of historical transportation routes within Alaskan refuges to be valid RS-2477 claims. Five of these routes are within the Alaska Peninsula/Becharof Refuges (Table 3, Figure 4). One is an abandoned wagon trail, constructed by the U.S. Alaska Road Commission and the Associated and Standard Oil companies, that connected the village of Kanatak with oil drilling sites in the Upper Ugashik Lake basin (U.S. Alaska Road Commission 1924). Shortly after the wagon trail was constructed, oil exploration activity ceased, the village of Kanatak was abandoned, and the route received limited subsequent use. Two of

the other RS-2477 claims cross large portions of refuge land and served as early travel routes between Native villages. If these claims are eventually validated and access routes developed, they would significantly affect the resources and management of the Alaska Peninsula/Becharof Refuges.

In addition to specific routes, the State also claims section line easements within the refuges. If any of these claims are determined to be valid, they could be developed as transportation corridors by the State.

Table 3. Mileage of State-claimed RS-2477 “highways” within the Alaska Peninsula and Becharof Refuges

No.	“Highway” Name	Native Conveyed	Native Selected	Private Patent	Conflict	Refuge Lands	Total
68	Egegik-Kanatak Trail	0	2.39	0		47.36	49.75
282	Island Bay - Salmon Ck Trail	0	0	0		4.11	4.11
367	Portage Bay - Mt. Demian Oil Camp Trail	0	5.08	0		4.75	9.83
394	Chignik Lagoon -Aniakchak R. Trail	11.04	3.50	0.32	1.38	18.77	35.01
1176	Kanatak - Becharof Lake Trail	0	0.07	0	0	7.98	8.05
Total Miles		11.04	11.04	0.32	1.38	82.97	106.75

¹ Information from Alaska DNR RS-2477 digital data, 1995.

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 26 Section 17(b) easements within the Alaska Peninsula/Becharof Refuges (Table 4). However, additional 17(b) easements may be created as the Bureau of Land Management conveys the remaining land entitlements to Native corporations.

Two easements were reserved along existing trails, and another 11 easements were reserved for proposed trails. The purpose of these trail easements is to provide public access across private property to isolated public lands.

In addition to trail easements, there are two easements for airstrips (250' x 3,000'), and 11 one-acre site easements within refuge

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

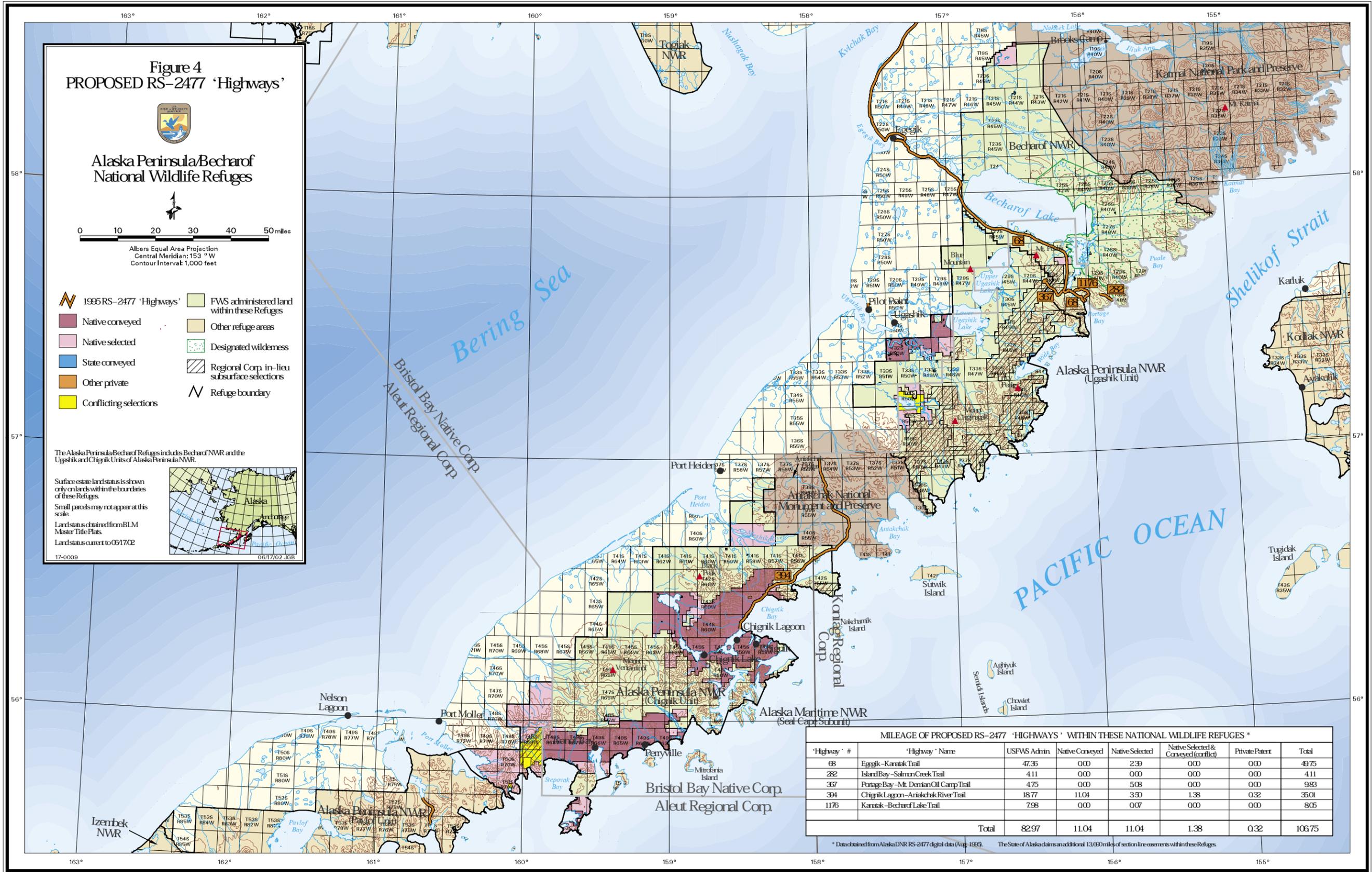
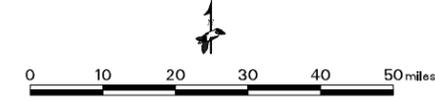


Figure 4
PROPOSED RS-2477 'Highways'



Alaska Peninsula/Becharof National Wildlife Refuges

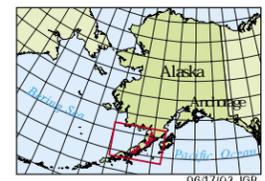


Albers Equal Area Projection
Central Meridian: 153 °W
Contour Interval: 1,000 feet

- 1995 RS-2477 'Highways'
- Native conveyed
- Native selected
- State conveyed
- Other private
- Conflicting selections
- FWS administered land within these Refuges
- Other refuge areas
- Designated wilderness
- Regional Corp. in-lieu subsurface selections
- Refuge boundary

The Alaska Peninsula/Becharof Refuges include Becharof NWR and the Ugashik and Chignik Units of Alaska Peninsula NWR.

Surface state land status is shown only on lands within the boundaries of these Refuges.
Small parcels may not appear at this scale.
Land status obtained from BLM Master Title Plats.
Land status current to 05/17/02.
17-0009 06/17/02 JGB



MILEAGE OF PROPOSED RS-2477 'HIGHWAYS' WITHIN THESE NATIONAL WILDLIFE REFUGES *							
'Highway' #	'Highway' Name	USFWS Admin	Native Conveyed	Native Selected	Native Selected & Conveyed (conflict)	Private Patent	Total
68	Eggvik-Karuk Trail	47.36	0.00	2.39	0.00	0.00	49.75
282	Island Bay-Salmon Creek Trail	4.11	0.00	0.00	0.00	0.00	4.11
357	Portage Bay-Mt. Demian Oil Camp Trail	4.75	0.00	5.08	0.00	0.00	9.83
394	Chignik Lagoon-Aniakchak River Trail	18.77	11.04	3.50	1.38	0.32	35.01
1176	Karuk-Becharof Lake Trail	7.98	0.00	0.07	0.00	0.00	8.05
Total		82.97	11.04	11.04	1.38	0.32	106.75

* Data obtained from Alaska DNR RS-2477 digital data (Aug. 1993). The State of Alaska claims an additional 13,600 miles of section line encumbrances within these Refuges.

Table 4. 17(b) easements within the Alaska Peninsula and Becharof Refuges

<i>Number</i>	<i>Code</i>	<i>Description</i>
Existing Trails		
EIN 1	D9	50' wide trail from Black Lake to Chignik Lake along east bank of Chignik River
EIN 7	C5	25' wide trail from village of Chignik Lake to southern arm of Chignik Lake
Proposed Trails		
EIN 3	D9	25' wide trail from EIN 2 D9 to public land in T50S R67W, Sec. 23: "Granville Portage"
EIN 4	D9	25' wide trail from T24N R19W, Sec. 36 southeast to public lands in T23N R18W, Sec. 6
EIN 5	C5	25' wide trail from EIN 5a C5 (Anchor Bay) northwesterly to T44S R63W, Sec. 13
EIN 6	C9	25' wide trail from airstrip EIN 5a D9 along West Fork Chignik R. to T44S R62W, Sec. 32
EIN 7	C4	25' wide trail from T50S R67W, Sec. 21 northerly to T49S R67W, Sec. 10
EIN 9	C5	25' wide trail from EIN 9a C5 northerly along Kametolook R. to T48S R64W, Sec. 21
EIN 13	E	25' wide trail from Port Heiden to Meshik River and southeasterly to T40S R58W, Sec. 6,
EIN 17	C5	25' trail from EIN 2e D9 on Chignik R. southerly to T46S R60W, Sec. 6
EIN 18	C4	25' wide trail from EIN 2d D9 at Chignik R. northwesterly to T46S R60W, Sec. 9
EIN 20b	C4	25' wide trail from EIN 20a C4 at Black Lake northeasterly to T42S R61W, Sec. 33
EIN 22	C4	25' wide trail from Chignik R. (T44S R61W, Sec. 8) southeasterly along Chiaktuck Ck to T44S R61W, Sec. 15.
One Acre Sites		
EIN 1a	C4	north bank of the Dog Salmon River in T32S R50W, Sec. 3
EIN 2	D9	Ivanof Bay in T50S R66W, Sec. 18 at unnamed slough
EIN 2a	D9	Black Lake on east bank of Alec River in T43S R61W, Sec. 17
EIN 2b	D9	east bank Chignik River in T43S R61W, Sec. 32
EIN 2c	D9	east bank Chignik River in T45S R62W, Sec. 30
EIN 2d	D9	Portage Bay in T46S R60W, Sec. 15
EIN 2e	D9	south bank Chignik River in T45S R60W, Sec. 30
EIN 3	D9	west bank Chignik River in T44S R61W, Sec. 7
EIN 5a	C5	east bank of Red Bluff Creek at Anchor Bay in T49S R63W, Sec. 22
EIN 9a	C5	unnamed bay east of Perryville in T49S R64W, Sec. 26
EIN 20a	C4	Black Lake in T43S R61W, Sec. 5
Airstrips		
EIN 5a	D9	West Fork Chignik River in T44S R61W, Sec. 20
EIN 5b	D9	Chignik River at Black Lake in T43S R61W, Sec. 32

boundaries. Site easements allow the public to use private lands to change modes of transportation (e.g., switch from a boat to an airplane) or camp for periods of 24 hours or less.

Mining Claims

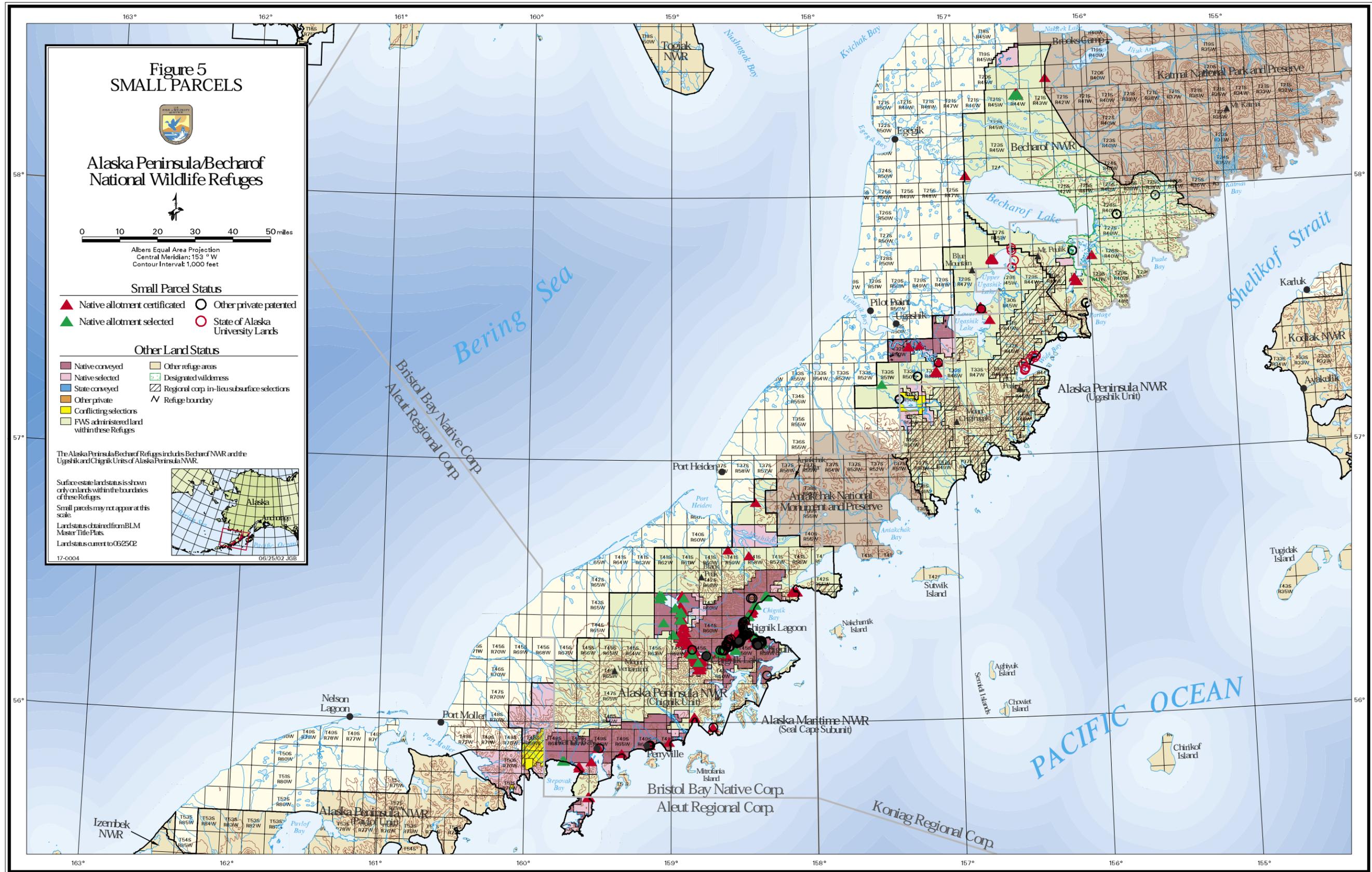
There are no valid mining claims within the refuges. However, historical records indicate that there were once as many as 117 mining claims in the area.



U.S. Fish & Wildlife Service

Abandoned debris is a visual reminder that the Peninsula once attracted oil prospectors. A total of 25 exploratory wells were drilled in the area; none produced viable quantities of oil.







Important Resources

The Landscape

The Alaska Peninsula/Becharof Refuges stretch for nearly 250 miles along the Alaska Peninsula. Sculpted by wind, magma, and ice, it is a land of vivid contrasts: from smoking volcanoes, to placid glacial lakes, to rolling tundra. The rugged Aleutian Mountain Range creates a craggy, glaciated backbone that separates the precipitous fjords of the Pacific coastline from the low-lying wet tundra bordering Bristol Bay.

The Aleutian Range itself is dynamic—formed by the process of subduction, the sliding of one piece of the earth’s crust beneath another. The range is part of the Aleutian Arc, a 1,550 mile chain of volcanoes that has formed as the northward-moving Pacific Plate grinds beneath the North American Plate at a rate of about 3 inches a year. Four volcanic centers are located within refuge boundaries. Mount Veniaminof, the highest point on the refuges, has a summit crater 30 miles in diameter and the most extensive crater glacier in the nation. Designated a National Natural Landmark in 1967, the volcano has been quite active over the last century—the most recent eruptions occurring sporadically during 1993-1995.



U.S. Fish & Wildlife Service

The rugged peaks of the Aleutian Mountain Range form the backbone of the Alaska Peninsula. Four volcanic centers are located within the Alaska Peninsula and Becharof Refuges.

Wind and water influence fish and wildlife habitats on the Alaska Peninsula/Becharof Refuges.

ANILCA mandates that we conserve the caribou population and habitats on the Alaska Peninsula/Becharof Refuges.

Salmon are an important subsistence resource for local residents.

Over 225 species of wildlife use the refuges.

The refuge boundaries encompass about 4.9 million acres, an area larger than the State of New Jersey. Alaska's second largest lake, Becharof Lake (300,000 acres), as well as hundreds of smaller lakes, thousands of river miles, thermal springs, glacial icefields, coastal bays, and lagoons can all be found within the boundaries.

As discussed in the previous chapter, the administrative boundaries include the Ugashik and Chignik Units of Alaska Peninsula Refuge, the 9,900 acre Seal Cape area of Alaska Maritime Refuge and all of Becharof Refuge. All three refuges were established by ANILCA. The purposes for their establishment and their management priorities include:

"...(i) [Alaska Maritime] to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to marine mammals, marine birds and other migratory birds, the marine resources upon which they rely, bears, caribou and other mammals;

(i) [Alaska Peninsula] to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to brown bears, the Alaska Peninsula caribou herd, moose, sea otters and other marine mammals, shorebirds and other migratory birds, raptors, including bald eagles and peregrine falcons, and salmonids and other fish;

(i) [Becharof] to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to brown bears, salmon, migratory birds, the Alaska Peninsula caribou herd, and marine mammals and birds;

(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;

(iv) [Alaska Maritime] to provide, in a manner consistent with subparagraphs (i) and (ii), a program of national and international scientific research on marine resources; 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."

Fish and Wildlife Resources

The refuges' diverse landscapes provide habitat for a wide range of fish and wildlife. More than 225 vertebrate species of resident and migratory wildlife use the refuges at least part of the year. These include land and marine mammals, birds, fish, and one amphibian species. Many of these species occur throughout the area, others



U.S. Fish & Wildlife Service

Sockeye salmon spawned in refuge waters contribute to the multi-million dollar Bristol Bay salmon fishery. In addition to sockeye, four other salmon species return to spawn in refuge rivers, streams, and lakes.

More than 1,000 salmon streams produce a conservative estimate of 30 million fish each year.

Fish and aquatic invertebrates are vital to many wildlife species.

have more restricted ranges. The Service strives to maintain suitable habitat for all native wildlife, but sometimes management may be focused on certain species or groups whose populations are declining or have other special status.

Fish: Becharof Lake and its tributaries, Upper and Lower Ugashik lakes, Black Lake, King Salmon River, Dog Salmon River, Meshik River and Chignik River are among the many important lakes and streams that provide essential nursery habitat for the five species of salmon that spawn in the refuges (Figure 6, page 37). More than 1,000 salmon streams produce an estimated 30+ million fish each year. Although some freshwater habitats were impacted by oil exploration activities earlier this century, most are relatively pristine.

Salmon are an integral component of the refuge food web. The nutrients released from decaying salmon carcasses recharge freshwater systems and boost stream productivity. Predatory species such as bears, foxes, eagles, and resident fishes such as rainbow trout and grayling depend on the annual glut of salmon or salmon eggs to build critical fat reserves.

A significant component of the multi-million dollar Bristol Bay salmon fishery originates in refuge waters. Although recent returns have been poor, this has traditionally been the largest commercial

Protecting fish overwintering, spawning, and rearing habitats is critical to the health of the ecosystem.

Over 200 bird species have been documented on refuge lands.

sockeye salmon fishery in the world. Sport fishing is also a popular activity on the refuges; fishermen are attracted both by the quality fishing and the spectacular wilderness setting. The Alaska record Arctic grayling (4 pounds, 13 ounces) was caught at the Ugashik Narrows in 1981. In addition, the Alaska Department of Fish and Game has issued more than 65 certificates since 1967 for Ugashik River grayling weighing three pounds or more (Jaenike and Squibb 2000). Lake trout, steelhead trout, Dolly Varden, Arctic char, northern pike and burbot are also found in refuge waters.

Birds: The Peninsula is a regular stopover for many migratory bird species and also supports 15 to 20 year-round resident species. In fact, more than 200 bird species have been documented on the Peninsula. Numerous lakes, ponds, and wetlands (both on and off refuge lands) provide breeding and staging habitat for a variety of waterbirds. Sheltered bays and lagoons bordering Bristol Bay are among the key waterfowl staging areas for numerous Arctic nesting species. Many species, including tundra swans, diving ducks, dabbling ducks and sea ducks nest in the Bristol Bay lowlands to the west of Becharof and Ugashik lakes. Mallards, northern pintails, green-winged teal, greater scaup, and black scoters occur in the greatest numbers, but many other species, including harlequin ducks, nest on or near the refuges.

The harlequin (Figure 7, page 39) is one of the least studied ducks in North America, breeding and wintering in some of the wildest and most remote habitats in the northern hemisphere. Unlike other ducks, the harlequin often nests along swift-flowing mountain streams. Sensitive to disturbance and habitat degradation, harlequins require remote, pristine waters. Large numbers of harlequin ducks winter in the Aleutian Islands and along the Gulf of Alaska coastline. More than other species, harlequins choose rugged and exposed rocky coasts.

The threatened Steller's eider overwinters in sheltered areas along the Alaska Peninsula, including the Izembek and Alaska Peninsula/Becharof Refuges. Several goose species, including the white-

The Steller's eider, a species listed as "threatened" under the Endangered Species Act, overwinters in sheltered lagoons and bays along the Alaska Peninsula coastline.



U.S. Fish & Wildlife Service

Tufted puffins nest in the rock crevices of talus slopes or cliff faces. In winter, they disperse widely at sea.



U.S. Fish and Wildlife Service

The Alaskan subspecies of the marbled godwit nests on the refuges.

More than 30 colonies of seabirds nest along the mainland coastline.

fronted goose, Cackling Canada goose, and the recently delisted Aleutian Canada goose, are regular visitors to these refuges during annual migrations.

Many shorebird species use the refuges for migration or nesting. The Bristol Bay lagoons and the Pacific lagoons, to a lesser extent, provide important nesting and staging habitat for bar-tailed godwits, short-billed dowitchers, greater yellowlegs, spotted, western, and rock sandpipers, and many other species. The tundra between the Dog Salmon and King Salmon rivers provide important breeding habitat for the Alaskan subspecies of the marbled godwit, one of only three populations of the subspecies.

Many sea bird species are found in the refuges. The rocky cliffs and fjords of the 725-mile Pacific coastline provide nesting habitat for numerous species, including cormorants (pelagic, double crested, and red-faced), murres, glaucous-winged gulls, horned and tufted puffins, pigeon guillemots, black-legged kittiwakes, and parakeet auklets. In addition, some species of gulls, terns and cormorants nest on islands within large freshwater lakes, including Becharof and Ugashik lakes.

The refuges provide breeding habitat for a diverse songbird population and serve as an important migration stop. About 60 species have been documented to occur. Hermit and gray-cheeked thrush, American robin, Wilson's warbler, tree and bank swallows, white-crowned and golden-crowned sparrows, and belted kingfishers are the more abundant species. Several species that nest on refuge lands are "priority species" that are vulnerable because of threats to their winter or migratory ranges. These species include alder flycatcher, American dipper, American pipit, blackpoll warbler, Wilson's warbler, hoary red-poll, golden-crowned sparrow, gray-cheeked thrush, varied thrush, northern shrike, McKay's bunting, and rusty blackbird.

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

Mammals: Both refuges provide key habitat for many land mammal species. Caribou, moose, brown bears, gray wolf, wolverine, lynx, river otter, red fox, beaver, and snowshoe hare are some of the common species. Next to salmon, caribou have traditionally been the most important subsistence resource for local residents.

The Northern Alaska Peninsula Caribou Herd ranges from Port Moller north throughout the refuges (Figure 8, page 41). The primary calving grounds lie on the Bering coastal plain outside of refuge boundaries, but annual post-calving surveys indicate that about 10% to 30% of the herd is using refuge lands after calving. Historically, the herd size has fluctuated from estimated highs of about 20,000 individuals to lows of about 2,000. Currently, the herd is in decline and was estimated at about 6,000 animals in 2001. The declining population and signs of nutritional stress (low calving rates, low calf weights, increased susceptibility to disease among newborns, and mediocre body condition) have prompted the Alaska Department of Fish and Game to limit sport hunting until the herd recovers.

Brown bears (Figure 9, page 43) are present in very high numbers on refuge lands. Miller et al. (1997) estimated a density of approximately 0.5 bears/mile² in the Black Lake area of the Chignik Unit and the refuge-wide bear population may exceed 3,200 individuals (Sellers and Miller 1991). High-use winter denning



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The Northern Alaska Peninsula Caribou Herd ranges both on and off refuge lands. The primary calving grounds are on the Bering coastal plain, outside of the refuge boundaries.

Brown bears attract sport hunters to the refuges. Large boars are sought, but sows (pictured) consistently comprise about 30 - 40% of the harvest.



U.S. Fish & Wildlife Service

areas are typically in mountainous terrain greater than 1,000 feet in elevation, whereas high summer-use areas are concentrated near salmon streams.

Alaska Peninsula brown bears are in high demand by sport hunters because of the large body size attained by mature adults. According to the Boone and Crockett Club, 46 of the 100 largest brown bears killed by sport hunters prior to 1981 were taken on the Alaska Peninsula.

The refuge bear population appears to be healthy, but is susceptible to overexploitation. Brown bears have low reproductive rates and vast home ranges, often exceeding 400 square miles. Many other aspects of bear population biology are not yet well understood. The Alaska Department of Fish and Game monitors population trends by conducting surveys in the Black Lake area when bears are concentrated along salmon streams. The inherent difficulty in estimating population size has resulted in conservative management of the sport harvest.

Wolves, as well as wolverines, coyotes, and lynx are widespread, though not abundant.



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Moose began expanding into the Alaska Peninsula in the early 1900s, but the population remained low until the 1950s (Figure 10, page 45). The large body size and immense antlers attained by the Alaska Peninsula bulls began attracting trophy hunters from around the world. By 1977, more than 20% of the world-record moose had come from the Alaska Peninsula. However, by the 1980s, surveys indicated that moose numbers had declined by 60%; over-browsing of their range was believed to have played a significant role in the decline. Moose hunting seasons and bag limits became progressively more restricted as the population declined. Trend surveys indicate that the population has been relatively stable in recent years.

The refuges are home to many other land mammals. Small mammals, such as shrews, voles, ground squirrels, hares, and lemmings are numerous and provide food for raptors, weasels, foxes, and other predators. Grey wolves and wolverines are widespread, but not abundant. Wolves prey on caribou and moose, as well as on birds, Arctic ground squirrels, hares, and other small game. Wolverine prey on many of the same species, but also scavenge for carrion along beaches and streams. Coyotes, red foxes, river otters, minks, short-tailed and least weasels, beaver, and lynx can all be found on the refuges.

Under ANILCA, marine mammals receive special management consideration on the Alaska Peninsula/Becharof Refuges.

Marine mammals, including harbor seals, northern sea otters, and Steller sea lions, are common in the productive waters off the Pacific coast. Sand and rock beaches and offshore rocks and islands provide haul out and rookery areas. Several species of whales, including killer, grey, minke, beluga, humpback and fin whales have been sighted in area waters. Harbor and Dall's porpoises are frequently observed in Bristol Bay, north of the refuges.

The western population of the Steller sea lion was listed as endangered in 1996, in response to an estimated 85% decline in the Gulf of Alaska population. The waters offshore, between the Alaska

Offshore marine waters have been designated a “special aquatic foraging area” for the endangered Steller sea lion.

Peninsula and Kodiak Island, are one of three “special aquatic foraging areas” for sea lions, designated by the National Marine Fisheries Service. Puale Bay, in Becharof Refuge, is listed as a critical haul out area by NMFS (50 CFR Part 226, Table 2). In 1976, more than 3,000 adults were counted in Puale Bay. Counts in recent years have been substantially lower, ranging from 143 in 1997 to 84 in 2000. In addition to the Puale Bay haul out, 10 other major haul outs and five rookeries are located on rocks or islands, offshore of the Alaska Peninsula.

Northern sea otter



U.S. Fish & Wildlife Service

Harbor seal



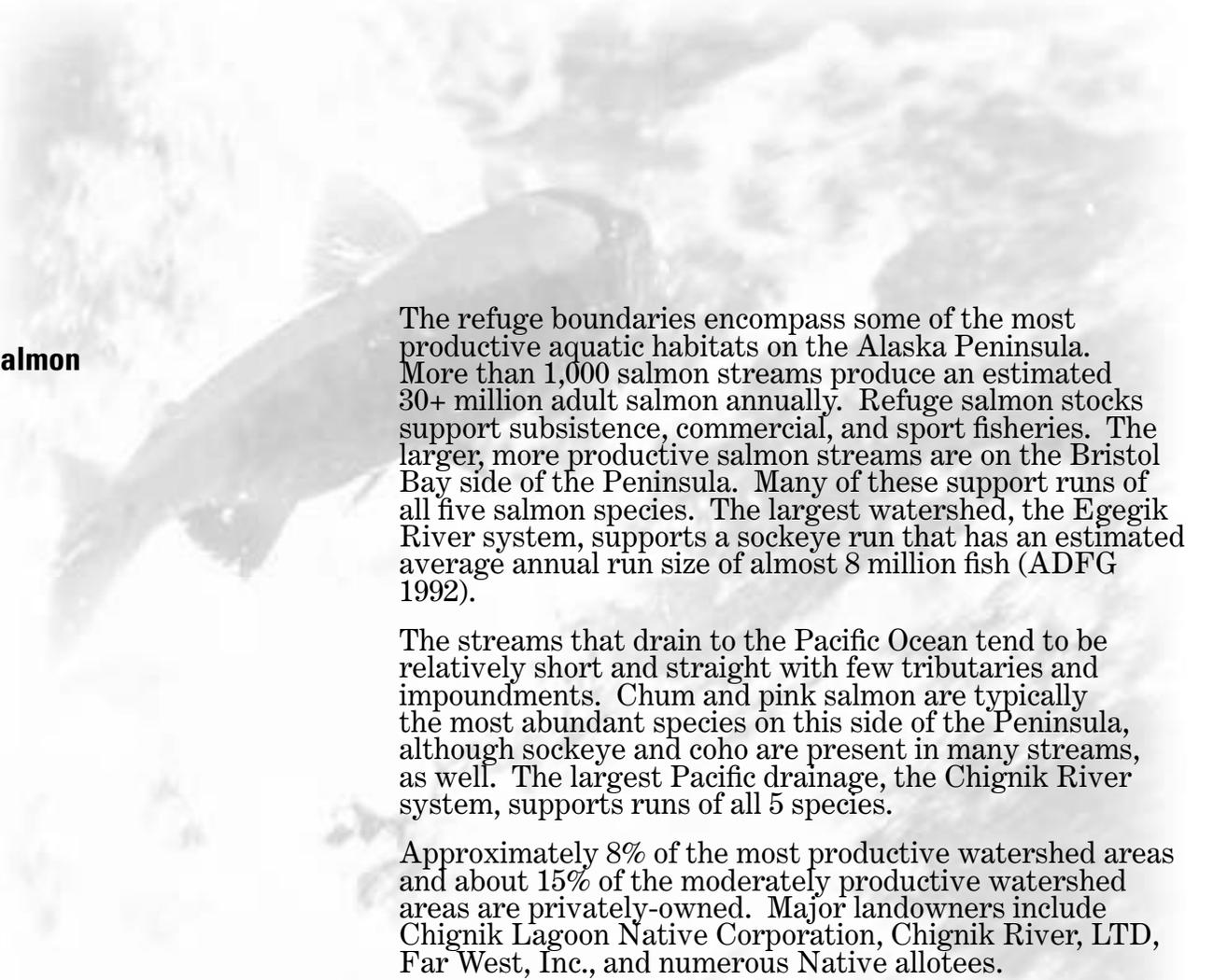
U.S. Fish & Wildlife Service

Northern sea otters, Steller sea lions, and harbor seals are commonly observed in near-shore waters. All three species have suffered population declines in recent years.

Steller sea lion



U.S. Fish & Wildlife Service

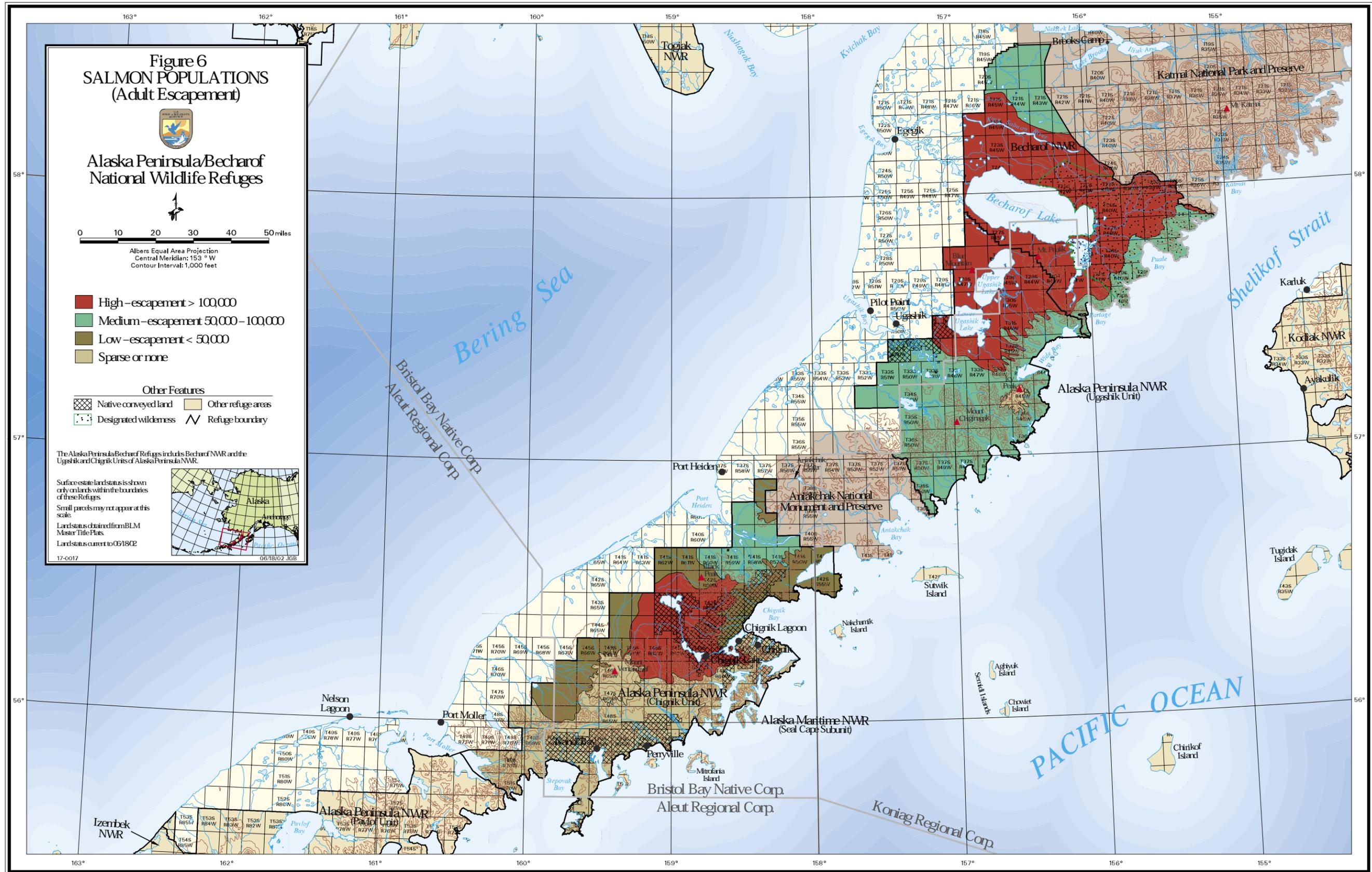


Salmon

The refuge boundaries encompass some of the most productive aquatic habitats on the Alaska Peninsula. More than 1,000 salmon streams produce an estimated 30+ million adult salmon annually. Refuge salmon stocks support subsistence, commercial, and sport fisheries. The larger, more productive salmon streams are on the Bristol Bay side of the Peninsula. Many of these support runs of all five salmon species. The largest watershed, the Egegik River system, supports a sockeye run that has an estimated average annual run size of almost 8 million fish (ADFG 1992).

The streams that drain to the Pacific Ocean tend to be relatively short and straight with few tributaries and impoundments. Chum and pink salmon are typically the most abundant species on this side of the Peninsula, although sockeye and coho are present in many streams, as well. The largest Pacific drainage, the Chignik River system, supports runs of all 5 species.

Approximately 8% of the most productive watershed areas and about 15% of the moderately productive watershed areas are privately-owned. Major landowners include Chignik Lagoon Native Corporation, Chignik River, LTD, Far West, Inc., and numerous Native allotees.



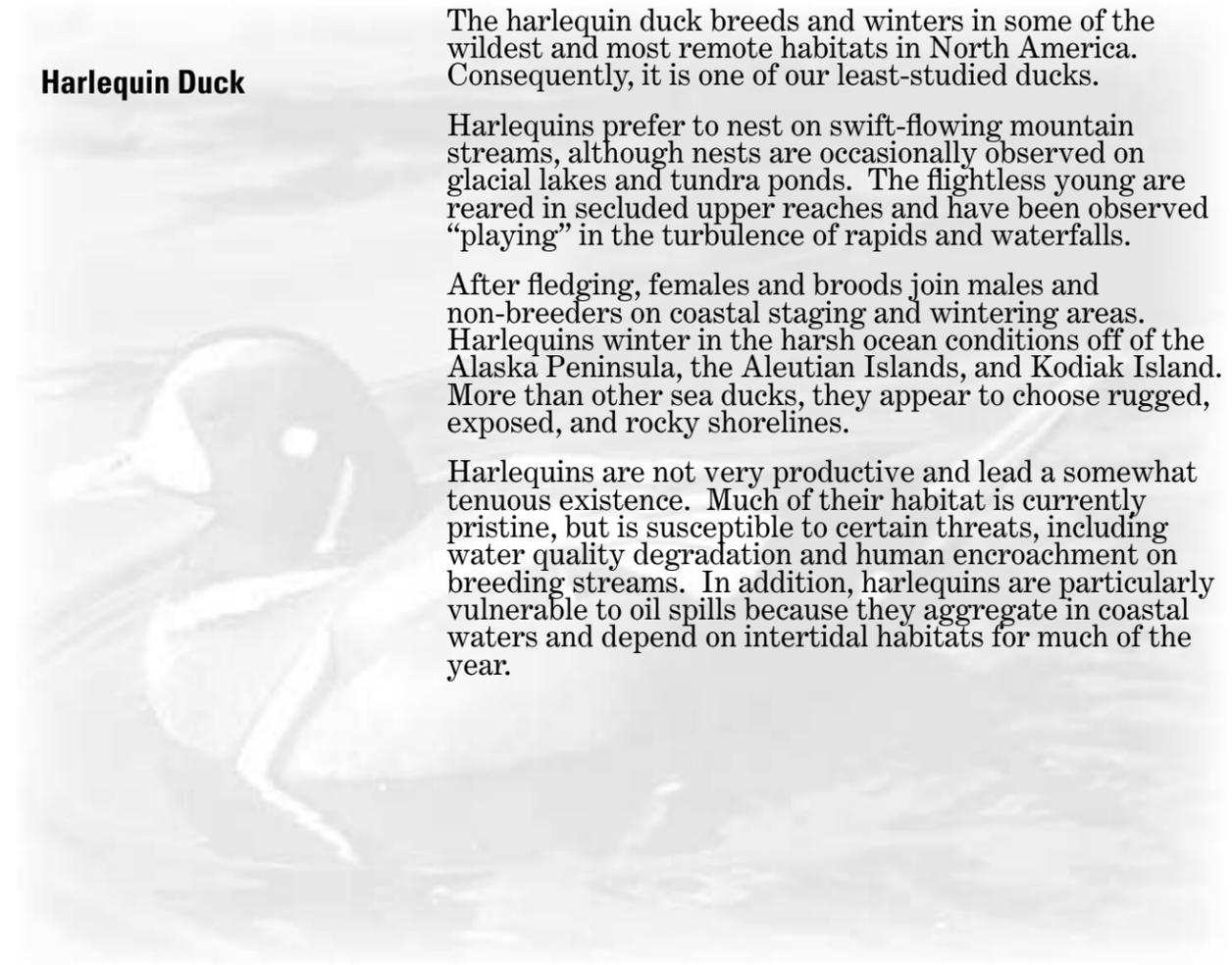
Harlequin Duck

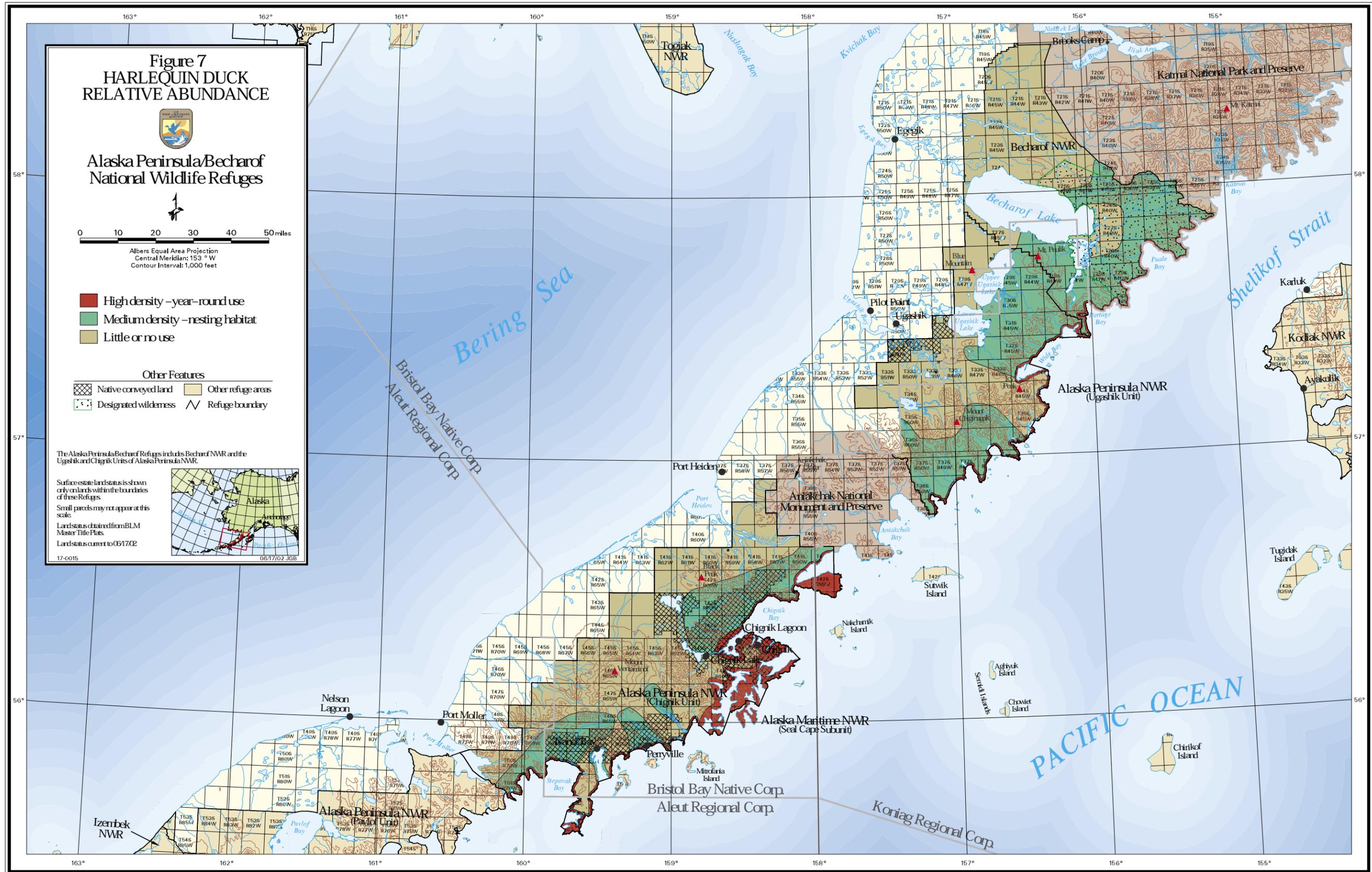
The harlequin duck breeds and winters in some of the wildest and most remote habitats in North America. Consequently, it is one of our least-studied ducks.

Harlequins prefer to nest on swift-flowing mountain streams, although nests are occasionally observed on glacial lakes and tundra ponds. The flightless young are reared in secluded upper reaches and have been observed “playing” in the turbulence of rapids and waterfalls.

After fledging, females and broods join males and non-breeders on coastal staging and wintering areas. Harlequins winter in the harsh ocean conditions off of the Alaska Peninsula, the Aleutian Islands, and Kodiak Island. More than other sea ducks, they appear to choose rugged, exposed, and rocky shorelines.

Harlequins are not very productive and lead a somewhat tenuous existence. Much of their habitat is currently pristine, but is susceptible to certain threats, including water quality degradation and human encroachment on breeding streams. In addition, harlequins are particularly vulnerable to oil spills because they aggregate in coastal waters and depend on intertidal habitats for much of the year.



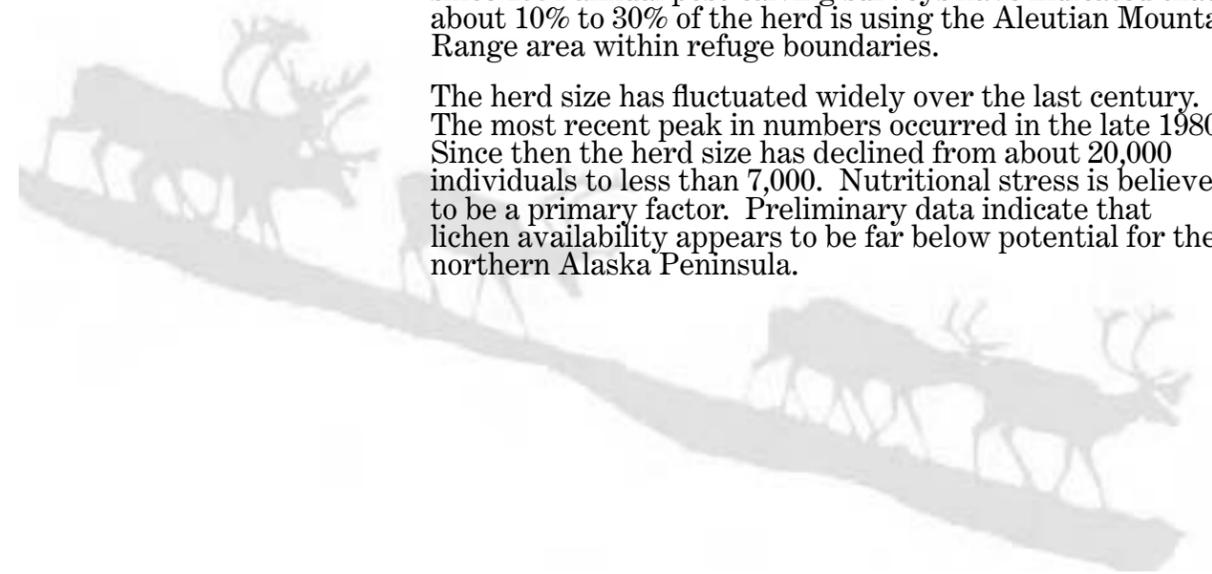


Caribou

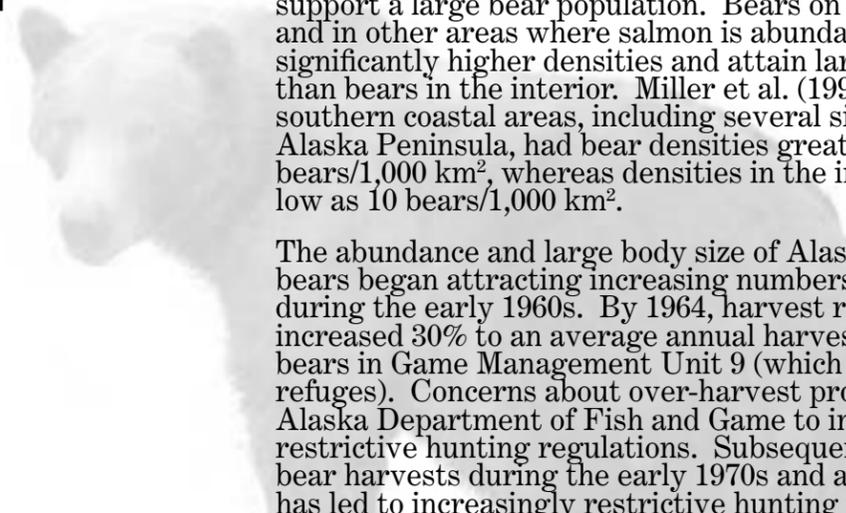
Traditionally, the Northern Alaska Peninsula Caribou Herd ranged from Port Moller north to the Naknek River. However, declining range condition (low availability of preferred lichens) probably contributed to a northward range expansion. In the mid-1980s, the herd crossed the Naknek River, presumably in search of higher quality forage. Today, much of the herd travels nearly 200 miles between the winter range in the northern Peninsula and the primary calving grounds on the Bering coastal plain, south of Port Heiden.

Most of the migration occurs off refuge lands. However, since 1994 annual post-calving surveys have indicated that about 10% to 30% of the herd is using the Aleutian Mountain Range area within refuge boundaries.

The herd size has fluctuated widely over the last century. The most recent peak in numbers occurred in the late 1980s. Since then the herd size has declined from about 20,000 individuals to less than 7,000. Nutritional stress is believed to be a primary factor. Preliminary data indicate that lichen availability appears to be far below potential for the northern Alaska Peninsula.



Brown Bear



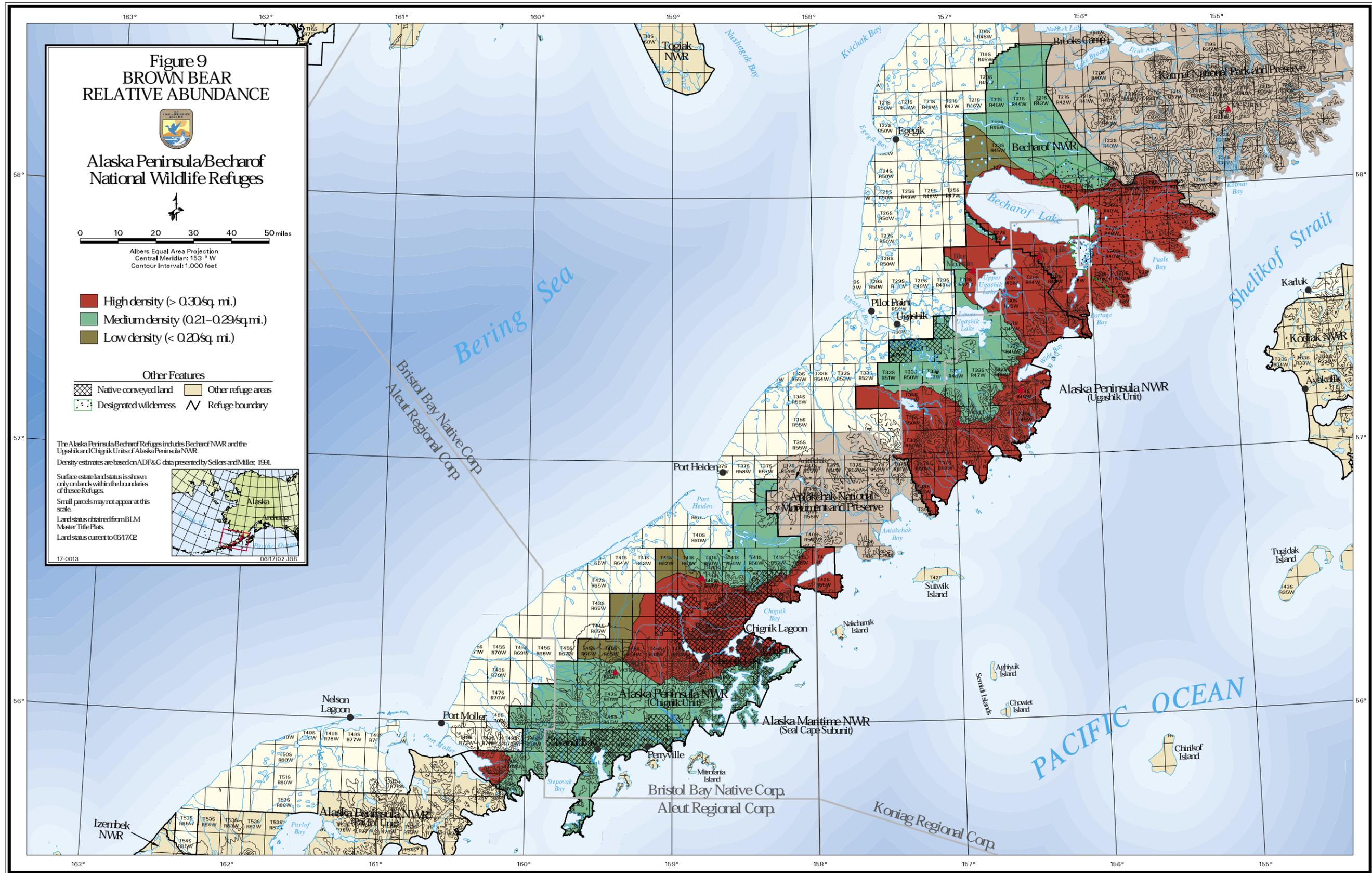
Brown bears range throughout both refuges. Extensive salmon runs provide an ample food supply that helps support a large bear population. Bears on the Peninsula and in other areas where salmon is abundant, occur in significantly higher densities and attain larger body sizes than bears in the interior. Miller et al. (1997) found that southern coastal areas, including several sites on the Alaska Peninsula, had bear densities greater than 175 bears/1,000 km², whereas densities in the interior were as low as 10 bears/1,000 km².

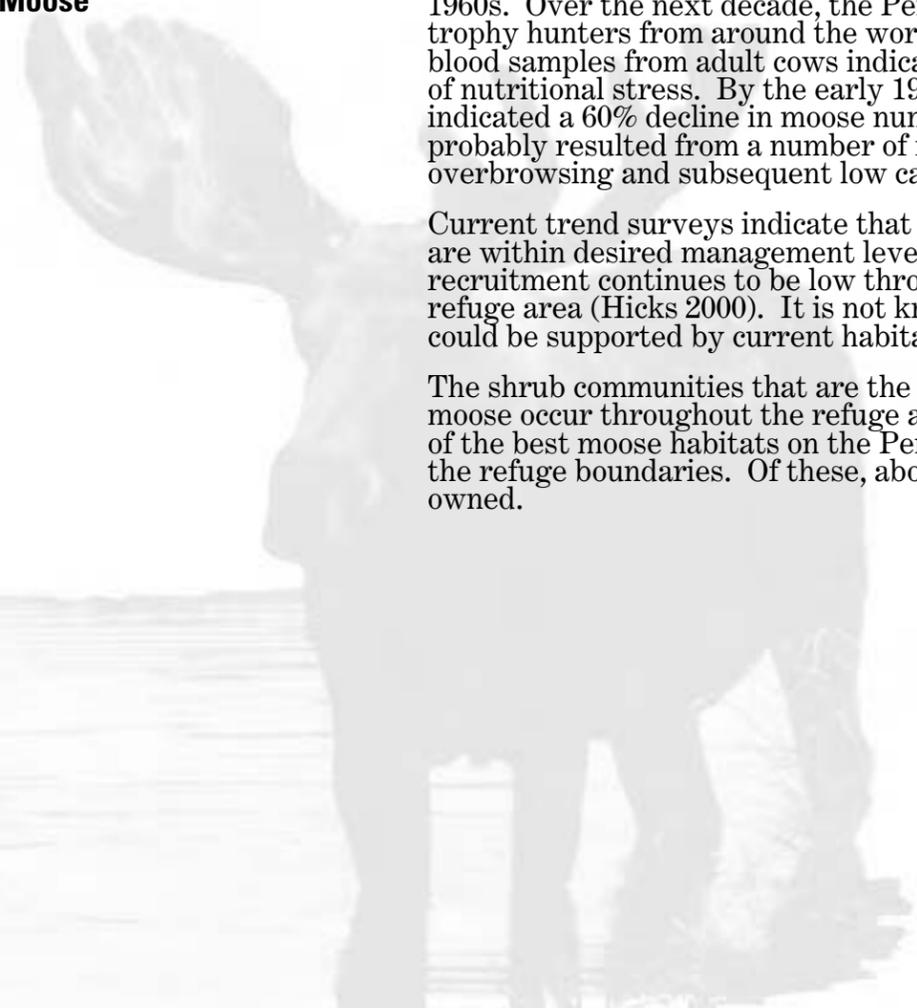
The abundance and large body size of Alaska Peninsula bears began attracting increasing numbers of hunters during the early 1960s. By 1964, harvest rates had increased 30% to an average annual harvest of 7,200 bears in Game Management Unit 9 (which includes the refuges). Concerns about over-harvest prompted the Alaska Department of Fish and Game to impose more restrictive hunting regulations. Subsequent increases in bear harvests during the early 1970s and again in the 1980s has led to increasingly restrictive hunting regulations.

The bear population in the Black Lake area has been the most intensively studied within the refuges. Miller et al. (1997) estimated the bear density in this area to be 191 bears/1000 km² in 1989. A comparison of capture data from the early 1970s with capture data from the late 1980s indicates an overall increase in adult ages and in the proportion of adult males during that period. Hunting regulations became increasingly more restrictive during this time period and probably contributed to the change in population parameters.

Brown bears have among the lowest reproductive rates of any North American mammal. They are also sensitive to disturbances related to human development and activity.

About 10% of the high-density brown bear habitat within refuge boundaries is privately-owned. Another 13% of the medium-density bear habitat is under private ownership.



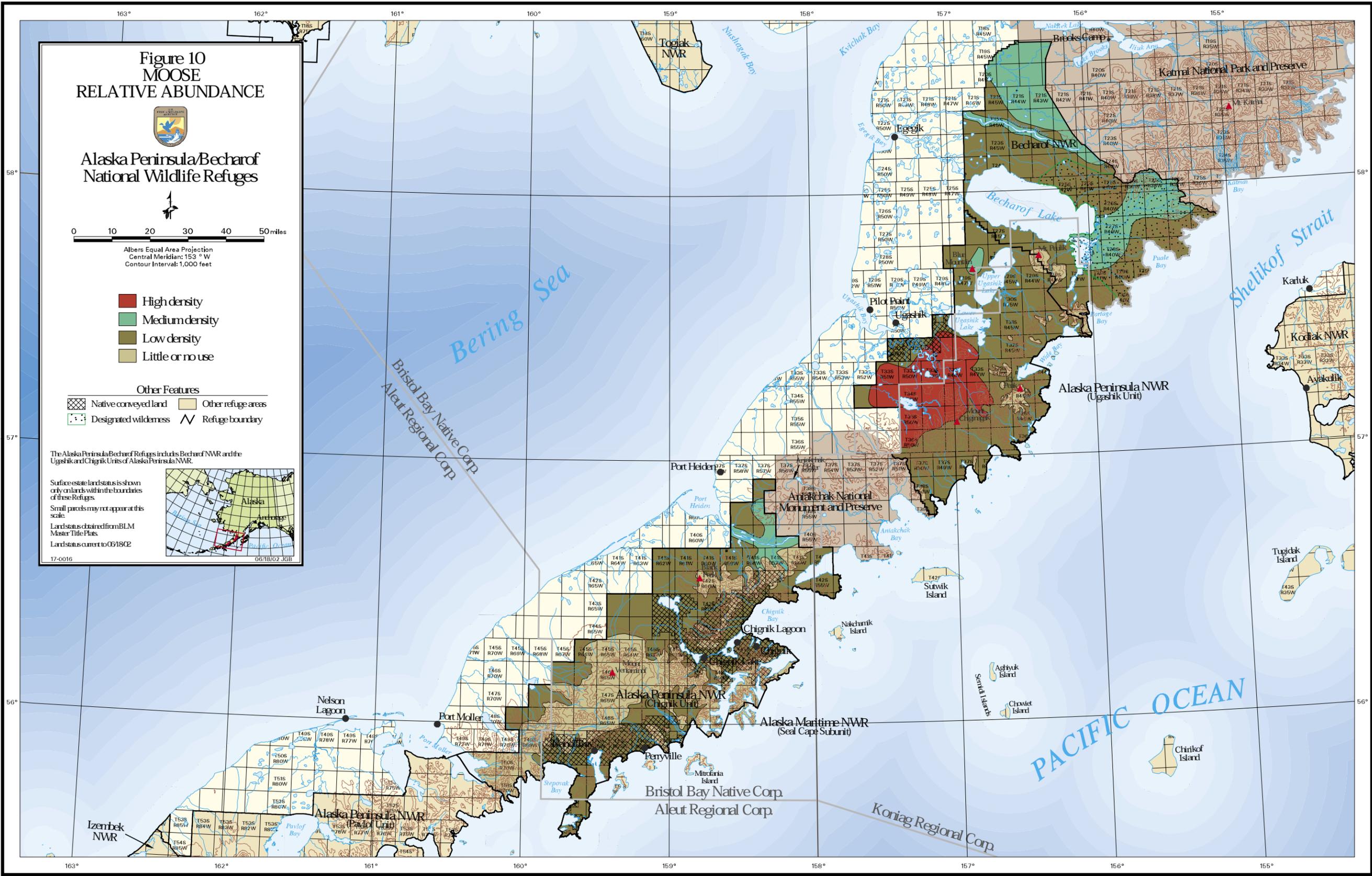


Moose

Moose began expanding into the Alaska Peninsula in the early 1900s, their numbers peaking during the late 1960s. Over the next decade, the Peninsula attracted trophy hunters from around the world. However, by 1977 blood samples from adult cows indicated some degree of nutritional stress. By the early 1980s, trend surveys indicated a 60% decline in moose numbers. The decline probably resulted from a number of factors, including overbrowsing and subsequent low calf recruitment.

Current trend surveys indicate that bull to cow ratios are within desired management levels; however, calf recruitment continues to be low throughout much of the refuge area (Hicks 2000). It is not known how many moose could be supported by current habitat conditions.

The shrub communities that are the preferred browse of moose occur throughout the refuge area. About one half of the best moose habitats on the Peninsula occur within the refuge boundaries. Of these, about 3% are privately owned.





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The red-throated loon prefers small, remote lakes as nest sites. It is the only loon species that often nests on small, high-altitude mountain lakes. Occasionally, mated pairs will establish territories on fishless lakes—forcing both members of the pair to forage elsewhere, often at sea. These loons have been documented to fly 50 miles round-trip to procure food for their young.



Refuge Management Concerns



The Alaska Peninsula/Becharof Refuges are managed to conserve native fish and wildlife populations and their habitats, while providing opportunities for subsistence and compatible types of recreation. Our long-term vision is that both refuges remain much as they are now. This vision guides refuge management decisions. In practice, management issues are often very complex, and decisions frequently 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 the boundaries. About 19% of the land within the Alaska Peninsula and Becharof Refuges is selected by or conveyed to private parties. Conservation of fish and wildlife populations is a primary objective on refuge lands, but private landowners may have different priorities. Just as management actions taken on refuge lands may affect private landowners, management of private lands may affect our ability to conserve wildlife on refuge lands.

There will always be large blocks of private lands within the Alaska Peninsula and Becharof Refuges.

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

This chapter is not an exhaustive discussion of all refuge management issues. Instead, it will briefly review some of the refuge management concerns that could be addressed through particular land acquisition actions. For the Alaska Peninsula/Becharof Refuges, some of the most important management issues related to land protection planning are:

The Alaska Peninsula and Becharof Refuges are managed to accommodate the rights of private landowners while still protecting refuge resources.

- maintaining ecological integrity
- preserving wilderness values of the Becharof Wilderness
- minimizing human disturbance to important wildlife habitats
- reducing the potential for water pollution
- providing subsistence opportunities and other public uses
- minimizing conflicts between user groups

These issues are often interrelated and will be discussed in more detail by examining how uses of private lands may affect adjacent refuge lands and resources. We will briefly discuss each of these issues while focusing on three major topics: maintaining ecological integrity, preserving Wilderness values, and minimizing conflicts between user groups.

Land protection measures can help us maintain the health of the ecosystem.

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

Minimizing fragmentation helps maintain natural species diversity.

Maintaining Ecological Integrity

The Alaska Peninsula/Becharof Refuges are part of two ecoregions, the southern Bering tundra on the north side of the Aleutian Range and the Aleutian oceanic heath meadow on the south side. These are relatively undisturbed and intact ecosystems. Maintaining the ecological integrity of the entire system is one of the Service's primary concerns. "Ecological integrity" refers to natural characteristics like species diversity, ecological processes, the patterns and connectivity of lands and waters, and the balance between species and their environment. A system that has "ecological integrity" is a healthy, self-sustaining system. Humans can be an integral part of such a system, but humans may also alter the delicate balance of an ecosystem.

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. The size of a predator population is often limited primarily by the availability of its prey. 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 even thrive near human populations. The increase in these species numbers may then impact other species in their food web. For example, ravens are adept at scavenging discarded human food wastes and thrive near human habitation. The local raven population increases as food resources become more dependable 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 expanding 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 and minimize fragmentation. 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.

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



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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.

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 of the more remote private lands within the refuges have the potential for development as camps, lodges, or ecotourism operations. In most cases, these commercial services and facilities are operated with skill and care and can vastly improve opportunities for public use of refuge lands and waters. Recreational activities such as hunting, fishing, wildlife observation, photography, and environmental education are recognized in law as priority public uses on National Wildlife Refuges. Compatible priority public uses 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.

Marbled godwits, tundra swans, and harlequin ducks, for example, are all very sensitive to disturbance during the nesting season. They are likely to abandon nesting areas 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, whether it be during breeding, staging or molting.



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Tundra swans are sensitive to human disturbance during nesting and molting and may abandon optimal habitats to avoid human presence.

Wilderness Values

The effects of certain types of land uses can extend beyond tangible habitat or wildlife impacts. Human activities and land uses have the potential to affect the aesthetic, experiential, and symbolic values of adjacent Wilderness areas.

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

The Becharof Wilderness is outstanding for both its scenic qualities and wildlife resource values. Pristine river waters, the second largest lake in Alaska, the rugged Aleutian Mountain Range, and a rocky coastline provide noteworthy scenery as well as diverse habitats for wildlife. Large numbers of salmon and brown bears, as well as caribou, moose, waterfowl, seabirds, tundra swans, sandhill cranes, and rainbow trout are among the species that inhabit the Wilderness.

Wilderness management can be complicated, however, by checkerboard land ownership patterns. Human activity or development on private lands has the potential to affect the Wilderness qualities of adjacent refuge lands.

The scenic Becharof Wilderness is a productive area for wildlife.

Access to refuge inholdings is guaranteed by ANILCA.

Generally, motorized equipment is prohibited by the Wilderness Act. However, several exceptions were identified in ANILCA for Alaskan Wilderness areas. ANILCA § 1110(a) allows 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 Section 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.

The increase in noise and visual presence that may result from human activity or development on private lands, can have effects that reach beyond property boundaries to degrade Wilderness values on adjacent refuge lands. Access routes across Wilderness lands to private parcels may conflict with the Wilderness character of the land and disrupt the quietude of refuge visitors seeking a Wilderness experience using non-motorized access methods.

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

There are three private parcels, totaling 205 acres, within the Becharof Wilderness. The largest parcel (160 acres) is located on the southern arm of Becharof Lake, known as Island Arm.

Island Arm's excellent spawning and rearing habitat produces one of the largest sockeye runs in Bristol Bay. High salmon densities, in turn, sustain a large population of brown bears—the highest bear densities in the northern half of the refuge. One of the purposes of the Becharof Refuge is to protect the unique brown bear denning islands in Island Arm. The Arm also has outstanding scenic qualities. Its island-studded waters are rimmed by glaciated mountain peaks.



U.S. Fish & Wildlife Service

Kejulik Mountain presents a dramatic backdrop to the Becharof Wilderness and forms the boundary with Katmai National Park and Preserve to the north.

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 both refuges.



Salmon is an important subsistence resource that can be dried or frozen for later use.

The outstanding fishing, hunting and scenic values of this area make it especially attractive as a site for recreational or commercial fishing or hunting lodges. Small parcels are easily bought and sold on the open real estate market. As development pressures increase elsewhere, these remote areas are likely to attract increasing numbers of private development interests. The potential for commercial or recreational lodge development on these parcels, especially those located on lakes or rivers that are float plane accessible, is growing.

Fishing, hunting, and other compatible, wildlife-dependent forms of recreation, are important priority uses of refuge lands. Development of commercial camps, lodges, or eco-tourism operations on private inholdings could provide additional opportunities for wildlife-dependent public use of adjacent Wilderness lands and waters. However, care must be taken not to erode those values that draw people to Wilderness in the first place. For many, a Wilderness visit is a unique opportunity to experience nature in its most primitive and unbridled state. Human activities on private parcels have the potential to alter adjacent refuge Wilderness attributes by imparting a visual or auditory reminder of human presence.

In some cases, an increase in recreational use may also lead to increased conflicts with local subsistence users. Conflicts may escalate as the real or perceived competition for limited resources increases.

User Group Conflicts

Rural residents in the Alaska Peninsula villages devote a considerable amount of time to subsistence activities, including hunting, fishing, and gathering wild foods. There is a seasonal flow to the subsistence lifestyle, dictated by the annual movements of fish and game and the seasonal abundance of berries and other plant foods. The subsistence lifestyle is part of the cultural fabric of Native communities. It provides a mechanism for instilling cultural values, and also provides the means of passing these values on to the next generation. Important subsistence resources include fish, eggs and birds, large mammals, berries and other plant products. Preserving the opportunity for a subsistence lifestyle is one of the primary purposes of the Alaska Peninsula and Becharof Refuges.

Wildlife-dependent recreational activities are also recognized in law as priority public uses on National Wildlife Refuges. The Alaska Peninsula/Becharof Refuges attract recreational users because of the outstanding sport hunting and fishing opportunities in a pristine and scenic location. There are no roads to either refuge and most visitors charter air taxis or hire guides, but a few use their own planes or boats. While there is no hard evidence that recreational hunting and fishing are increasing in either refuge, there is growing concern among local residents that recreational uses may be impacting subsistence uses.

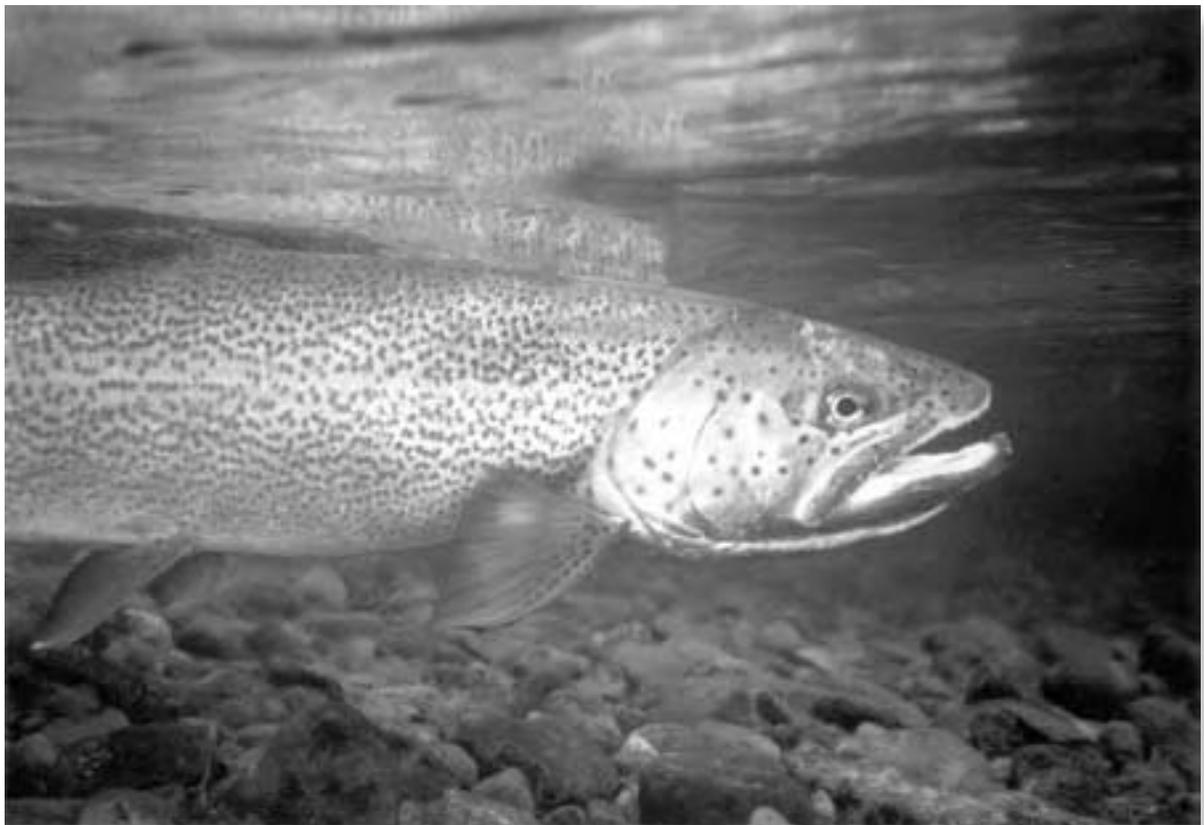
Increased recreational use of the refuges may lead to conflicts between different user groups. Visitors often have values and cultural backgrounds that differ substantially from those of local residents. For instance, many sport fishers employ catch-and-release fishing. Yet many local residents view catch-and-release

The real or perceived competition for resources can lead to increased conflicts between sport and subsistence users.

fishing as disrespectful and fear that it may result in a loss of those resources for future generations. There are also concerns among some local residents that sport hunting is affecting 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. However, subsistence users may be displaced from their usual fishing or hunting time or place.

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



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Abundant fishery resources draw sport anglers to the refuges. Among the species sought by sport fishermen are Arctic grayling and rainbow trout (pictured).

What can we do?

It depends. The next chapter explores some of the ways landowners and the Service can protect resources on private lands. However, many of these methods are expensive and our funds are very limited. Therefore, we must consider carefully how to best use our limited resources. Several factors influence our ability or willingness to pursue any land protection measures.

Strategically-located refuge inholdings that have high resource values are our primary concern. We want to conserve wildlife populations and sensitive habitats throughout the refuges. However, this does not mean that we are opposed to all types of development on private lands within the refuges.

First, we must consider whether a particular type of development would affect adjacent refuge lands and how great the impact might be. A large-scale construction project on an isolated Wilderness parcel near key habitats for sensitive species would have a greater impact on refuge resources than a similar project in the midst of a large tract of private land. Unless there is some compelling biological reason to do so, we will rarely consider employing any land protection measures on a tract of land that is surrounded by other private lands. Next we must consider whether land protection measures available to the Service would be able to reduce the threat to wildlife. If so, the landowner must also be interested in working with us.

The next chapter explores the land protection options that are available to willing landowners who would like to work together with the Service to protect resources on their lands.

Arctic terns visit the refuges during annual migrations to and from breeding areas to the north. Some pairs nest and rear young in the area. Within 3 months of hatching, the young must be ready to migrate to wintering areas in Antarctica, a distance of about 10,000 miles.



John Taylor



Resource Protection Methods



State and Federal laws provide some protection for wildlife resources on private lands. However, certain wildlife species and habitats may benefit from additional protection measures not currently provided by existing laws. This chapter will briefly review existing levels of protection for non-Federal lands within the Alaska Peninsula/Becharof Refuges, and the options available to landowners interested in further protecting fish and wildlife resources.

There are a variety of ways the Service can help interested landowners protect wildlife species and habitats on private lands.

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.

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 Alaska Peninsula, 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 Alaska Peninsula/Becharof Refuges are within the Lake and Peninsula Borough Coastal District. The District developed a local coastal management plan, 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: Although no recoverable quantities of oil have been discovered on the Peninsula to date, 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.



Glenn Ellison

The last oil well within refuge boundaries was drilled and abandoned in 1985. Rolligons (pictured) were often used to transport drilling rigs and other equipment to exploratory well sites.

There are currently no valid mining claims on the refuges, and under Section 304(c) of ANILCA, the refuges are closed to new locations, entries, and patents. Mineral assessment techniques that do not have lasting impacts are permitted throughout the refuges, but such activities require a Special Use Permit complete with provisions to ensure compatibility with refuge purposes and consistency with CCP management objectives.

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

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.

To date, 21 sites, totaling 1,913 acres, have been certified eligible for conveyance within the Alaska Peninsula/Becharof Refuges, and are pending adjudication.

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.

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

Options for Additional Resource Protection

Interested landowners can work with us in a variety of ways to further protect natural resources on their lands. Options range from simple cooperative land management agreements, to the outright purchase of key parcels of land.

The following options are entirely voluntary on the part of the landowner. We will take no action unless the landowner is also interested in implementing a particular course of action. 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 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.

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.

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

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 or 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.

The Service may buy land from a willing seller.

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 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.

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 work with us or who are wanting to sell their land.

We do not condemn land in Alaska.

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

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

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.



U.S. Fish & Wildlife Service

The Urinrek Maars are a pair of volcanic explosion vents that formed on a low ridge in the Bering Sea lowlands during a 12-day eruption in spring 1977. West Maar (pictured) formed during a period of volcanic explosions that spewed steam and ash plumes to a height of about 2,200 feet. Several days later the activity shifted 200 feet to the east and formed a new crater (East Maar).



Resource Protection Priorities



We set land protection priorities for non-Federal lands inside the Alaska Peninsula/Becharof Refuges by considering habitat values, land ownership patterns, and development potential. We quantify and use some of these criteria in a computer model called the Alaska Priority System (APS). Other criteria are more subjective and must be considered on a case-by-case basis.

This chapter explains why we develop land protection priorities, how priorities are established, and the priorities for the Alaska Peninsula/Becharof Refuges.

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 Protection Plans.

APS Rankings for the Alaska Peninsula/Becharof Refuges

We modified the APS model to address resource issues specific to the Alaska Peninsula/Becharof Refuges. For instance, we added to the model some species identified by the refuge staff as being of special interest or concern. The appendix provides more specific information on the APS model we used in this LPP.

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.

The LPP focuses on small, isolated parcels with high resource values.

Figures 11 and 12 shows the rankings we obtained from the APS model for all non-Federal lands inside the refuges. We classified private lands as high, medium, or low priority, with approximately one-third of the total acreage of private lands in each category. Lands identified as high priority have the highest value fish and wildlife habitats. In general, the private lands that ranked the highest are wetlands, coastal areas, or lake shores.

Although many parcels within the refuges 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 refuges.

In addition, land acquisition is not always the best means for addressing resource threats or management concerns on the refuges. 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 other management or administrative strategies may provide a more cost effective way to resolve a potential threat to refuge resources.

This LPP Focuses on Small Parcels

Although we are willing to consider acquisition or exchange of large tracts within the Alaska Peninsula/Becharof Refuges, we expect these types of proposals to be uncommon. Even if a major landholder does wish to sell a large tract, we are seldom able to acquire sufficient funds for this type of purchase. In addition, these properties are already consolidated around existing villages and pose less threat to refuge resources than do isolated inholdings. Instead, interested landowners may wish to consider cooperative management agreements or other measures that could provide resource protection and address important wildlife and resource problems affecting landowners.

In contrast to the consolidated pattern of the large parcels, numerous small private parcels, generally less than 160 acres in size, are scattered across both refuges and the Becharof Wilderness. Many of these are embedded in larger blocks of private lands, but others are isolated in the remote parts of the refuges. A number of these are located along rivers, lake shores, and coastlines, near fish and wildlife concentrations. Many are completely surrounded by refuge land. Human activities on these strategically-located parcels have the potential to impact wildlife on adjacent refuge lands. This Land Protection Plan focuses on these small, strategic parcels that have the potential to affect surrounding refuge resources.

Other Factors Influence Priorities

The APS model ranks lands based primarily on their resource values, but other factors may influence our priorities. These factors are more subjective than the APS scores, but they can influence our actions, especially when we have the opportunity to buy land. For

**Figure 11
LAND PROTECTION PRIORITIES**



Chignik Unit
of the
Alaska Peninsula National
Wildlife Refuge



0 5 10 15 20 25 miles

Albers Equal Area Projection
Central Meridian: 153° W
Contour Interval: 1,000 feet

Priorities

- High Priority
- Medium Priority
- Low Priority

Other Features

- FWS administered land within Refuges
- Other refuge areas
- Refuge boundary

Surface estate protection priorities shown only on lands within boundaries of these Refuges.
Small parcels may not appear at this scale.
Land status obtained from BLM Master Title Plats.
Priorities current to 05/13/02



17-0012

06/13/02 JGH

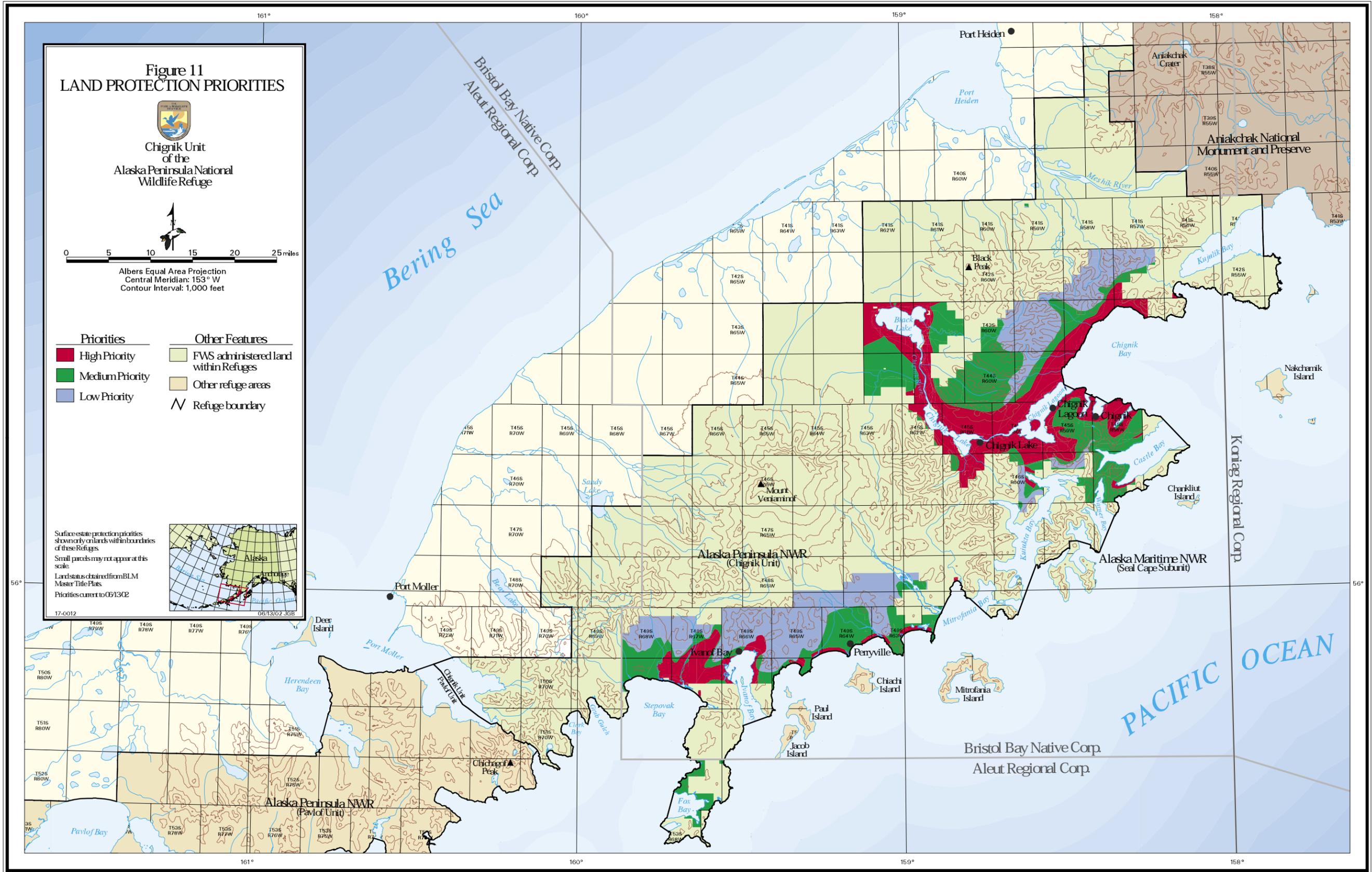
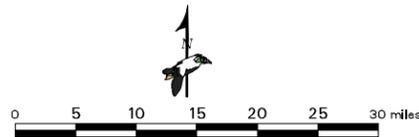


Figure 12
LAND PROTECTION PRIORITIES



Becharof National Wildlife Refuge
and the Ugashik Unit of the Alaska
Peninsula National Wildlife Refuge



Albers Equal Area Projection
Central Meridian: 153° W
Contour Interval: 1,000 feet

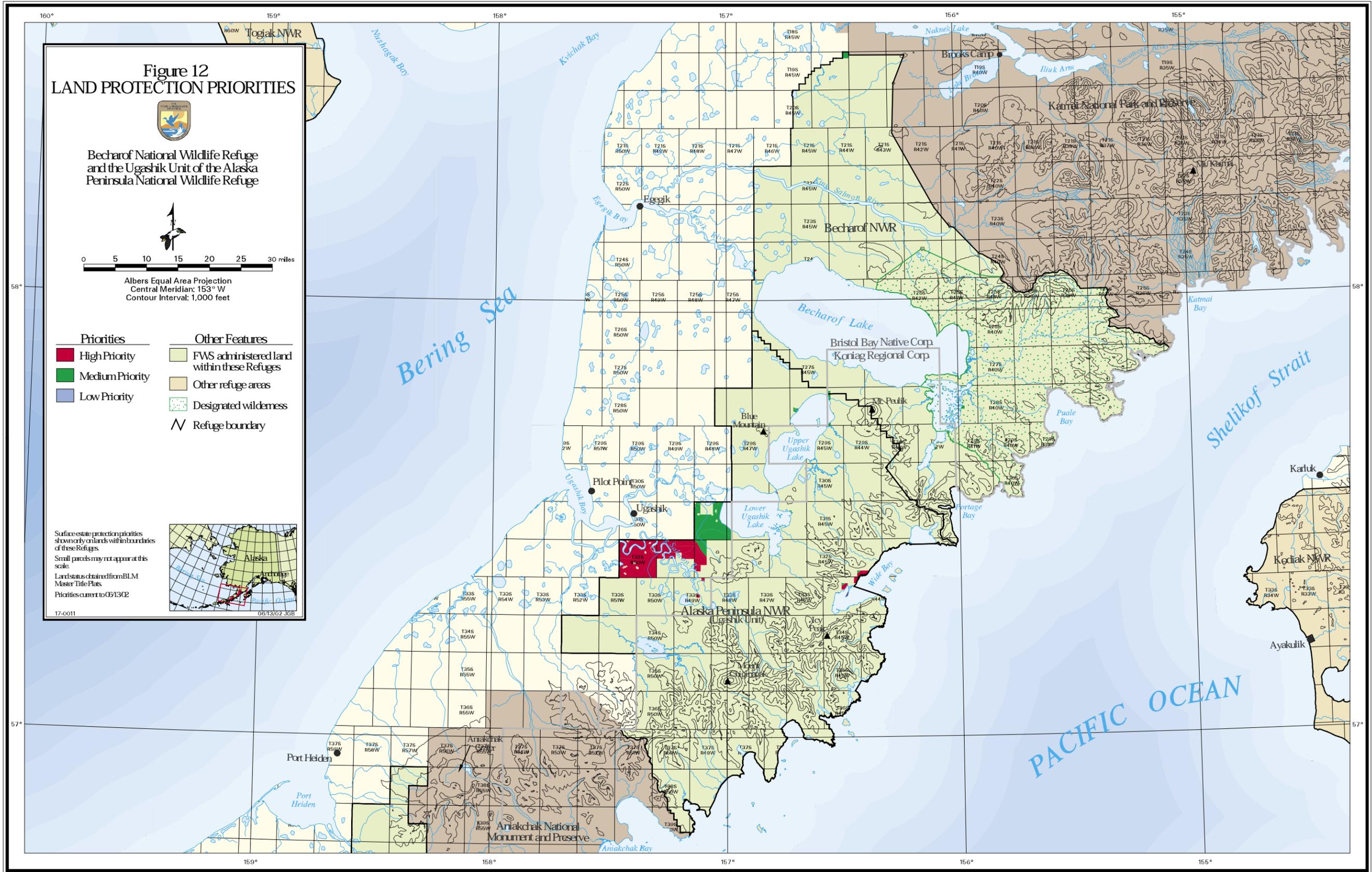
- | Priorities | Other Features |
|--|--|
| High Priority | FWS administered land within these Refuges |
| Medium Priority | Other refuge areas |
| Low Priority | Designated wilderness |
| | Refuge boundary |

Surface estate protection priorities shown only on lands within boundaries of these Refuges.
Small parcels may not appear at this scale.
Land status obtained from BLM Master Title Plats.
Priorities current to 05/13/02



17-0011

06/13/02 JGB



instance, if several landowners wish to sell parcels with similar APS 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; proximity to developed land
- the type and ease of access to a parcel
- current use and the potential for future development

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 title or a conservation easement for 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.

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

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 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 or other management actions on adjoining refuge lands. For instance, in a fire-dependent system, prescribed burning can be beneficial to wildlife. If fires are suppressed to protect adjacent private property, fuel loads build, increasing the chance of a catastrophic fire. The build-up of fuels also alters or suppresses ecological processes dependent upon fire thus making the habitat less than optimal for certain wildlife species.



U.S. Fish & Wildlife Service

Rock sandpipers (pictured) and black oystercatchers are the only year-round resident shorebirds. However, many shorebirds species are seasonal visitors.

We consider access issues when setting land protection priorities.

Access: The types and relative ease of access influence a parcel's potential uses. If a parcel can be reached year-round using motorized transportation (such as lands near roads, airstrips, or large lakes or rivers that can be accessed by small planes with floats or skis), intensive use or commercial development is more likely than on lands which can only be accessed with difficulty. If a parcel with good access has high habitat value or is located near sensitive habitats, it will receive priority consideration for acquisition or other protection methods.

Access issues can influence our priorities in other ways. Most Alaska refuge lands are open to public access, and the use of snowmachines, motorboats, airplanes, and non-motorized surface transportation methods is permitted for traditional activities and travel to and from villages and homesites. In addition, private landowners are guaranteed adequate and feasible access to refuge inholdings, subject to reasonable regulations to protect refuge resources (ANILCA, Section 1110).

When inholdings are offered for sale, we will consider the extent to which a landowner is dependent on refuge lands for access and the degree of use. We may be interested in acquiring certain lands so that we have more ability to manage access for the purpose of protecting resources in key areas.

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

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

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 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.

Potential threats to wildlife and their habitats are considered separately from resource values.

Many large blocks of corporation land have high habitat value. However, current uses are generally compatible with wildlife.

There are 33 small, isolated private parcels in the refuges. Eighteen of these ranked high priority in the APS model (score of 65 or higher).

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 Protection 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.

Alaska Peninsula and Becharof Refuges Land Protection Priorities

The APS scores indicate which lands have the highest resource values. However, as discussed above, a variety of other factors may influence our actions. At this time, we do not recommend pursuing additional land protection methods for the large tracts of high priority land in the refuges. Much of this land is consolidated village corporation land. Current uses are generally compatible with wildlife, and additional resource protection measures are probably unnecessary.

In addition, many of the methods discussed in the last chapter, including acquisition, exchange, and conservation easements are expensive. Although large-tract landowners may occasionally be interested in pursuing one of these options, limited funding may affect our ability to act. We are always willing to consider land protection proposals from landowners, but each proposal must be evaluated on a case-by-case basis and may be rejected due to lack of funds.

We do recommend acquiring key small parcels if landowners wish to sell. Small parcels are easily bought and sold on the open market. Many of these are located in key habitat areas along coastlines, rivers, or lake shores. Acquisition by the Service ensures that the land will remain in its natural state and will be available for both recreational and subsistence users.

A total of 33 parcels, ranging in size from 1.88 to 678.5 acres are surrounded by refuge land (including invalid selections). Eighteen of these are ranked high priority (high habitat value) in the APS model, thirteen are ranked medium, and two are ranked low (Table 5). All other small parcels are embedded either within larger blocks of corporation land or within selected land that is likely to be conveyed.

Preserving the ecological integrity of the refuges is an important goal behind any land protection measure. When setting our priorities, we carefully consider whether any of our available methods could help us achieve this goal. Our ability to consolidate land ownership patterns and minimize or prevent habitat

Table 5. Resource Protection Priorities: Small Parcels

	Patent No.	Acres	APS Score ¹	Location ²	Ease of Access ³	Special Values ⁴	Total Score
1	PA1220830	680	111	•••	•••	•••	120
2	50-99-0012	160	98	•••	•••	•••	107
3	PA1001465	25	94	•	•••	•••	101
4	PA423850	2	91	••	•••	•••	99
5	PA423848	2	94	•	•	•	97
6	50-84-0464	35	82	••	•••	••	89
7	50-74-0122	160	81	••	•••	•••	89
8	50-2000-0263	125	82	••	•••	••	89
9	50-99-0013	35	76	•••	•••	•••	85
10	50-2000-0245	155	77	•••	•••	••	85
11	50-78-0044	23	79	-	•••	•••	85
12	50-98-0306	10	72	•••	•••	•••	81
13	50-80-0149	4	76	•••	•	•	81
14	50-89-0040	5	70	••	•••	•••	78
15	PA423851	6	68	•••	•••	••	76
16	50-98-0579	30	67	••	•••	•••	75
17	50-98-0472	3	67	••	•••	•••	75
18	50-90-0419	40	65	••	••	••	71
19	50-98-0371	160	63	••	•••	•••	71
20	50-99-0136	40	63	••	•••	•••	71
21	50-89-0762	5	61	•••	•••	•••	70
22	50-99-0003	100	61	•••	•••	•••	70
23	50-89-0501	100	61	•••	•••	••	69
24	PA423822	3	62	•	•••	••	68
25	50-2000-0020	9	62	•	•••	•	67
26	50-81-0001	40	60	•••	•	•	65
27	50-94-0185	160	56	••	•••	•••	64
28	50-94-0147	160	56	••	••	•••	63
29	50-89-0264	50	51	•••	•••	•••	60
30	50-98-0398	160	52	•••	•	•	57
31	50-81-0002	5	51	•••	•	•	56
32	50-2000-0075	40	46	•••	•••	••	54
33	50-99-0218	140	43	•••	••	•	49

High APS scores are greater than 64.

Low APS scores are less than 49.

The following symbols denote relative levels under each category:

- very low • low •• medium ••• high

¹APS Score: scores ranged from 19 to 123 for all small parcels within refuge boundaries.

²Location: a relative measure of the degree of isolation from other private lands.

Acquisition of isolated inholdings helps consolidate land ownership patterns.

³Ease of Access: relative proximity to roads, airstrips, float plane landing sites, waterways, etc. More accessible parcels are more likely to be developed.

⁴Special Values: Unique site characteristics, including geological, archeological, recreational, or cultural resources, etc., that might benefit from land protection measures.

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

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

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.

destruction or fragmentation are important considerations when setting priorities. We also consider whether potential land uses on private parcels could harm wildlife populations, their habitats, or other important refuge resources. The APS score for each of these 33 parcels was modified by considering three factors which provided a subjective measure of some of these additional considerations.

The first factor considered was the location of a parcel in relation to other Federal and non-Federal lands. None of these parcels are located within large blocks of private land. However, some are located within selected lands or adjacent to other private parcels. Others are embedded in refuge lands, far from other private tracts. Acquiring small, isolated tracts helps to consolidate land ownership patterns and simplify management. On the other hand, acquiring one of many contiguous private parcels usually contributes little to refuge management objectives.

The second factor considered was the relative ease of accessing the parcel. If a parcel can be reached year-round using motorized transportation (such as lands near roads, airstrips, or near large lakes or rivers that can be accessed by small planes with floats or skis), intensive use or commercial development is more likely than on lands which can only be accessed with difficulty. Many of the 33 parcels listed can be accessed by boat or plane during the summer, but landowners may depend on crossing refuge lands in winter. Access issues may be a management concern if the parcel is located near or within an area critical to a species that is sensitive to human disturbance.

Thirdly, we considered any additional special values of the parcel that could benefit from land protection measures. These could include the presence of unique geological, archeological, or cultural resources, or special site characteristics that could influence land uses or affect refuge management. For instance, parcels that are located within or near important recreation or subsistence use areas may receive points under this factor. Access to private lands is up to the discretion of the landowner and is often restricted. Acquiring these private parcels could eliminate inadvertent trespass by refuge visitors and ensure that the entire area remains available for public recreation and subsistence use.

A total of 18 parcels listed in Table 5 (Figures 13, 14) have both high APS scores and high overall scores. These parcels are considered the highest priorities for additional resource protection. However, the scores are a relative ranking, so even lower ranked parcels may have resource values warranting additional protection. We will consider any land protection measure proposed by a landowner. However, we will carefully consider our priorities and management objectives in order to use our limited funds judiciously.

Although the Service may be interested in purchasing some of these parcels, it must be emphasized that we buy land only from people who want to sell to us. In addition, our funding for land acquisition is extremely limited. Even if the landowner wishes to sell to us, we may not have the funds to buy. However, should there be a willing landowner and we have the funding, the opportunity to acquire one or more of these parcels would merit strong consideration.



U.S. Fish & Wildlife Service

Large blocks of Native corporation land surround Chignik (pictured) and other villages within refuge boundaries. In general, these consolidated large parcels pose less threat to refuge resources than do small, isolated inholdings in sensitive wildlife areas. The LPP focuses on the latter.



Figure 13
Generalized Resource Protection
Priorities for Small Parcels



Chignik Unit
of the
Alaska Peninsula National
Wildlife Refuge



0 5 10 15 20 25 miles

Albers Equal Area Projection
Central Meridian: 153° W
Contour Interval: 1,000 feet

Priorities

- High Priority
- Medium Priority
- Low Priority
- 2 Priority Number
(key on Table 5)

Other Features

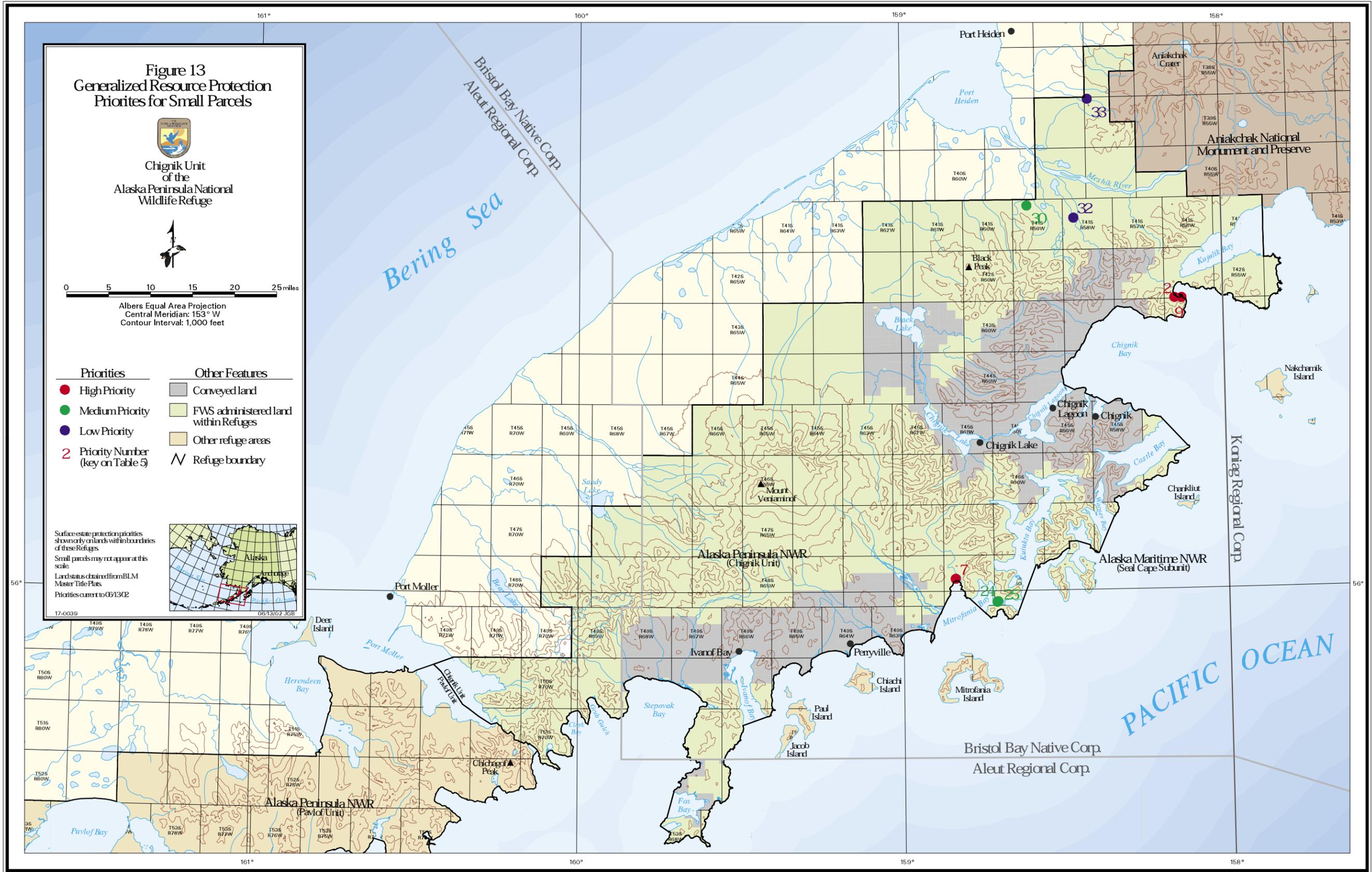
- Conveyed land
- FWS administered land within Refuges
- Other refuge areas
- ∕ Refuge boundary

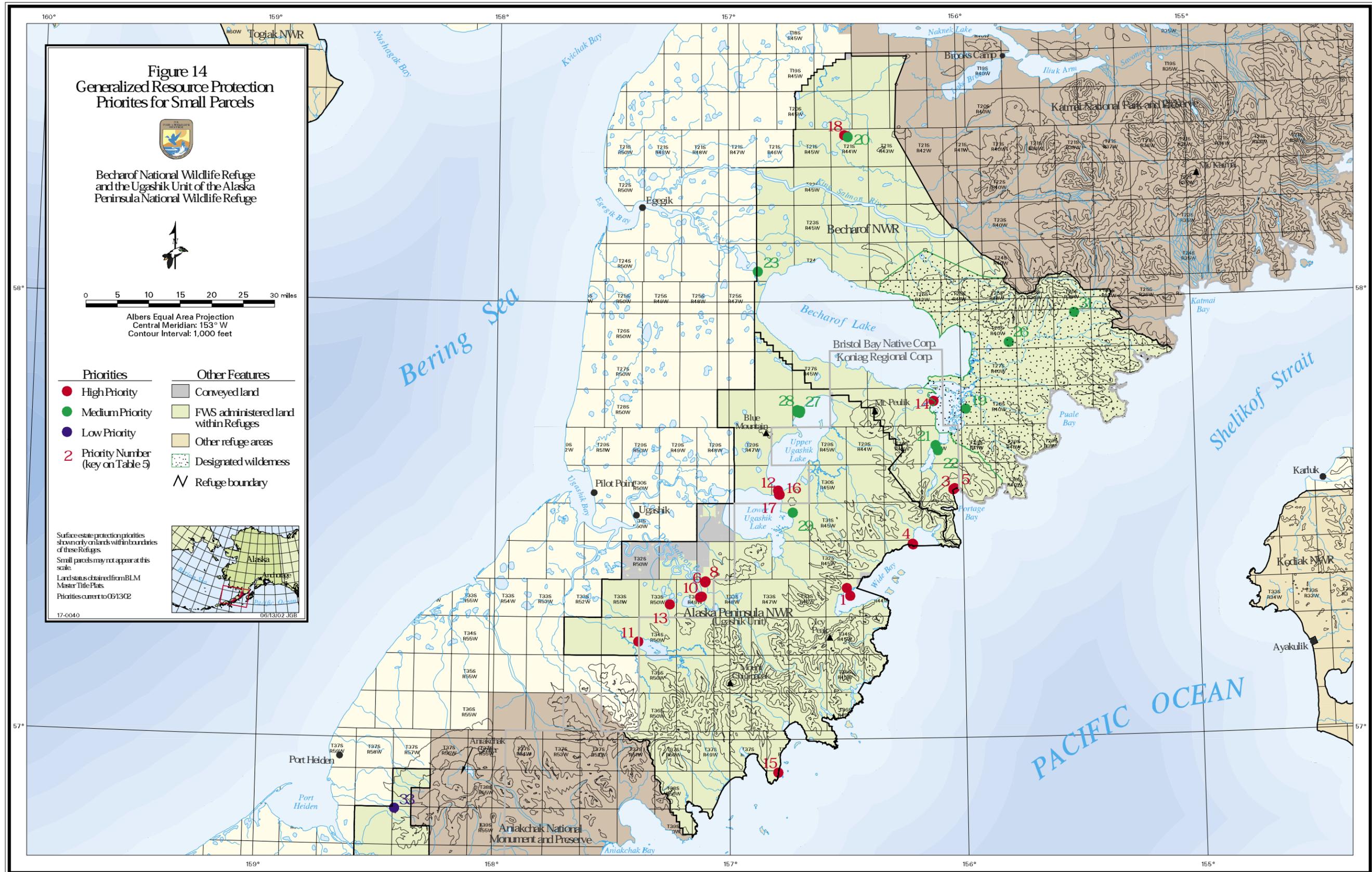
Surface estate protection priorities shown only on lands within boundaries of these Refuges.
Small parcels may not appear at this scale.
Land status obtained from BLM Master Title Plans.
Priorities current to 05/13/02



17-0039

06/13/02 JGH





Effects of Resource Protection 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

The refuges have a rich paleontological, archeological, and cultural history. The oldest fossils uncovered on the refuges date from the late Jurassic to Cretaceous period of the Mesozoic Era (65-225 million years ago). Sedimentary rock deposits extending along the Pacific shore of the Alaska Peninsula have yielded unique fossil evidence of dinosaurs and other prehistoric animals. One deposit, the Naknek Formation, contains the only known high-latitude fossil evidence of Jurassic-era dinosaurs.

Jurassic-era dinosaur tracts have been found within refuge boundaries.

In 1990, a set of dinosaur tracts imprinted in rock was discovered east of Black Lake within the Chignik Unit. Paleontologists have tentatively identified the tracks as being made by a carnivorous theropod dinosaur during the late Jurassic period. The exact location of the site was not disclosed, but is likely located on village conveyed land. Currently, there are about 40 known paleontological sites in the refuges, but it is likely that many more will be discovered.

There are 232 known historic or archaeological sites within the refuges.

The long history of human occupation in the region is evidenced by the number of cultural and archeological resource sites that have been discovered. There are 232 known sites, including 14(h)(1) selections, and it is likely there are many more to be discovered.

The Service will protect cultural resources on acquired lands.

Undiscovered cultural resource sites are likely to exist in areas that have large concentrations of fish or large mammals. These areas, including Upper and Lower Ugashik lakes, Dog Salmon River, Mother Goose Lake, Meshik River, and Black Lake to Chignik Lake, may contain significant concentrations of artifacts left by early hunters. Some portions of these areas are also high-use areas today. Cultural resources located near high-use areas are at risk from direct and indirect impacts of human use (Corbett 1996). 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.

If the Service acquires properties containing cultural resources, they are protected under Section 106 of the National Historic Preservation Act of 1966. This Act requires Federal agencies to take cultural resources into consideration when granting Federal licenses, permits, or funds to projects that could affect such resources.

The remains of a World War II PBY aircraft litter a hillside above Becharof Lake. The PBY 'flying boat' was used for long range scouting, anti-submarine patrols, search and rescue operations, and torpedo/bombing attack operations. The PBY flew more combat patrols than any other aircraft during WWII.



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

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

Effects on Landowners

The communities of Ivanof Bay, Perryville, Chignik, Chignik Lagoon, and Chignik Lake lie within the boundaries of the Alaska Peninsula Refuge. Other nearby communities include Port Moller, Port Heiden, Pilot Point, Ugashik, Egegik, King Salmon, Naknek and South Naknek. The refuge headquarters is located in King Salmon, the transportation hub of the area.

Implementing the recommendations of this land protection plan will have little effect on most landowners. Most permanent residents within the refuges live in, or near, one of the local communities within large blocks of privately-owned land. Generally, these large blocks that surround 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, the Service 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 Protection 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.

Effects on the Economy

Alaska Peninsula communities are characterized by a mixed cash-subsistence economy. Commercial fishing, tourism and government employment and expenditures drive the cash economy. Both terrestrial and marine resources sustain the subsistence economy. Most residents rely heavily on hunting, fishing, and gathering natural resources for their own consumption.

Commercial fishing and tourism provide the economic base.

Salmon stocks that originate on the refuges comprise a significant component of several commercial fisheries. The Bristol Bay limited-entry salmon fishery has historically been the most productive salmon fishery in the world. However, many of the permit holders and fish processors are non-residents who spend their earnings elsewhere.

The Alaska Peninsula and Chignik limited-entry salmon fisheries, on the other hand, are dominated by area residents. In 1996, the total value of the commercial seafood harvested by area residents was approximately \$10 million. However, low returns in the succeeding two years, and an increasing market for farmed salmon, have produced economic hardships for many area residents dependent on the commercial fishing industry.

Sport fishing and hunting draw tourists to the refuges.

Sport fishing is the backbone of the tourism industry. However, like the commercial fishing industry, the season is short and is dominated by non-residents. Commercial guide operations are allowed in the refuges by permit and attract mostly non-Alaskan clientele. Becharof Lake, and the Egegik and Ugashik river systems are the most popular fishing destinations. The Alaska Department of Fish and Game estimates that about 1,640 trips (3,856 angler days) were made to the Becharof and Ugashik systems in 1996 (Goldsmith et al 1998).

Tourism provides some economic support for local businesses.

Sport hunting is also a popular recreational activity on the refuges. The majority of sport hunters are non-residents who employ commercial guides. The most popular large game animals are brown bears, moose and caribou (although the latter is now restricted to a Tier II hunt. For details, see the State Hunting Regulations).

Non-resident recreational use of the refuges provides some economic support for local businesses. However, a significant percentage of this sum is spent outside the region and never finds its way into the local economy because many commercial operators purchase equipment and supplies elsewhere. In addition, a large number of employees and owners of the commercial operations are not residents of the region (Goldsmith et al. 1998).

The demand for visitor services is likely to increase.

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

Land protection measures help ensure healthy watersheds and populations.

The demand for visitor services is expected to increase as public use increases. The Service gives preference to local residents and to those Native corporations that were most directly affected by the establishment of the refuges (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.

Land protection measures may have a positive effect on these industries. Since the economy is largely driven by ocean-based commercial fisheries, land protection 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.

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,



Ronald E. Hood

By the late 1800s, the commercial fishing industry had replaced the fur trade in terms of economic importance. From the 1930s to 1950s, the “Bristol Bay Double Ender” (pictured), an open-ribbed, sprit-rigged sailing skiff was commonly used for commercial salmon fishing. Federal regulations prohibited anything but sail power until 1952.

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

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.

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.

Effects on Public Access

Airplanes, boats, and snowmachines are the common modes of access within the Alaska Peninsula and Becharof Refuges. Most non-local users access the refuges via air taxis or private planes. Subsistence users are guaranteed reasonable access using traditional means of travel. In the Alaska Peninsula and Becharof Refuges, this includes off-road vehicles as well as snowmachines and boats.

Access is a component of public use that can be affected by land ownership. In Alaska, most refuge lands are open to public access, and the use of snowmachines, motorboats, airplanes, and non-motorized surface transportation methods is permitted for traditional activities and travel to and from villages and homesites (Section 1110 of ANILCA). 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 twenty-six 17(b) easements within the refuge boundaries, including easements for two existing trails, 11 proposed trails, two airstrips, and 11 one-acre site easements. 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 refuges.

If either refuge acquires lands, traditional public access will generally be maintained. Although the refuge may impose some regulations on public use to protect resources, in the long-term, private landowners are more likely to restrict public access or require user fees.

Any new land acquired by the refuges will be managed in the same manner as the surrounding refuge land. All commercial ventures, 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 both refuges. 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 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 2000).

Caribou have traditionally been the most important land mammal in the subsistence harvest. Caribou meat is widely shared. Surveys in the mid-1990s indicated that about 80% of all households either harvested or shared in the harvest of caribou.



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Resource Protection Guidelines



Many factors influence our land protection priorities.

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

In general, isolated parcels ranking high in APS warrant land protection.

One objective of this plan is to recommend resource protection measures for private lands within the boundaries of the Alaska Peninsula and Becharof Refuges. These recommendations are guidelines which help us work more effectively with interested landowners. They do not require either private landowners or the Service to take any action.

Currently, 18 private parcels within refuge boundaries are ranked high priority for additional resource protection (Table 5). The highest ranked parcels are small tracts embedded in refuge lands with high biological values. Our priorities serve as guidelines that help us spend our limited funds wisely. For example, if several landowners wish to sell to us, the priorities would help us decide which lands to buy.

New development pressures or management concerns may change our priorities over time. Therefore, we carefully evaluate each proposal submitted by a landowner. Occasionally, situations occur that provide unexpected opportunities for the Service to acquire or exchange large tracts of land. For example, the damage settlement from the Exxon Valdez Oil Spill enabled the Service to buy both large and small tracts of land within the spill zone. The process for evaluating and negotiating land acquisition or exchanges under these special circumstances are often unique. However, in most situations the decisions for specific resource protection proposals within refuge boundaries will be evaluated based on certain guidelines.

The APS computer model provides an initial assessment of habitat value. Parcels identified as high priority by the APS model may have sufficient resource values to warrant further protective measures. However, this is only the first step. A number of other factors including the probability that development could harm refuge resources, the landowner's interest in further protecting fish and wildlife habitats, and our funding levels, affect land protection recommendations and priorities.

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

1. Relative rank in the APS model

- The APS 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 refuges have sufficient resource values for the Service to consider acquiring an interest in the land.

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

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

We consider the ecology of the entire area.

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.

- 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 refuges 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 protection measures on overall refuge management**
 - Land protection 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 protection measures on biological diversity and the ecological health of the refuges**
 - Land protection strategies should preserve or increase biological diversity and ecological health of the refuges.
 - 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 APS ranking.
 - We want to employ 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.

The Service does not prioritize subsurface interests.

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.

Pacific brant migrate through the refuges each spring and fall on their way to and from nesting areas to the north.



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The male harlequin duck (top) is a boldly-colored, compact sea duck that often perches on emergent rocks or bobs in the choppy waters of the Alaska Peninsula shoreline. Their diet consists primarily of intertidal invertebrates gathered from rocks and the ocean bottom close to shore. A strong “nail” at the tip of the bill enables the harlequin to feed on limpets and chitons—species whose cement-like anchor foils most other marine birds.

Certain wetlands on the refuges provide important breeding habitat for the Alaska subspecies of the marbled godwit (below). Marbled godwits feed in wetlands of various types and salinities by probing the bottom sediments for aquatic insects and insect larvae, molluscs, and crustaceans. The size of the Alaska Peninsula population is unknown, but believed to be quite small.



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Public Involvement



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 protection 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 protection 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. We then developed a citizen participation program for the Alaska Peninsula and Becharof Refuges to identify the needed level of public involvement. A preliminary mailing list was developed at that time. This mailing list is constantly being updated as individuals express an interest in the plan.

In January 1998, a flyer was sent to landowners, local, tribal, State, and Federal governments, and citizens or groups who expressed interest in land protection planning on the refuges. The flyer described the purpose of the plan, the land protection options available to interested landowners or managers, and methods for providing input to the land management planning process. It also announced upcoming public meetings.

The flyer extended an invitation for interested parties to meet with us to discuss the LPP further. Land protection planning on the Alaska Peninsula and Becharof Refuges is an ongoing process. Maintaining a working relationship with all landowners and interested individuals is an important part of this process. This commitment includes scheduling public or private meetings to further discuss the LPP, if necessary. Please contact the Alaska Peninsula Refuge or the Division of Conservation, Planning and Policy if you have any questions or would like to request additional meetings. The addresses and telephone numbers are listed on the landowner interest form at the end of this chapter.

If you have any questions or would like to request a meeting, please contact the Alaska Peninsula/Becharof Refuges.

Land Protection Plan Revision

Land ownership on the Alaska Peninsula/Becharof Refuges 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 protection 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 Alaska Peninsula and Becharof Land Protection 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 protection 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.

Tundra swans return to refuges rivers and estuaries in early spring and disperse to nesting areas as soon as they become ice-free. Swans are highly selective in both their breeding and molting habitat requirements and are intolerant of human activity during these time periods. They often choose to nest in small, isolated wetlands, and to molt in large, secluded lakes with emergent vegetation.



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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 Alaska Peninsula and Becharof Refuges Land Protection Plan?

Please use this form to express your interest in the refuge Land Protection 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 Alaska Peninsula and Becharof Refuges Land Protection 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
Alaska Peninsula National Wildlife Refuge
P.O. Box 227
King Salmon, Alaska 99613
(907) 532-2445

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

From: _____

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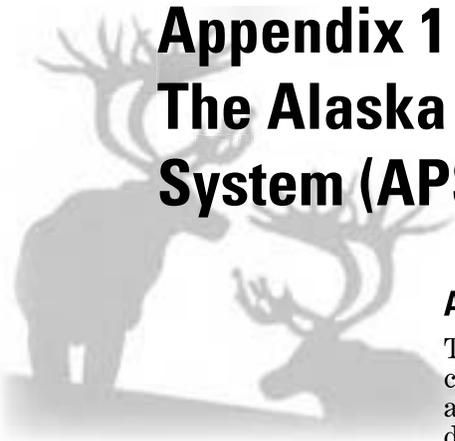
To: U.S. Fish & Wildlife Service
Division of Conservation, Planning & Policy
1011 East Tudor Road
Anchorage, Alaska 99503-6119

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Appendix 1

The Alaska Priority System (APS)

APS Model

The APS model uses seven resource and two management criteria to rank land and resources. The seven resource criteria are: endangered species, migratory birds, diversity of wetlands, diversity of uplands, marine mammals, resident refuge purpose species, and fisheries. The two management criteria are public use and refuge management — the capacity of acquisition to enhance management of refuge lands.

Each of the resource criteria are subdivided into several categories, representing species and/or groups of species. For example, the Migratory Bird criteria for the Alaska Peninsula/Becharof Refuges includes three species groups (seabirds, shorebirds, and songbirds) along with 11 species of birds (tundra swan, Steller's eider, sandhill crane, Pacific white-fronted goose, northern pintail, emperor goose, harlequin duck, marbled godwit, mallard, Canada goose, and bald eagle). Mammal species that are specifically mentioned in ANILCA as a purpose of one or more of the refuges are also considered under the resident refuge purpose species criterion. For the Alaska Peninsula/Becharof Refuges these include moose, brown bears, sea otters and caribou. Species "groups" listed in ANILCA (e.g. marine mammals) are not included in this criterion: they get points in the upland or wetland diversity categories.

Point values are assigned to each category (species) in the model based on the densities, distribution, and/or diversity of specific wildlife populations. The refuge management criterion is subdivided into categories relating the effect that private lands have on access and the ability of the refuges to efficiently carry out its management functions. The public use criterion includes both subsistence and recreational use.

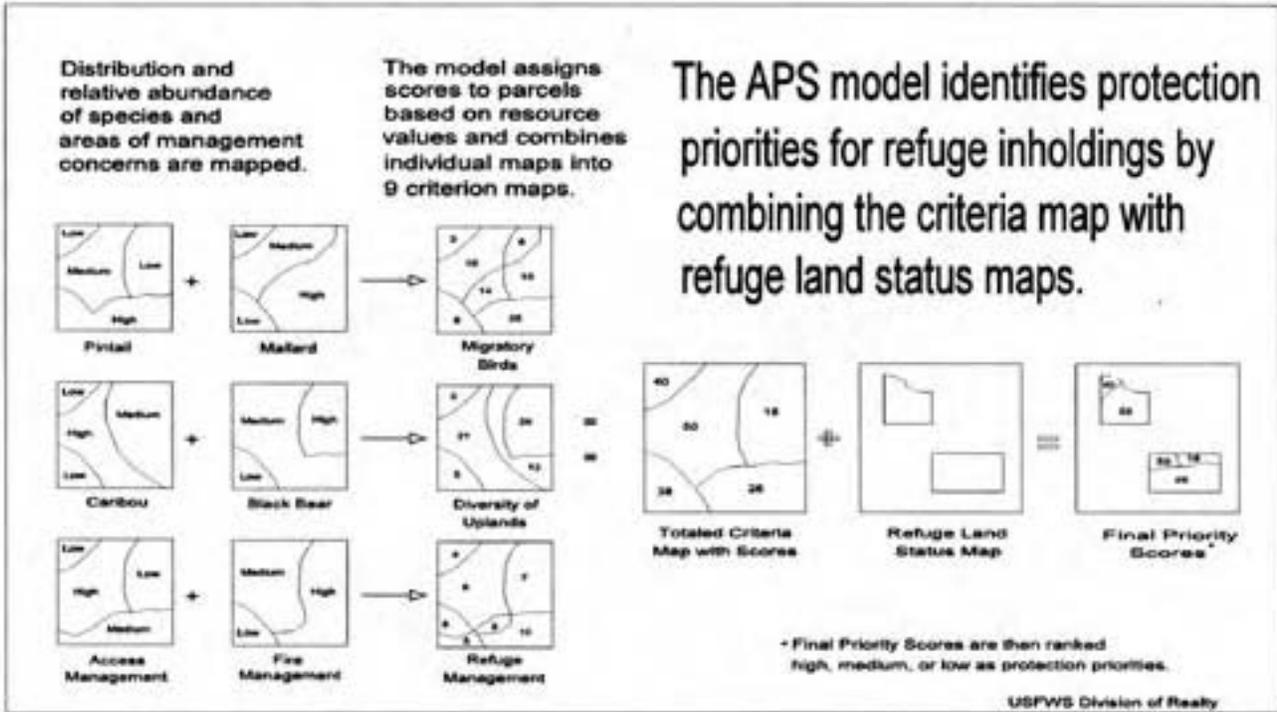
APS Ranking

The APS ranking process begins with the gathering and mapping of fish and wildlife data and management information. The hand drawn maps are then digitized using the geographic information system software known as ARC/INFO (Environmental Systems Research Institute 1989). The computer program ARC/INFO allows concurrent manipulation of computerized maps and attribute data. The result is a set of layers of mapped resource information in ARC (e.g. Figures 6-10) and numerical descriptions, which are the point scores associated with the mapped resources, in INFO.

The resource maps included in this document are examples of those used in the Alaska Peninsula/Becharof APS model. A total of 29 different maps or layers were used. To combine all of the maps into the final priority map, the individual layers were merged into nine criterion maps. The point scores were then added and scaled

to calculate the maximum point score for each criterion. The nine criterion layers were then merged, and the scores combined and scaled to create a final APS ranking map and a total resource score for each parcel.

The final step was to create a three level APS resource rank for each parcel. The model totals the acreage of private lands within the refuge boundaries, and divides the parcels into three approximately equal parts (high, medium, and low) based on the APS total score for each





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