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**DRAFT ECONOMIC ANALYSIS
OF
CRITICAL HABITAT DESIGNATION
FOR THE STELLER'S EIDER**

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PREFACE

This report was prepared for the U.S. Fish and Wildlife Service (FWS) by Industrial Economics, Incorporated (IEc) to assess the economic impacts that may result from designation of critical habitat for the Steller's eider. Under Section 4(b)(1) of the 1973 Endangered Species Act (ESA), the decision to list a species as endangered or threatened is made solely on the basis of scientific data and analysis. By contrast, Section 4(b)(2) of the ESA states that the decision to designate critical habitat must take into account the potential economic impact of specifying a particular area as critical habitat. As such, this report does not address any economic impacts associated with the listing of the species. The analysis only addresses those incremental economic costs and benefits potentially resulting from the designation of critical habitat.

IEc worked closely with FWS personnel to ensure that both current and future land uses and marine activities were appropriately identified and to assess whether or not the designation of critical habitat would have any net economic effect in the regions containing the proposed critical habitat designations. To better understand the concerns of stakeholders, IEc solicited FWS opinion and information from other Federal and state agencies regarding what activities occur in the proposed critical habitat units, and gathered preliminary information on land uses and marine activities from written public comments. IEc also requested input from FWS officials concerning whether or not any of these projects would likely result in a new or prolonged consultation or the reinitiation of an existing consultation, and whether any of these land uses or marine activities could adversely modify critical habitat without simultaneously jeopardizing the Steller's eider. It is important to note here that it would not have been appropriate for IEc to make such policy determinations. Identification of these land management/use and marine activity actions provided IEc with a basis for evaluating the incremental economic impacts above the listing that are due to the critical habitat designation for the Steller's eider.

Due to time constraints in conducting this analysis, we do not provide quantitative estimates of economic impact. Rather, we identify significant categories of economic impact expected to be attributable to critical habitat designation. We then describe these categories qualitatively. We base our analysis, in part, on information provided through contacts with FWS regional and field staff, and information from other sources.

Our final analysis will provide, to the extent possible, more rigorous estimates of expected economic impacts. Thus, we solicit information that can be used to support such assessment, whether associated with the categories of impact highlighted in this report, or other economic effects of the critical habitat designation. Since the focus of this report is an assessment of incremental impacts of proposed critical habitat, we request information on the potential effects of the designation on current and future land uses and marine activities, rather than on effects associated with the listing of the Steller's eider, or of other Federal, state, or local requirements that influence land use and marine activity.

EXECUTIVE SUMMARY

The purpose of this report is to identify and analyze the potential economic impacts that would result from the proposed critical habitat designation for the Steller's eider (*Polysticta stelleri*). This report was initially prepared by Industrial Economics, Incorporated (IEc), under contract to the U.S. Fish and Wildlife Service's Division of Economics.

Section 4(b)(2) of the Endangered Species Act (ESA) requires FWS to base critical habitat proposals upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. FWS may exclude areas from critical habitat designation when FWS determines that the benefits of such exclusion outweigh the benefits of specifying such areas as part of the critical habitat, provided the exclusion will not result in extinction of the species.

Proposed Critical Habitat

FWS is proposing nine critical habitat units for the Steller's eider. Exhibit ES-1 summarizes the geographic distribution and ownership patterns for the designated units. As shown, approximately 5,399,420 acres (Units 3-9) of marine habitat and 10,867,506 acres (Units 1 and 2) of land are proposed for critical habitat designation. In total, 16,266,926 acres of land and water area are proposed as critical habitat.

The exhibit also shows the acreage associated with Federal, state, Native, and non-Native ownership. As shown, the majority of the proposed area is under Federal ownership. Much of the remaining land is state-owned, with lesser amounts accounted for by private owners (Native and non-Native).

Economic Impacts Considered

This analysis defines the impact of critical habitat designation to include any effect critical habitat designation has above and beyond the impacts associated with the listing of the Steller's eider. Section 9 of the ESA makes it illegal for any person to "take" a listed species, which is defined by the Act to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect,

Exhibit ES-1

SUMMARY OF LOCATION AND OWNERSHIP FOR PROPOSED CRITICAL HABITAT UNITS FOR THE STELLER'S EIDER

A c r e s	(P e r c e n t	w i t h i n	e a c h	U n i t)
.....				
.....				
LocationF	e	d	e	a
State Native ..n	o	n	-	N
TOTAL	a	t	i	v
North Slope9,021,428 (89%)				3 2 6 , 7 8 1
(3%) 7 5 0 , 1 3 9				(7 %)
0 10,098,348.....				
Yukon-Kuskokwim Delta				500,175 (65%)
0.....268,242 (35%).....				7 4 1
(<1%) 769,158.				
Nunivak Island ..5 0 , 6 3 5				(1 0 0 %)
0 0.....0.....				
50,635				
Kuskokwim Bay 2,582,411 (81%).....				5 9 2 , 0 3 3
(19%) 0.....0.....				
3,174,444				
N o r t h	S i d e	o f	t h e	A l a s k a
P e n i n s u l a				
0 4 9 5 , 7 2 9				(1 0 0 %)
0 0.....495,729.....				
Eastern Aleutians				1 1 , 1 1 5
(5%) 2 0 8 , 9 6 2				(9 5 %)
0 0.....220,077.....				
South Side of the Alaska Peninsula				1 1 , 8 5 6
(1%) 8 3 2 , 6 3 7				(9 9 %)
0 0.....844,493.....				
K a c h e m a k				B a y / N i n i l c h i k
0 2 8 2 , 0 7 4				(1 0 0 %)
0 0.....282,074.....				
Kodiak 68,913 (21%).....				2 6 3 , 0 5 5
(7%) 0.....0				
331,968				
TOTAL 12,246,533 (75%).....				3 , 0 0 1 , 2 7 1
(18%) 1,018,381 (6%).....				7 4 1
(<1%) 16,266,926.....				

Note: Rows and columns may not sum to totals due to rounding.

Source: *Proposed Critical Habitat Designation for the Steller's Eider*, March 12, 2000 (65 FR 13262) Note: Figures in Exhibit ES-1 depicting Federal and state ownership in the Kuskokwim Bay unit, and total Federal and state acreage,

correct an error in the proposed rule.
.....
.....

or the attempt to engage in any such conduct. To evaluate the *increment* of economic impacts attributable to the critical habitat designation for the Steller's eider, above and beyond the ESA listing, the analysis assumes a “without critical habitat” baseline and compares it to a “with critical habitat” scenario. The difference between the two is a measurement of the net change in economic activity that may result from the designation of critical habitat for the Steller's eider.

The "without critical habitat" baseline represents current and expected economic activity, including all existing modifications due to listing, prior to critical habitat designation. These include the take restrictions that result from the ESA listing as well as other Federal, state, and local requirements that may affect economic activities in the regions containing the proposed critical habitat units. For example, the U.S. Army Corp of Engineers will still need to consult with FWS on Section 404 projects that may affect a listed species to ensure the proposed activities do not jeopardize the continued existence of the species, regardless of the critical habitat status of the parcel. While there may be both current and future impacts attributable to the listing of the Steller's eider, such impacts are not the subject of this analysis.

To estimate the incremental effect that critical habitat designation would have on existing and planned activities, IEc used the following approach:

- We first collected information on current and planned land uses and marine activities in proposed critical habitat areas for the Steller's eider;
- We then identified whether a Federal nexus to these activities exists; and
- Finally, we requested FWS opinion on: (1) whether each identified land use and marine activity is now or would be subject to modifications due to the ESA listing alone for the Steller's eider; and (2) whether additional modifications might be imposed under the critical habitat designation.

Although critical habitat designation is not expected to require any further project modifications beyond those required by the listing of the Steller's eider, government and private landowners may nonetheless incur costs resulting from critical habitat designation above and beyond those attributable to the listing of the Steller's eider as a threatened species. These costs include: (1) the value of time spent in conducting Section 7 consultations beyond those associated with the listing of the Steller's eider, and (2) delays in implementing public and private development activities, which may result in losses to individuals and society that result from these consultations.

There are approximately three different scenarios associated with the designation of critical habitat that could trigger additional consultation costs: (1) some consultations that have already been “completed” may need to be reinitiated to address critical habitat; (2) consultations taking place after critical habitat designation may take longer because critical habitat issues will need to be addressed; and (3) critical habitat designation may result in some new consultations taking place that otherwise would not had critical habitat not been

designated. New consultations would most likely occur on designated critical habitat areas that are not occupied by the species.

In addition to the impacts described above, critical habitat designation may create costs for some communities or small businesses operating within the boundaries of the critical habitat area. These costs are associated with additional Section 7 consultations and losses resulting from delays in project implementation. As is the case for other categories of impact, we solicit additional information that can be used for an assessment of the incremental impacts of proposed critical habitat on communities and small businesses.

The designation of critical habitat may result in economic benefits. Resource preservation or enhancement, which is aided by designation of critical habitat, may constitute an increase in values provided directly by the species and indirectly by its habitat. Categories of potential benefits for the Steller's eider include enhanced wildlife viewing, increased biodiversity and ecosystem health, and intrinsic (passive use) values.

Due to the limited availability of time and economic data to conduct this analysis, we do not provide quantitative estimates of economic impact. Rather, we describe qualitatively the significant categories of economic impact expected to be attributable to critical habitat designation. To the extent possible, the final version of this analysis will include more rigorous estimates of expected economic impacts. As such, we solicit information that can be used to support such an assessment, i.e., data describing the categories of impact highlighted in this report, or other incremental economic effects of the critical habitat designation.

Preliminary Findings

FWS has not yet received comments from some potentially-affected entities on the proposed critical habitat. These comments may provide a more detailed basis for characterizing economic impacts. Based on information obtained from FWS, comments received, and other research, several preliminary conclusions emerge for different categories of affected land:

- **Federal Lands and Waters:** The proposed critical habitat designation encompasses lands and waters managed by several Federal agencies: Department of the Interior, Department of Commerce, Department of Defense, and U.S. Coast Guard. Several of the units are already part of an ongoing habitat protection program (e.g., National Wildlife Refuges), reducing the likelihood that the designation of critical habitat would introduce new requirements. Overall, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat for the Steller's eider that are beyond those already required by the listing of the eider. In addition, because the designated area is occupied by the eider, FWS anticipates no new consultations or substantive reinitiations of consultations as a result of the designation of critical habitat for the Steller's eider.
- **State Lands and Waters:** The proposed critical habitat designation encompasses state lands and waters managed by the Alaska Department of Fish and Game and the Alaska Department of Natural Resources. Activities undertaken by these agencies associated with proposed critical

habitat lands and waters (e.g., commercial fisheries management, oversight of resource extraction on state lands) often involve Federal permitting because of wetland impacts or Federal funding. As a result, these activities have a Federal nexus and are subject to the consultation requirements of the ESA. Nonetheless, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat beyond those already required by the listing of the eider, nor does the agency anticipate new consultations or substantive reinitiation of consultations as a result of the designation.

- **Municipal and Private Lands:** Municipalities and private landholders within or adjacent to proposed critical habitat areas may undertake activities that often require Federal permits or that utilize Federal funding (e.g., road building, harbor and marina projects, water system improvements, other public works projects). When these occur, activities have a Federal nexus and are subject to ESA consultation. Nonetheless, FWS anticipates no further modifications to land uses due to the designation of critical habitat beyond those already required by the listing of the eider, nor does the Service anticipate new consultations or substantive reinitiations of consultations as a result of the designation.
- **Social and Community Impacts:** The areas proposed for critical habitat designation include some small businesses (e.g., commercial fishing enterprises), local governments, and state-managed subsistence activities (e.g., hunting and fishing) that could have a Federal nexus and be subject to ESA consultation. Nonetheless, FWS anticipates no further modifications to land uses due to the designation of critical habitat beyond those already required by the listing of the eider, nor does the agency anticipate new consultations or substantive reinitiations of consultations as a result of the critical habitat designation.

INTRODUCTION.....SECTION 1

The U.S. Department of the Interior's Fish and Wildlife Service (FWS) published a proposed rule to list the Steller's eider as threatened on July 14, 1994, under provisions of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). Following a review of information and public comments received on the rule, FWS listed the Steller's eider as a threatened species on June 11, 1997 (62 FR 31748).

On March 10, 1999, the Southwest Center for Biological Diversity, the Center for Biological Diversity, and Christians Caring for Creation filed a lawsuit in the Northern District of California against the U.S. Fish and Wildlife Service and the Secretary of the Department of the Interior for failure to designate critical habitat for seven species: the Alameda whipsnake (*Masticophis lateralis euryxanthus*), the Zayante band-winged grasshopper (*Trimerotropis infantilis*), the Morro shoulderband snail (*Helminthoglypta walkeriana*), the Arroyo southwestern toad (*Bufo microscaphus californicus*), the San Bernardino kangaroo rat (*Dipodomys merriami parvus*), the spectacled eider (*Somateria fischeri*), and the Steller's eider (*Polysticta stelleri*). On November 5, 1999, William Alsup, U.S. District Judge, dismissed the plaintiffs' lawsuit pursuant to a settlement agreement entered into by the parties. In response to the terms of that settlement, FWS proposed designation of critical habitat for the Steller's eider on March 13, 2000.

Critical habitat designation can help focus conservation activities for a listed species by identifying areas, both "occupied" and "unoccupied", that contain or could develop essential critical habitat features. The ESA defines critical habitat as areas occupied by the species that contain the physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection. The ESA also defines critical habitat as areas outside the geographical area occupied by the species, when the FWS determines that such areas are essential for the conservation of the species. Unoccupied lands and waters proposed as critical habitat may include areas previously inhabited by the species at some point in the past.

Critical habitat designation contributes to Federal agencies' and the public's awareness of the importance of these areas. In addition to its informational role, the designation of critical habitat may provide protection where significant threats to the species have been identified. This protection derives from ESA Section 7, which requires Federal agencies to ensure that activities they fund,

authorize, or carry out are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. However, the designation of critical habitat has no effect on actions on private and state and local government lands or in non-Federal waters unless the activity requires a Federal permit or approval or has Federal funding. This Federal connection (or "nexus") to a land use, marine activity, or management action is required to trigger ESA Section 7 review.

CONSULTATION UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT

Section 7(a)(2) of the ESA requires Federal agencies to consult with FWS whenever activities they fund, authorize, or carry out may affect listed species or designated critical habitat. Section 7 consultation with FWS is designed to ensure that any current or future Federal actions do not appreciably diminish the value of the critical habitat for the survival and recovery of the species. Individuals, organizations, states, local and Tribal governments, and other non-Federal entities are only required to consult with FWS if their actions occur on Federal lands or in Federal waters; require a Federal permit, license, or other authorization; or involve Federal funding. Federal actions not affecting the species or its critical habitat, as well as actions on non-Federal lands or in non-Federal waters that are not Federally funded, authorized, or permitted, do not require Section 7 consultation.

Federal agencies are also required to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its proposed or designated critical habitat. Regulations implementing this interagency cooperation provisions of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act and regulations at 50 CFR 402.10 require Federal agencies to confer with the FWS on any action that is likely to jeopardize the continued existence of a proposed species or to result in destruction or adverse modification of proposed critical habitat.

For consultations concerning Federal activities, the relevant Federal agency consults with FWS. For consultations where an activity is proposed by a state or local government or a private entity (the "applicant"), the Federal agency with the nexus to the activity (the "Action agency") consults with FWS and the applicant may be a party to the consultation. The consultation process may involve both informal and formal consultation with FWS.

Informal Section 7 consultation is designed to assist the Federal agency and any applicant in identifying and resolving potential conflicts at an early stage in the planning process. Informal consultation consists of informal discussions between FWS and the Action agency concerning an action that may affect a listed species or its designated critical habitat. In preparation for an informal consultation, the Action agency must compile all biological, technical, and legal information necessary to analyze the scope of the activity and discuss strategies to avoid, minimize, or otherwise affect impacts to listed species or critical habitat. During the informal consultation, FWS makes advisory recommendations, if appropriate, on ways to minimize or avoid adverse effects. If agreement can be reached, FWS will concur in writing that the action, as revised, is not likely to adversely affect listed species or critical habitat. Informal consultation may be initiated via a phone call or letter from the Action agency, or a meeting between the Action agency and FWS.

A formal consultation is required if the proposed action is likely to adversely affect listed species or designated critical habitat in ways that cannot be avoided through informal consultation. Formal

consultations determine whether a proposed agency action is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. The ESA implementing regulations define likely to jeopardize as any action that would appreciably reduce the likelihood of both the survival and recovery of the species. Adverse modification of critical habitat is defined as any direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of the species. Determination of whether an activity will result in jeopardy to a species or adverse modification of its critical habitat is dependent on a number of variables, including type of project, size, location, and duration, as well as the current status of the species. If FWS finds, in their biological opinion, that a proposed agency action is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify the critical habitat, FWS is obligated to attempt to identify reasonable and prudent alternatives that are designed to avoid such adverse effects and that allow the proposed action to proceed.

Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that FWS believes would avoid jeopardizing the species or the destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing reasonable and prudent alternatives vary accordingly. It is important to note, that costs attributable to reasonable and prudent alternatives resulting from the Section 7 consultation process on occupied critical habitat would normally be associated with the listing of a species, because it is unlikely that FWS would conclude that an action would destroy or adversely modify occupied critical habitat without also jeopardizing the continued existence of a listed species.

PURPOSE AND APPROACH OF REPORT

Section 4(b)(2) of the ESA requires the FWS to designate critical habitat on the basis of the best scientific and commercial data available, in addition to considering the economic and other relevant impacts of designating a particular area as critical habitat. FWS may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat.

The purpose of this report is to identify and analyze the potential economic costs and benefits that could result from the proposed critical habitat designation for the Steller's eider. The analysis was conducted by assessing how critical habitat designation for the Steller's eider may affect current and planned land uses and marine activities on, and in, Federal and non-Federal lands and waters. For Federally-managed lands and waters, designation of critical habitat may modify land uses, marine activities, and other actions that threaten to adversely modify habitat. For habitat held or managed by other governments or private entities subject to critical habitat designation, modifications of land uses and marine activities can only be imposed when a "Federal nexus" exists (i.e., the marine activities or land uses of concern involve Federal permits, Federal funding, or other Federal actions). Activities on state and private lands and in state waters that do not involve a Federal nexus are not impacted by a critical habitat designation. However, these non-Federal nexus actions are still subject to the ESA Section 9 prohibitions on take of listed species.

In addition to determining whether a Federal nexus exists, the analysis must distinguish between

economic impacts caused by the ESA listing of the Steller's eider and those additional effects that would be caused by the proposed critical habitat designation. *The analysis only evaluates economic impacts resulting from additional modifications under the proposed critical habitat designation that are above and beyond impacts caused by existing modifications under the ESA listing of the Steller's eider.* If a land use or marine activity would be limited or prohibited by another existing statute, regulation, or policy, the economic impacts associated with those limitations or prohibitions would not be attributable to critical habitat designation.

To evaluate the increment of economic impacts attributable to the designation of critical habitat, above and beyond the ESA listing, the analysis assumes a "without critical habitat" baseline and compares it to a "with critical habitat" scenario, measuring the net change in economic activity. The "without critical habitat" baseline represents current and expected economic activity under all existing modifications prior to the designation of critical habitat. Only those actions that may be affected by modifications and may incur costs due to critical habitat designation, above and beyond existing modifications, are considered in this economic analysis. Moreover, the economic analysis considers actions that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public.

STRUCTURE OF REPORT

The remainder of this report is organized as follows:

- **Section 2: Description of Species and Proposed Critical Habitat Areas** - Provides general information on the species and a brief description of proposed critical habitat areas, and characterizes the socioeconomic context of these areas.
- **Section 3: Framework for Analysis** - Describes the framework and methodology for the economic analysis; highlights sources of information for the report.
- **Section 4: Impacts of Critical Habitat Designation on Land Uses and Marine Activities** - Identifies and assesses potential economic and other relevant impacts from the proposed critical habitat designation.
- **Section 5: Social and Community Impacts** - Identifies potential impacts to small entities and communities located within the proposed critical habitat.
- **Appendix A: Maps of Critical Habitat Units** - Provides maps of the proposed critical habitat units.

**DESCRIPTION OF SPECIES AND
PROPOSED CRITICAL HABITAT AREAS**

SECTION 2

The Steller's eider was first described by Peter Simon Pallas in 1769 and given the scientific name *Anas stelleri* Pallas. After seven name changes, it was grouped with other eiders as *Somateria stelleri*. Currently, it is considered distinct from the other eiders, and is the only species in the genus *Polysticta*.

Steller's eider is the smallest of four eider species; both sexes are approximately 45 centimeters (17-18 inches) long. The plumage of the breeding adult male is white, black, and chestnut. The head is white with black eye patches. The chin and throat are black, separated from a broad black collar around the lower neck by a white ring. The shoulders and back are also black. The breast and belly are chestnut shading to black posteriorly. The flanks, rump, and under-tail feathers are black, and the wedge-shaped tail is dark brown. Females, juveniles, and males that are about to molt are entirely brown.

Three breeding populations of Steller's eiders are recognized: two in Arctic Russia and one in Alaska. The majority of Steller's eiders breed in Russia and are identified by separate breeding and wintering distributions. Neither Russia-breeding population is listed as threatened or endangered; only Steller's eiders that nest in Alaska are listed as threatened under the Endangered Species Act.

CONSTITUENT ELEMENTS OF CRITICAL HABITAT UNITS

Steller's eiders use different habitat areas throughout the year for their survival. During the summer, Steller's eiders breed in areas that provide vegetation for food and escape cover from predators. The breeding areas include the North Slope and Yukon-Kuskokwim (Y-K) Delta. Following the breeding season in August and September, the eiders move south to the north side of the Alaska Peninsula and Nunivak Island where they molt for a few weeks. The eiders then migrate to marine waters further south during the winter, including the south side of the Alaska Peninsula and Kodiak Island. During the spring, the eiders migrate northward after the winter ice has thawed to return to the breeding habitat. Along the spring and fall migration routes between the wintering habitat and the breeding habitat, the eiders often rest (i.e., "stage") at areas such as Kuskokwim Bay and the north side of the Alaska Peninsula.

Breeding Habitat

Steller's eiders occur at much lower densities in their breeding habitats than in the past. The historical breeding range of the Alaska-breeding population of Steller's eiders extended from the western Aleutian Islands to the western and northern Alaskan coasts, possibly as far east as the Canadian border. In more recent times, breeding occurred in two general areas, the Arctic Coastal Plain on the North Slope and western Alaska, primarily on the Y-K Delta.

On the North Slope, historical records indicate that the species occurred in an area from Wainwright stretching east nearly to the Alaskan-Canadian border. Today, the species predominantly breeds on the western North Slope, in the northern half of the National Petroleum Reserve-Alaska (NPR-A), from approximately Point Lay east to Prudhoe Bay. Within this extensive area, Steller's eiders generally breed at low densities.

In the central Y-K Delta, the Steller's eider was considered a locally "common" breeder by naturalists early in the 1900s, but the bird was reported to breed in only a few locations. By the 1960s or 1970s, the species had become extremely rare on the Y-K Delta. Only six nests were found in the 1990s.

Molting Habitat

After breeding, Steller's eiders move to the Alaska Peninsula where they undergo a flightless molt for about three weeks. The peak of molt occurs in August and September. Most birds molt in four areas: Izembek Lagoon, Nelson Lagoon, Herendeen Bay, and Port Moller. Recoveries of banded Steller's eiders suggest that the Alaska-breeding population of Steller's eiders mixes with Russian Pacific-breeders in southwestern Alaska during molt.

Wintering Habitat

In general, wintering Steller's eiders occupy coastal waters in much of southwestern and south coastal Alaska. They are found around islands and along the coast of the Bering Sea and north Pacific Ocean from the Aleutian Islands, along the Alaska Peninsula and Kodiak Archipelago, east to lower Cook Inlet. Along open coastline, Steller's eiders usually remain near shore normally in water less than 10 meters (30 feet) deep but can be found well offshore in shallow bays and lagoons or near reefs. At these wintering habitats, Steller's eiders feed on a variety of invertebrate animals that are often associated with aquatic vegetation.

Prior to spring migration, Steller's eiders stage on the north side of the Alaska Peninsula, including Port Heiden, Port Moller, Nelson Lagoon, and Izembek Lagoon. From there, they cross Bristol Bay to feed and rest in northern Kuskokwim Bay before migrating to their breeding grounds. Steller's eiders also concentrate along the southwest coast of the Y-K Delta and southern coast of Nunivak Island during spring migration.

In the fall, Steller's eiders move south through the Bering Strait from late July through October, passing near shore at Nunivak Island and Cape Romanzof.

Population Background

Determining population trends for Steller's eiders is difficult. However, the breeding range in Alaska seems to have decreased substantially, with the species disappearing from much of its historical range in western Alaska and possibly a portion of its range on the North Slope. In areas where the species still occurs in Alaska, the frequency of occurrence (the percentage of years in which the species is present) and the frequency of breeding (the percentage of years in which the species attempts to nest) have both apparently declined in recent decades.

The Service's annual North Slope Eider Survey, timed for optimal detection of breeding eiders, varies widely in its point estimate for Steller's eiders breeding on the North Slope. These estimates are always under 900 birds (unadjusted for visibility bias). A separate breeding waterfowl survey conducted later in the year typically yields higher estimates of Steller's eiders on the North Slope, but with all estimates under 2,600 birds (unadjusted for visibility bias). Measures of precision for population estimates for this rarely-seen species are quite large, and caution is urged in interpretation of these estimates.

PROPOSED CRITICAL HABITAT UNITS

Exhibit 2-1 displays all nine units proposed as critical habitat designation for the Steller's eider; more detailed maps of each unit are provided in Appendix A. The FWS considers all proposed critical habitat units to be occupied. Ranging from 50,635 acres to 10,098,348 acres per unit, all nine units of critical habitat together comprise 16,266,926 acres. Landowners in these areas include:

- U. S. Department of Interior, including the Bureau of Land Management and the Fish and Wildlife Service;
- Alaska state agencies, including Department of Fish and Game;
- Alaskan Natives; and
- Private non-Native owners.

Exhibit 2-2 shows the acreage associated with Federal, state, Native, and private ownership.

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Exhibit 2-1
STELLER'S EIDER CRITICAL HABITAT UNITS

Exhibit 2-2

PROPOSED CRITICAL HABITAT ACREAGE BY MANAGER, HOLDER, OR OWNER

Manager, Holder, or Owner of Proposed Critical Habitat		T o t a l
Acres	Percentage of Total	
F e d e r a l		G o v e r n m e n t
12,246,533	75%	
State Government	3 , 0 0 1 , 2 7 1	
18%		
Native*	1 , 0 1 8 , 3 8 1	
6.3%		
P r i v a t e	E n t i t y	n o n - N a t i v e
741	<0.1%	
TOTAL	16,266,926	1 0 0 . 0
	%	

* Native lands are in a variety of stages of conveyance: Native patented (i.e., land title has been delivered to Natives), Interim conveyed (i.e., land title in process of being handed over to Natives), and Selected (i.e., land only designated as desired by Natives); therefore, the total number of acres listed may be an overestimate of the amount ultimately conveyed to Native Alaskans.

Note: Sums of columns may not add to totals due to rounding.

Source: *Proposed Determination of Critical Habitat for the Steller's Eider*, March 13, 2000 (65 FR 13262) Note: Figures in Exhibit 2-2 depicting Federal and state ownership correct an error in the proposed rule.

Unit 1: North Slope (land)

Unit 1 represents breeding habitat for the Steller's eider. The primary constituent elements of this habitat on the North Slope include small ponds and shallow water habitats (particularly those with emergent vegetation), moist tundra within 100 meters (326 feet) of permanent surface water waters including lakes, ponds, and pools, the associated invertebrate fauna, and adjacent nesting habitat. During the nesting season, small ponds with emergent vegetation provide for foraging and brood-rearing, aquatic invertebrate prey upon which the Steller's eiders depend, and adjacent moist tundra for nest sites. The proposed area encompasses approximately 10,098,348 acres from the Chukchi Sea coast to the U.S./Canadian border. Approximately 89 percent of this proposed land is within the National Petroleum Reserve - Alaska (NPR-A). Approximately 89 percent of Unit 1 is Federally-owned, seven percent is Native-owned, and three percent is state-owned.

Unit 2: Yukon-Kuskokwim Delta (land)

Unit 2 represents breeding habitat for the Steller's eider. The primary constituent elements of this habitat on the Y-K Delta include small ponds and shallow water habitats (particularly those with emergent vegetation), moist tundra within 100 meters (326 feet) of permanent surface waters including lakes, ponds, and pools, the associated aquatic invertebrate fauna, and adjacent nesting habitats. The proposed unit is located within 30 kilometers (19 miles) of the coast, bounded by Kokechik Bay and the Askinuk Mountains to the north, and extending south to include Kigigak Island and the north end of Nelson Island. The area encompasses approximately 769,158 acres of habitat. Approximately 65 percent of the area is Federally-owned, and 35 percent is Native-owned land.

Unit 3: Nunivak Island (marine)

Unit 3 encompasses marine waters used as molting and staging habitat for Steller's eider. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes the marine waters around Nunivak Island to a distance of 400 meters (¼ mile) offshore. The proposed unit includes an area of approximately 600 kilometers (380 miles) of coastline. The unit is composed of 50,635 acres of marine habitat, of which 100 percent is Federally-owned.

Unit 4: Kuskokwim Bay (marine)

Unit 4 encompasses marine waters used primarily as staging habitat for Steller's eiders. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes the marine waters on the north side of Kuskokwim Bay from the mouth of the Kolavinarak River to the village of Kwigillingok to a distance of 40 kilometers (25 miles) offshore. Marine waters are included on the south side of Kuskokwim Bay from the mouth of the Kanektok River to Cape Peirce to a distance of 40 kilometers (25 miles) offshore. In addition, marine waters from Cape Peirce to Tongue Point are proposed to a distance of 0.8 kilometers (½ mile) offshore. The proposed unit encompasses an area of approximately 700 kilometers (450 miles) of coastline. The unit is composed of 3,174,444 acres of marine habitat. Approximately 81 percent of the area is Federally-owned, and 19 percent is state-owned.

Unit 5: North Side of the Alaska Peninsula (marine)

Unit 5 encompasses marine waters used as molting and staging habitat for Steller's eiders. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes the marine waters of the following, in their entirety: Egegik Bay, Ugashik Bay, Cinder

River Estuary, Port Heiden, Seal Islands, Cape Seniavin, Nelson Lagoon, Herendeen Bay, Port Moller, Izembek Lagoon, and Bechevin Bay. The proposed unit encompasses an area of approximately 1,050 kilometers (650 miles) of coastline. The unit is composed of 495,729 acres of marine habitat, of which 100 percent is state-owned.

Unit 6: Eastern Aleutians (marine)

Unit 6 encompasses marine waters that support a major concentration of wintering Steller's eiders; therefore, it is an important wintering habitat for this species. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes the marine waters within 400 meters (¼ mile) of mean high water from Unimak Island west to Samalga Pass. This applies to Samalga, Umnak, Unalaska, and Unimak Islands, and all other associated islands, inlets, offshore rocks, reefs, and spires. The proposed unit encompasses an area of approximately 2,400 kilometers (1,500 miles) of coastline. The unit is composed of 220,077 acres of marine habitat; of which 95 percent is state-owned, and the remaining five percent is Federally-owned.

Unit 7: South Side of the Alaska Peninsula (marine)

Unit 7 encompasses marine waters used as wintering habitat for Steller's eider. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes marine waters within 400 meters (¼ mile) of mean high water from Isanotski Strait east to the lower end of west Cook Inlet, as far north as Kamishak Bay. This applies to the Shumagin and Semidi Islands, Chirikof Island, and all other associated islands, inlets, offshore rocks, reefs, and spires. Also included are waters within eight kilometers (five miles) of the south side, and 1.6 kilometers (one mile) of the north side, of the Sanak Islands, and within 1.6 kilometers (1 mile) of the mainland shore of Kamishak Bay. The following areas are included in their entirety, including waters beyond 400 meters (¼ mile) offshore: Morzhovoi Bay (northern portion only), Cold Bay, Ivanof Bay, Chignik Lagoon, and Wide Bay. The proposed unit encompasses an area of approximately 5,300 kilometers (3,300 miles) of coastline. The unit is composed of 844,493 acres of marine habitat; of which 99 percent is state-owned, and the remaining one percent is Federally-owned.

Unit 8: Kachemak Bay/Ninilchik (marine)

Unit 8 encompasses marine waters used as wintering habitat for Steller's eider. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes marine waters of Kachemak Bay east of a line extending from Point Bede (west of English Bay and Port Graham) north to Anchor Point. In addition, marine waters are designated within 1.6

kilometers (one mile) of the mean high water line, from Anchor Point north to the mouth of Deep Creek near Ninilchik. The proposed unit encompasses an area of approximately 450 kilometers (300 miles) of coastline. The unit is composed of 282,074 acres of marine habitat, of which 100 percent is state-owned.

Unit 9: Kodiak (marine)

Unit 9 encompasses marine waters used as wintering habitat for Steller's eider. The primary constituent elements of this habitat include marine waters up to 10 meters (30 feet) deep and the underlying sediment; the associated invertebrate fauna in the water column and in and on the underlying substrate; and, where present, eelgrass beds and associated plants and animals. This area includes marine waters within 400 meters (¼ mile) of Kodiak and Afognak Islands, and all other associated islands, islets, offshore rocks, reefs, and spires. The proposed unit encompasses an area of approximately 3,900 kilometers (2,450 miles) of coastline. The unit is composed of 331,968 acres of marine habitat; of which 79 percent is state-owned, and the remaining 21 percent is Federally-owned.

SOCIOECONOMIC PROFILE OF THE CRITICAL HABITAT AREAS

To provide context for the discussion of potential economic impacts associated with designation of critical habitat for the Steller's eider, we summarize below key economic and demographic information for the areas included within the proposed designation.

Proposed land-based critical habitat for the Steller's eider includes portions of the North Slope Borough, Wade Hampton Census Area, and a small region within the Bethel Census Area. The proposed critical habitat encompasses remote coastal regions within these areas, generally characterized by low population density. Infrastructure within these regions is minimal, with few significant roads for year-round travel and limited port facilities.

In addition, critical habitat for the Steller's eider includes several marine areas that play a role in state and local economies, including:

- Areas along the coastline of the Bethel Census Area (Kuskokwim Bay); and
 - Areas on the coastline of the Lake and Peninsula Borough, Kodiak Island Borough, Aleutians East Borough, and Kenai Peninsula Borough.
- Below we characterize the economic status of the land-based critical habitat areas, as well as the economic contribution of the marine-based areas to the overall state economy and to nearby coastal villages in particular.

Land-Based Critical Habitat Units

Considered in aggregate, the North Slope Borough, Wade Hampton Census Area, and Bethel Census Area comprise less than five percent of the total population of Alaska. The largest of the proposed critical habitat areas, the North Slope Borough, contains just over one percent of the state population.

Economic activity in the three affected boroughs, as measured by earnings, represents less than 10 percent of the state's earnings. Data from the Alaska Department of Labor indicate that combined earnings for the North Slope, Wade Hampton, and Bethel Boroughs total \$701 million annually, accounting for roughly eight percent of total earnings in Alaska. The North Slope alone accounts for approximately six percentage points of these earnings, while Bethel accounts for one percentage point and Wade Hampton less than one percentage point.

North Slope Borough

Oil and gas extraction is the primary industry in the North Slope, comprising 57 percent of total Borough earnings. Since the discovery of the vast North Slope oil fields in the 1960s, oil operations have provided substantial employment to local residents. In 1998, an estimated 50 percent of North Slope residents were employed by the oil and gas industries. Second to the oil and gas industry, local government is the largest employer in the North Slope, providing jobs for 21 percent of residents.

In 1997, per capita personal income in the Borough was \$23,725, ranking ninth of 29 census areas surveyed in Alaska. In addition to wage income, revenues from taxes on North Slope oil operations contribute significantly to local income. This tax revenue is distributed to North Slope Borough residents with Inuit ancestry. These revenues are estimated to generate over \$40,000 per resident annually. These payments may explain in part the relatively high personal income levels of residents despite 14.7 percent unemployment and the fact that 34.6 percent of eligible adults are not active in the labor force.

Wade Hampton and Bethel Boroughs

The portions of Wade Hampton and Bethel Boroughs proposed as critical habitat in the Yukon-Kuskokwim Delta form a coastal strip extending from just south of Scammon Bay to approximately the village of Ukak in the Bethel Census Area. While economic activity in most areas of Wade Hampton and Bethel Boroughs is dominated by the service and government sectors, the coastal areas also rely heavily on commercial and subsistence fishing, hunting, and trapping. Several of the villages in this stretch of coast operate as seasonal fishing and fish processing outposts. Principal fisheries in the area include salmon, halibut, herring roe and pollock. In addition to fishing, other key sources of income for residents include the local government and school district, Native craft-making, and whale, walrus, musk-ox, and seal hunting. The area's emphasis on fishing and hunting suggests that, while year-round jobs do exist, many of the employment opportunities are seasonal. As a result, off-season (i.e., non-summer) unemployment is high.

Per-capita income in 1997 for Wade Hampton Census area was \$11,169, ranking 27th of 29 Alaskan census areas surveyed. Per-capita income in 1997 for the Bethel Census Area was \$15,752, ranking 26th of 29 census areas surveyed. However, census-area wide per-capita income figures for Bethel may overestimate the income levels in smaller villages. This occurs because the relatively greater economic activity in the city of Bethel increases the average for the area as a whole. Research on the median household income of individual towns in the proposed Yukon-Kuskokwim critical habitat unit suggests that the Wade Hampton per-capita estimate may be more reflective of the average income level of non-urban areas of Bethel Census Area. These estimates also suggest the relative importance of subsistence fishing and hunting as a supplement to wages and other earned income.

Marine Critical Habitat Units

Nearly all coastal Alaskan communities have a commercial fishing industry that works in fisheries in the Bering Sea, Aleutian Islands, or Gulf of Alaska. As a result, commercial fishing represents a sizeable portion of the state's economy. In 1997, Alaskan landings from commercial fisheries totaled 4.8 billion pounds. Landings were worth a total of \$1.1 billion and accounted for 4.5 percent

of Alaska's total gross state product (GSP) of \$24.5 billion. Alaska, with a state population of 621,400, has 23,974 crew licenses and 15,854 boat licenses.

According to the Alaska Department of Labor, the main summer catch in Alaska includes salmon, shrimp, and halibut, while the primary winter catch includes crab and pollock. The Federally managed waters of the Exclusive Economic Zone (EEZ) are home to crab, pollock, and groundfish. For the year 2000, the total allowable catch of pollock (1.1 million pounds) constitutes almost half of the a total allowable catch of 2.3 million pounds for all species in EEZ waters off the coast of Alaska. In 1998, groundfish had an ex-vessel value of \$384.9 million. State waters, on the other hand, are home to salmon, pacific herring, and shellfish. Salmon and shellfish are the most valuable catches from these waters. In 1998, the ex-vessel value of shellfish was \$218.7 million while the ex-vessel value of salmon was \$242.7 million.

It is important to note that it is difficult to determine where these fishing revenues are introduced into the Alaskan economy. While in many cases Alaskan-based commercial fishing boats work fisheries near their home ports, many boats travel significant distances from coastal ports to fisheries. Some boats have advanced catch storage facilities on board, eliminating the need to travel immediately to the closest landing facility to land catch. Floating processing plants exist at sea which allow fishing boats to sell their catch on the ocean. Fishing boats called motherships have capabilities for both catching and processing fish far from shore. The important implication of these fishery characteristics is that there is no geographical correlation among where boats are docked, where they go to fish, and where they land catch. Therefore, if the designation of critical habitat were to have an economic impact on commercial fisheries, designating critical habitat in the waters of a given fishery might have economic effects in geographical areas far from the critical habitat area.

It also is important to note that, regardless of the contribution to the commercial fishing industry of the proposed marine critical habitat areas discussed below, they all may provide subsistence fishing opportunities for local communities. Subsistence fishing is discussed in more detail in Section 5 of this report.

Below we characterize the contribution of the fishing areas in the proposed critical habitat for the Steller's eider to the overall Alaskan commercial fishing industry.

North Slope (Unit 1)

The proposed critical habitat located in state waters along the coast of the North Slope does not support a significant commercial fishery. For the year 1999, the North Slope Borough had a total of only four people fishing on four permits, which were issued for salmon fishing in Bristol Bay. However, it is likely that additional North Slope residents may work on commercial fishing crews. The presence of Arctic sea ice for the majority of the year prevents large-scale commercial fishing operations. As a result, commercial fishing here does not provide a major source of economic activity for the state or region.

Yukon-Kuskokwim, Nunivak Island, Kuskokwim Bay Delta (Units 2, 3, and 4)

A variety of salmon, which are found in state waters close to the shore, comprises the primary catch in the marine portion of the proposed marine critical habitat in the Yukon-Kuskokwim Delta area. In

addition, these waters harbor shellfish, herring, and other species, which dwell close to the shore and can be found in state waters. However, compared to the salmon catch in other coastal sections of Alaska, the Yukon-Kuskokwim area yields a small proportion of the total commercial catch. In 1999, the waters off of the Yukon-Kuskokwim area produced a combined 3.4 million pounds of salmon for a total value \$5.6 million, accounting for 1.5 percent of total salmon value in Alaska and less than one percent of poundage. The harvesting of pollock and other groundfish in the EEZ portion of the proposed critical habitat in these units is not common. According to GIS maps produced by the National Marine Fisheries Service (NMFS) Alaska Regional Office, pelagic trawl and longline operations did not frequently extend up into the proposed critical habitat areas in 1999. Some bottom trawling did occur in the northern subunit and to a limited extent on the edge of the southern subunit of the proposed critical habitat around Kuskokwim Bay. In general, commercial fishing in this proposed critical habitat unit contributes a small portion to the regional and state economies.

North Side and South Side of Alaska Peninsula, Eastern Aleutians (Unit 5, 6, and 7)

Proposed critical habitat units 5, 6 and 7, which include Nelson Lagoon, Bechevin Bay, Sanak Island, Cold Bay and Dutch Harbor, among others, are located entirely within state waters harboring salmon, herring, and shellfish.

Northern portions of these units extend into Bristol Bay, which is the largest salmon-producing region of the Alaskan fisheries. Bristol Bay had a 1999 salmon harvest of 143.6 million pounds for a value of \$110.4 million. Bristol Bay also had a herring sac roe harvest of \$7.5 million in 1999. The salmon harvest for the Alaska Peninsula and Aleutian Islands from 1999 was 57.9 million pounds, valued at \$29.7 million. The total catch for all of Alaska in 1999 was 899.7 millions pounds for a total value of \$371.4 million. In addition, this area is the second largest king crab fishery in state waters. In 1999, the harvest of 3.7 million pounds of king crab sold for an ex-vessel price of \$12.6 million. As these data suggest, the salmon fisheries in the waters of these proposed critical habitat areas are of considerable importance to regional and state economies.

On the other hand, groundfish fisheries that fall within these proposed critical habitat units do not have a large impact on regional and state-wide economic activity. Data from fish harvest surveys conducted by the Alaska Fisheries Science Center indicate that flatfish such as yellowfin sole, rock sole, Alaska plaice, and flathead sole are harvested outside the critical habitat area, from Bristol Bay northwest out into the Bering Sea. Pollock harvesting over the past decade primarily has been conducted along the northwest side of the Alaskan Peninsula out into the Bering Sea. The commercial groundfish fisheries that do exist in state waters off of the Alaska Peninsula are mostly in Pacific cod and black rockfish. The area produced 11.8 million pounds of Pacific cod in 1999. Maps from 1999 for these units indicate that there was some pot fishery activity documented in Bechevin Bay. No documented trawl or longline activity took place within the proposed critical habitat units.

Kachemak Bay/Ninilchik (Unit 8)

The Kachemak Bay/Ninilchik proposed critical habitat unit lies along the Cook Inlet. This area supports economically important salmon fisheries. This fishery produced a harvest of 24.7 million

pounds of salmon with an ex-vessel value of \$27.9 million in 1999. There was some observed pot fishery activity in Kachemak Bay, though no bottom trawl activity occurred in the proposed critical habitat areas of this unit. Alaska Department of Fish and Game data show little commercial fishing activity in shellfish, groundfish, and herring fisheries in Cook Inlet, although a locally-important sport-fishing guide industry focused on salmon and halibut does exist.

Kodiak (Unit 9)

The state waters off of Kodiak Island, which include proposed critical habitat unit 9, support an economically important salmon fishery. Of the 11 commercial salmon fisheries reported by the Alaska Department of Fish and Game, this fishery was the fourth largest both in terms of poundage landed (69.7 million) and ex-vessel value (\$30.9 million). Smaller scale commercial groundfish fisheries also exist in this unit, producing mostly Pacific cod (10.6 million pounds in 1999) and black rockfish. Shellfish and herring fisheries are also present, though to a much lesser extent than salmon groundfish fisheries. The 1999 herring catch had an ex-vessel value of less than \$1 million. Overall, while critical habitat in this unit overlaps with some significant fisheries, it encompasses only a small portion of them.

Communities Adjacent to Marine Critical Habitat Units

The communities adjacent to the marine critical habitat units share a reliance on marine activities, which may include commercial fishing, fish processing, tourism, and other activities. Below, we discuss these communities in groups according to similar characteristics.

Kuskokwim Bay Communities

The communities along the Kuskokwim Bay marine habitat unit, which includes communities such as Kipnuk and Kwigillingok, are similar to those characterized in the land-based critical habitat discussion above. Key features include a reliance on commercial fishing and trapping. Important employers include the school and the village government. Subsistence activities are important and include subsistence fishing, hunting, trapping and production and sale of local handicrafts. In some communities, seasonal unemployment is high (up to 80 percent) and subsistence activities are commensurately important. The median annual household income in one of these communities (approximately \$5,000) is suggestive of the dependence on subsistence practices. Other communities in the area with larger year-round employment bases report median annual household incomes ranging from just below \$15,000 to just above \$30,000.

Kenai Peninsula Communities

The marine critical habitat adjacent to the Kenai Peninsula affects only a small portion of the waters around the Peninsula. Specifically, the proposed critical habitat unit is in Kachemak Bay, on the southwestern portion of the Peninsula. The population center closest to Kachemak Bay is the city of Homer.

Principal industries in Homer include commercial fishing and processing, although a recent fire at a processing facility has somewhat hampered this industry. The local area supports significant landings from nearby Cook Inlet as well as from Kodiak, Bristol Bay, and other Alaskan fisheries. In addition, the region's natural scenery attract many tourists, who stay in local resorts and hotels and take advantage of a 245-boat charter fleet. The area's tourism industry also has spawned a cottage retail industry catering to visitors. Median annual income for the Peninsula as a whole is approximately \$42,000.

Alaska Peninsula Communities

Important industries on the Alaskan Peninsula include commercial fishing, tourism, and sport fishing. Commercial fishing and fish processing dominate the economy, contributing \$4.2 million to the local economy. The area has a developed sport fishing industry, featuring trophy rainbow trout in Iliamna Lake. As a result, the service industry in the region is significant, achieving earnings of approximately \$3.7 million, comparable to government services (\$3.4 million) and marginally smaller than commercial fishing and fish processing. Subsistence hunting and fishing are important to local residents. Median annual household income in this region is approximately \$25,000.

Kodiak Island Communities

Kodiak Island Borough features a more diversified economy than those discussed above, although the commercial fishing and fish processing industries dominate the Island as they do in the abovementioned communities. Fishing and fish processing contribute approximately \$45 million to the local economy, reflecting approximately 29 percent of total earnings. Nonetheless, the retail, service, and utility sectors add significantly to local employment and earnings, contributing \$14.1 million, \$26.8 million, and \$10.2 million to earnings, respectively. While local government is a significant sector, worth approximately \$38 million, Federal agencies (Coast Guard and others) also provide jobs and income. Like the other areas, subsistence activities are prevalent, although overall not as large a factor as in other regions. The median household income is approximately \$45,000, significantly greater than that in the areas discussed above.

Aleutian Island Communities

The economy of the Aleutian Islands is almost entirely cash-based, with commercial fishing and fish processing providing the vast majority of jobs and income. While the fishing industry contributes approximately \$27.4 million to the annual earnings of this region, all other industries combined contribute less than half that amount, approximately \$11.2 million. Government, and local government in particular, is the second largest industry, while support industries (services, trade) are third. Unlike in other communities, the fishing and fish processing industries are year-round enterprises, sustaining the economy throughout summer and winter. Median annual household income is high relative to most other regions discussed above, totaling approximately \$42,000 per year.

In this section, we provide an overview of the framework for the analysis, including a description of the methodology used to determine potential costs and benefits associated with the proposed designation of critical habitat for the Steller's eider. In addition, we describe the primary sources of information used to develop this report.

ANALYTIC FRAMEWORK

This economic analysis examines the impacts of modifying specific land uses or marine activities within areas designated as critical habitat. The analysis evaluates impacts in a "with" critical habitat designation versus a "without" critical habitat designation framework, measuring the theoretical net change in economic activity attributable to the critical habitat proposal. The "without" critical habitat designation scenario, which represents the baseline for analysis, includes all protection already accorded to the Steller's eider by listing the species under ESA and state and Federal laws, such as the National Environmental Policy Act. The focus of this economic analysis is to determine the impacts of modifications to land uses and marine activities from the critical habitat designation that are above and beyond the impacts due to existing required modifications under Federal, state, and local laws, including listing under the ESA. The ESA listing of the Steller's eider is the most significant aspect of baseline protection, as it supplements other existing protections via its listing provisions.

Steps to Identify Potential Impacts from Critical Habitat Designation

Listed below are the three questions that were posed to identify economic impacts from the proposed critical habitat designation:

- 1. What land uses and marine activities within the proposed critical habitat designation may be affected?** Potential impacts on critical habitat lands and waters were identified through phone conversations with FWS and other Federal and state agencies and comments on the proposed critical habitat designation rule for the Steller's eider. We also identify and characterize sectors of the commercial economy that may be affected by the designation.
- 2. Does the land use or marine activity involve a "Federal nexus"?** Critical habitat designation modifications can only be imposed on land uses and marine activities undertaken by state and local governments and private parties when a "Federal nexus" exists (i.e., the land uses or marine activities of concern involve Federal permits, Federal funding, or other Federal action). Activities on the part of state and local governments and private entities that do not involve a Federal nexus are not affected by critical habitat designation. For Federally managed lands and waters, critical habitat designation may result in modification of land uses, marine activities, and

other actions that could adversely modify habitat.

- 3. Would the land use or marine activity face *additional* modifications or costs under the proposed critical habitat designation, above and beyond modifications or costs that already exist due to the ESA listing of the Steller's eider and other state and Federal laws and regulations?** As noted above, the baseline for analysis includes all modifications on land uses and marine activities existing prior to the proposal of critical habitat, including modifications resulting from the listing of the Steller's eider. Only impacts from modifications above and beyond this baseline are considered. Determinations of whether land uses or marine activities would face additional modifications or costs if critical habitat is designated are based on FWS guidance. Those land uses and marine activities that would be subject to additional modifications under the proposed critical habitat designation are evaluated to determine the potential national economic efficiency effects and regional economic effects. While FWS anticipates recommending no further modifications to land uses and marine activities above those that may be required as a result of the listing of the Steller's eider, some owners could theoretically incur additional costs resulting from reinitiating consultations with FWS to address Steller's eider concerns.

National and Regional Economic Effects

The economic effects of designation of critical habitat consist of those factors affecting national income (i.e., national economic efficiency effects) and those economic and social impacts that are important on a local or regional level (i.e., regional economic effects).

- **National economic efficiency effects** are those consequences of critical habitat designation that represent a change in national income. Efficiency effects include, among other things, recreation (consumer surplus) values as well as management and construction costs in an area that would not be required without critical habitat designation. Impacts on national income may be positive (benefits) or negative (costs). For example, if road construction is prohibited in an area to avoid adverse modification, primitive recreation may be preserved in the area (a benefit) while development of motorized recreation is precluded (a cost).
- **Regional economic effects** (or distributional effects) relate to equity and fairness considerations associated primarily with how income and wealth are divided among regions and groups. These effects are represented by changes in regional employment, household income, or state/local tax revenue that may have offsetting effects elsewhere in the economy. For example, if the designation of critical habitat were to negatively impact development activity (e.g., harbor projects) within critical habitat areas, affected communities could be at an economic disadvantage relative to unaffected nearby communities whose development projects could proceed without such impacts. While this may have important economic impacts on different local economies, it may have little or no effect on the national economy.

Benefits of Critical Habitat Designation

Critical habitat designation may also result in economic benefits by aiding the preservation or enhancement of values provided directly by the species and indirectly by its habitat. Categories of potential benefits provided by the critical habitat designation for the Steller's eider include wildlife observation, biodiversity, ecosystem, and intrinsic (passive use) values. These benefits may result because society, species, and ecosystems are spared adverse and irreversible effects of habitat loss and species extinction. Furthermore, designation of critical habitat may lead to earlier recovery of the species, thus decreasing regulatory costs associated with listing. Quantitative or monetary values for these potential benefits of critical habitat designation, however, have not been estimated.

INFORMATION SOURCES

The primary sources of information for this report were communications with FWS personnel and officials from other Federal agencies, as well as public comments on the proposal and publicly-available data (e.g., databases available on the Internet). While FWS had received some written public comments on the proposed critical habitat designation, several entities indicated a commitment to submitting comments later in the comment period. Public hearings and meetings on the proposed designation are being conducted. At this time, public meetings have been held in Toksook Bay and Chevak. FWS has addressed natural resource councils comprised of Native representatives in Bethel and Nome. FWS also has conducted eider critical habitat meetings for non-governmental organizations, oil companies, and interested parties in Anchorage. A public informational meeting was held in Barrow on February 16, 2000, to discuss the proposals to designate critical habitat for the spectacled and Steller's eiders. A public hearing is scheduled for Monday, August 28, in Barrow, at which time public testimony will be taken on the proposed critical habitat designation. In addition, public meetings will be held in Wainwright, Atkasuk, Nuiqsut, and Point Lay in August. Additional meetings likely will be conducted in southwest Alaska. Because of time and resource constraints, all conclusions in this report should be regarded as preliminary and subject to revision following the receipt of comments on the proposal.

The proposed designation of critical habitat for the Steller's eider includes Federal, state, and private lands and waters. Critical habitat designation may result in requests for modifications to land uses, marine activities, and other actions on Federally-managed land and in Federally-managed waters that threaten to adversely modify or destroy habitat. For marine activities and land uses on, and in, non-Federal lands and waters to be affected by critical habitat designation, a Federal nexus must exist (i.e., the marine activities or land uses involve a Federal permit, Federal funding, or require Federal actions). Activities on, and in, non-Federal lands and waters that do not involve a Federal nexus are not affected by the designation of critical habitat.

In this section, we first discuss the types of impacts that potentially could be incurred by Federal, state, and private owners and managers as a result of the critical habitat designation for the Steller's eider. We then evaluate the likelihood that these impacts actually will occur. To the extent that available information allows, we discuss examples of actual activities in which these entities are involved, and describe qualitatively whether they are likely to experience these impacts. As noted elsewhere, this report represents only a preliminary assessment of potential economic impacts.

POTENTIAL IMPACTS OF CRITICAL HABITAT DESIGNATION

FWS staff anticipate that, for the Steller's eider critical habitat designation, there is no action that would result in an adverse modification determination without an accompanying jeopardy determination. In other words, critical habitat designation for the Steller's eider is not expected to require modifications to land uses and marine activities above and beyond modifications that are already required under the ESA listing of the Steller's eider. This assessment can be made by looking for costs related to Section 7 consultation that would not be attributable to the listing of the Steller's eider as a threatened species. Potential costs could include:

- The value of time and other costs incurred in conducting Section 7 consultations with critical habitat that are beyond those associated with the listing of the Steller's eider, and;
- Delays in implementing public and private development activities which result in losses to individuals and society that would be attributed only to the critical habitat designation.

Below we discuss each aspect in more detail.

Costs Associated with Conducting Section 7 Consultations on Critical Habitat

Parties involved in Section 7 consultations include FWS and the Federal agency involved in the proposed activity. In cases where the consultation involves an activity proposed by a state or local government or a private entity (the "applicant"), the Federal agency with the nexus to the activity (the "Action agency") has the

responsibility to consult with the FWS.

To initiate a formal consultation, the Action agency submits to FWS a consultation request with an accompanying biological analysis of the effects of the proposed activity. This biological analysis may be prepared by the Action agency, the state, county, or municipal entity whose action requires a consultation, or an outside party hired by the agency or owner. However, it is important to note that the Action agency maintains sole responsibility for the contents and conclusions contained in the biological assessment. Once FWS determines that these documents contain sufficient detail to enable an FWS assessment, FWS has 135 days to consult with the Action agency and render its biological opinion. During the consultation, parties discuss the extent of the impacts on critical habitat and propose potential strategies to minimize impacts to the species and their habitats.

This analysis of economic impacts recognizes a possible distinction between occupied and unoccupied lands and waters within critical habitat. FWS expects that any potential economic impacts from the critical habitat designation incremental to the listing (over and above listing) will occur primarily on lands *unoccupied* by the species. On occupied lands, FWS has been conducting consultations for Federal activities that may affect the eider since the species was listed in 1993. Because in the Service's view the results of consultation would be virtually the same for the eider whether the habitat in question was designated critical habitat or not, any economic impacts affecting these lands are attributable to the listing of the species rather than to critical habitat. In contrast, unoccupied habitat within a critical habitat designation will not have triggered consultation in most cases and thus have not received similar protection under listing had critical habitat not been designated. Thus, in general only costs associated with consultations triggered by activities on unoccupied lands would be attributed to critical habitat designation. In the case of the Steller's eider, all lands and waters being proposed for designation are considered occupied and therefore no incremental economic impacts are anticipated.

Cost Associated with Project Delays from Section 7 Consultations on Critical Habitat

Both public and private entities could theoretically experience delays in projects and other activities due to Section 7 consultation. Regardless of funding (i.e., private or public), projects and activities are generally undertaken only when the benefits exceed the costs, given an expected project schedule. If costs increase, benefits decrease, or the schedule is delayed, a project or activity may no longer have positive benefits, or it may be less attractive to the entity funding the project. For example, if a local government undertaking a harbor project must delay its start as a result of an unresolved Section 7 consultation, the local government may incur additional financing costs (e.g., municipal bonds have to be reissued and become more expensive). Delays in public projects, such as construction of a new park, may impose costs in the form of lost recreational opportunities. The magnitude of these costs of delay will depend on the specific attributes of the project, and the seriousness of the delay. However, FWS believes that such project delays due to critical habitat designation are unlikely. The FWS has been conducting consultations already for

Federal activities that may affect the eider. Because in the Service's view the results of consultation would be virtually the same for the eider whether the habitat in question was designated critical habitat or not, any economic impacts affecting these lands are attributable to the listing of the species rather than the critical habitat designation.

IMPACTS OF CRITICAL HABITAT ON FEDERAL LANDS AND IN FEDERAL WATERS

The areas proposed for designation as critical habitat for the Steller's eider include lands and waters held or managed by:

- U.S. Department of the Interior
 - Bureau of Land Management
 - Minerals Management Service
 - Fish and Wildlife Service
- U.S. Department of Commerce
 - National Oceanic and Atmospheric Administration
 - National Marine Fisheries Service (within NOAA)
- U.S. Department of Defense
 - Air Force
 - Army
- U.S. Coast Guard

In contrast to Federal lands, which are under the management of a single Federal agency, Federal waters are not under single agency management. Instead, specific activities occurring in Federal waters are under the jurisdiction of different Federal agencies, as discussed below. Exhibit 4-1 summarizes the relevant agencies and their associated critical habitat units. Of the total area of all units (16,266,926 acres), about 59 percent (9,664,122 acres) is held by these Federal agencies.

Exhibit 4-1 also summarizes preliminary conclusions regarding the likelihood of economic impacts on Federal lands and in Federal waters as a result of the critical habitat designation. Overall, the potential for new consultation or other impacts on habitat management is low. All of the most significant facilities and activities included in the critical habitat designation are currently occupied by Steller's eiders. Therefore, any consultation would be attributable to the listing of the species. Furthermore, several of the units are already part of an ongoing habitat protection program, reducing the likelihood that the designation of critical habitat would introduce new consultation or changes in management.

In this section, we first discuss specific potential impacts of this designation on Federal lands and waters in the critical habitat area. Then, we discuss the likelihood that these impacts actually will occur.

Bureau of Land Management (BLM)

The Bureau of Land Management (BLM) is responsible for public use, subsistence use, recreation, research, and mineral extraction on property under their jurisdiction, which includes lands within the National Petroleum Reserve - Alaska (NPR-A). The BLM owns approximately 89 percent of the habitat in Unit 1, primarily as the NPR-A. A consultation with BLM regarding the NPR-A previously occurred as a result of the listing of the Steller's eider in 1997, since Steller's eiders nest in this region and may be affected by disturbance or habitat alteration. The consultation

Exhibit 4-1

FEDERAL LANDS AND WATERS:

SUMMARY OF IMPACTS UNDER THE PROPOSED CRITICAL HABITAT DESIGNATION

F O R T H E S T E L L E R ' S E I D E R

Federal Agency

Area Affected

Critical

Habitat Unit

Current or Planned Activities that May Impact Critical Habitat

Occupied?*

Potential for New or Reinitiated Consultation or Other Impacts**

Bureau of Land Management	National Petroleum Reserve - Alaska (NPR-A)	1	Oil and gas exploration and development; mining	Yes	Low
Minerals Management Service	Federal Waters, North Slope	1	Oil and gas exploration and development	Yes	Low
U. S. Fish and Wildlife Service	Alaska Peninsula National Wildlife Refuge (NWR)				5 and 7
Wildlife management	Becharof NWR	5	Wildlife management	Yes	Low
	Izembek NWR	5 and 7	Wildlife management	Yes	Low
	Kenai NWR	8	Wildlife management	Yes	Low
	Kodiak NWR	9	Wildlife management	Yes	Low
	Yukon Delta NWR	2	Wildlife management	Yes	Low
National Oceanic and Atmospheric Administration	Kachemak Bay National Estuarine Research Reserve				8
Estuarine Research Facility	Yes				
National Marine Fisheries Service	Federal Waters	3, 4, 6, 7, 9	Commercial fishing and marine mammal management	Yes	
U.S. Air Force	Lonely Short Range Radar Site	1	Maintenance and air traffic		Yes
Low	Point Barrow Long Range Radar Site	1	Maintenance and air traffic		Yes

Low				
	Wainwright Short Range Radar Site	1	Maintenance and air traffic	Yes
Low				
	Cape Newenham Long Range Radar Site	2	Maintenance and air traffic	Yes
Low				
	Cold Bay Long Range Radar Site	7	Maintenance and air traffic	Yes
Low				

STELLER'S EIDER

Federal Agency

Area Affected

Critical

Habitat Unit

Current or Planned Activities that May Impact Critical Habitat

Occupied?*

Potential for New or Reinitiated Consultation or Other Impacts**

U.S. Army - Local Training Areas	North Slope - Barrow 1	Troop training exercises	Yes	Low	
	Y-K Delta - Newtok, Chevak, Hooper Bay 2	Troop training exercises			Yes
Low					
	Marine Areas - Goodnews Bay, Quinhagak, Eek, Kongiganak, Kipnuk, Chefornak, Nightmute, Mekoryuk, and				
Kodiak	3-9	Troop training exercises	Yes	Low	
U.S. Coast Guard	Federal Waters	3, 4, 6, 7, 9	Permitting, oil spill planning and response	Yes	Low

* Units are categorized as occupied/unoccupied based on descriptions provided in critical habitat proposal. Areas that are adjacent to occupied waters are denoted as occupied.

** New consultations or impacts that are necessitated by designation of critical habitat that would not have been needed given the listing of the species in the absence of critical habitat.

addressed a management plan, known as the Northeast Planning Area Integrated Activity Plan, for the 4.6 million-acre Northeast Planning Area of the NPR-A. This Area is within the eastern 40 percent of Unit 1. The BLM had developed the management plan to allow for oil and gas leasing, but it also addressed recreational activities, aircraft use, hazardous- and solid-material removal and remediation, and seismic activities. The FWS determined that the activities specified in the plan were not likely to jeopardize the continued existence of Steller's eiders.

An oil and gas lease sale was conducted in 1999 for the Northeast Planning Area. BLM reported that it has received eight applications for permits to drill in the northeast planning area this year. Since the lease sale began, 100 parcels have been leased to private companies for oil and gas drilling and exploration for a total of \$105 million in lease revenues. Depending on the outcome of exploration and the potential ensuing development, leasing on other portions of the proposed unit may occur.

Drilling occurs only in the winter when the eiders have left the breeding area. At that time, lessors construct ice roads and ice pads to enable transport and parking of equipment. Drilling ends before the spring thaw, at which time the ice roads and ice pads melt, leaving only the drill hole behind. BLM has raised concerns that designation of critical habitat may preclude oil and gas drilling activities throughout the entire year on currently leased areas. BLM also is concerned that additional consultation could potentially be required regarding these newly-leased portions of the NPR-A.

At the time that this report was finalized, BLM had not submitted written comments on the proposed critical habitat designation for the Steller's eider. FWS received

written comments from companies involved in the leasing of the NPR-A (the Alliance - Alaska Support Industry, British Petroleum, Inc., and the Anadarko Petroleum Corporation) regarding the proposal for critical habitat designation. These entities expressed the same concerns as BLM regarding the impact of critical habitat designation on oil and drilling exploration in the proposed areas.

FWS anticipates few effects on BLM lands from critical habitat designation for the Steller's eider. For all previous consultations for which a “not likely to adversely affect” determination was made, and for which the FWS concurred, the FWS fully expects to concur with a corresponding determination that the action is not likely to result in the destruction or adverse modification of critical habitat. Only for those actions resulting in jeopardy to the species do we expect to meet the threshold for destruction or adverse modification of critical habitat. No such jeopardy calls have been made to date.

Minerals Management Service (MMS)

While BLM manages oil and gas drilling and exploration on land in the NPR-A, the Minerals Management Service (MMS) manages oil and gas drilling and exploration as well as mining in Federal waters. In addition, the MMS is responsible for oil spill contingency planning and response in these waters.

FWS received comments from MMS expressing concern that, as a result of critical habitat designation for the Steller's eider, MMS will have to limit or modify its drilling management practices in critical habitat areas in the North Slope. MMS also indicates that the agency previously has considered the Steller's eider under the listing during the oil spill contingency planning and response efforts for NPR-A oil and gas exploration activities.

FWS anticipates few effects on MMS activities from critical habitat designation for the Steller's eider. For all previous consultations for which a “not likely to adversely affect” determination was made, and for which the FWS concurred, the FWS fully expects to concur with a corresponding determination that the action is not likely to result in the destruction or adverse modification of critical habitat. Only for those actions resulting in jeopardy to the species do we expect to meet the threshold for destruction or adverse modification of critical habitat. No such jeopardy calls have been made to date.

U.S. Fish and Wildlife Service

The Fish and Wildlife Service is responsible for National Wildlife Refuge lands and management of those waters considered part of a National Wildlife Refuge. Refuges in or near the proposed critical habitat for the Steller's eider include the Alaskan Peninsula, Kodiak, Izembek, Kenai, Yukon Delta, and Becharof National Wildlife Refuges. In addition, the FWS is responsible for the management of polar bears, walruses, and sea otters. The FWS already manages these lands and waters in a manner that protects the Steller's eider, and thus anticipates no modifications to its land management practices.

National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration is responsible for the management of the Kachemak Bay National Estuarine Research Reserve, which is located near Unit 8. While FWS has not received comments identifying activities at the Reserve and their relationship to Steller's eider critical habitat designation, it is theoretically possible that these activities may affect this habitat and thus require modification.

National Marine Fisheries Service (NMFS)

The National Marine Fisheries Service (NMFS) is responsible for commercial fishing and marine mammal management (other than polar bears, walruses, and sea otters). Specific fisheries managed by NMFS include the Bering Sea groundfish, crab, and Alaska scallop fisheries.

Any vessel participating in a Federally-managed fishery in the Bering Sea and Gulf of Alaska (from 3 to 200 miles offshore) must have a Federal fisheries permit to fish for a particular species, and the operator must have a Federal license limitation permit which limits access into the fishery. Permits also specify allowable boat activities. Examples of Federal permits include:

- Registered Buyer Permit,
- Individual Fishing Quota (IFQ) Permits,
- Community Development Quota (CDQ) Permits,
- Scallop Moratorium Permit (SMP),
- Federal Fisheries Permit (FFP),
- Federal Processor Permit (FPP),
- License Limitation Program (LLP), and
- High Seas Fishing Compliance Act (HSFCA) Permit.

In addition, NMFS requires American Fisheries Act (AFA) permits when fishing in Federally-managed waters. Types of AFA permits include the following:

- AFA Catcher Vessel Permit,
- AFA Catcher/Processor Permit,
- AFA Mothership Processor Permit,
- AFA Inshore Processor Permit,
- AFA Inshore Cooperative Permit, and
- AFA Replacement Vessel Permit.

NMFS management of these fisheries enables FWS consultation on fisheries management. To the extent that fishery management would affect the critical habitat of the Steller's eider, FWS theoretically could require modifications to fisheries management as a result of the designation of proposed critical habitat for the Steller's eider.

FWS has received written comments from representatives of commercial fishing enterprises regarding the proposed critical habitat designation. The Groundfish Forum, Inc. expressed concern regarding potential impacts of critical habitat designation in areas fished by their vessels. The area fished by Groundfish Forum vessels includes the outer portion of waters included in Unit 4, Kuskokwim Bay. The Forum states that these areas are particularly important for their members because the area produces significant yellowfin sole catch with low incidental catch rates of halibut and crab. The North Pacific Fishery Management Council also submitted comments regarding potential impacts in this area. Because these areas appear to be primarily located in Federally-controlled areas, indicating that a Federal nexus exists, NMFS could initiate consultations with FWS about fisheries management practices in these areas.

In the past, FWS has conducted semi-annual formal consultations with NMFS on Bering Sea fisheries. FWS has concurred with NMFS's determination that activity in these fisheries are not likely to adversely affect Steller's eiders. In addition, FWS has cooperated with the North Pacific Fisheries Observer Training Center since 1993 to ensure that all fisheries observers are trained in seabird identification. These observers are instructed to report all interactions between Steller's eiders and gear or

vessels. To date, FWS is unaware of any Steller's eiders having been taken by these fisheries. In 1999, as a result of this lack of documented take, FWS discontinued formal consultations on this fishery, and began conducting only informal consultations on it. FWS does not anticipate that the designation of critical habitat will change the Service's approach to consultations on or required activity modification for this fishery.

U.S. Air Force

In a letter to FWS, the U.S. Air Force indicated that several Air Force installations will fall within the critical habitat: Lonely Short Range Radar Site, Point Barrow Long Range Radar Site, Wainwright Short Range Radar Site, Cape Newenham Long Range Radar Site, and Cold Bay Long Range Radar Site. These radar facilities are, for the most part, remote and generally passive in terms of activities (e.g., routine maintenance and some air traffic). The letter suggests that the Air Force is concerned that they would have to modify maintenance practices and air traffic management at these sites as a result of the designation of the proposed critical habitat areas. The Air Force also indicates that previous consultations required under Section 7 of the Endangered Species Act, along with strict compliance with the Reasonable and Prudent Measures of the Biological Opinions, and the strong guidance of Integrated Natural Resources Management Plans (INRMPs) make the additional designation of critical habitat unnecessary. Previous consultations on these facilities have already resulted in minimization of their effects on Steller's eider. FWS does not expect the designation of critical habitat to result in any additional regulatory burden on the Air Force, nor does the Service anticipate or envision any additional protective measures that could be required as a result of critical habitat designation.

U.S. Army

The U.S. Army maintains numerous local training areas (LTAs) for the Alaska Army National Guard (AK ARNG) within the areas proposed for critical habitat designation for the Steller's eider. The Army estimates that the LTAs involve as many as 895,504 acres of the proposed critical habitat. Specifically, the AK ARNG has LTAs in the vicinity of the North Slope at Barrow; the Y-K Delta at Newtok, Chevak, and Hooper Bay; and in marine areas at Goodnews Bay, Quinhagak, Eek, Kongiganak, Kipnuk, Chefornak, Nightmute, Mekoryuk, and Kodiak. The Army states that each LTA has been established through various Special Use agreements with Federal, state, Native, and private landowners. The Army has expressed concern that the critical habitat designation for the Steller's eider may require changes in National Guard training exercises at these LTAs. The Service conducts Section 7 consultations on these activities each year.

It is FWS' experience that these exercises have no effect on Steller's eider, due to the time of year that they are conducted, and the low-environmental-impact methods used to carry them out. FWS does not anticipate that designation of critical habitat will change the way in which these annual informal consultations are conducted.

U.S. Coast Guard

The U.S. Coast Guard is responsible for public safety, enforcement, and oil spill preparedness and response in Federal waters. In addition, all fishing vessels must have a Federal permit from the USCG. Small vessels have USCG numbers, while larger vessels must have fishery endorsements that are also issued by the USCG. At this time, while the FWS is not aware of the U.S. Coast Guard having considered the Steller's eider in their permitting and oil spill contingency planning and response efforts, FWS does not foresee any formal consultation on this issue that would not otherwise already be necessitated by virtue of the species being listed.

Likelihood of Impact

As noted above, FWS does not anticipate that the critical habitat designation for the Steller's eider will have any incremental effects beyond those associated with the listing of the species. That is, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat for the Steller's eider that are beyond those already required by the listing of the eider. In addition, because the proposed critical habitat already is occupied and has been subject to consultations in the past due to the listing, FWS anticipates no new consultations or substantive reinitiations of consultations as a result of the designation of critical habitat for the Steller's eider. Therefore, FWS considers it unlikely that critical habitat designation for the Steller's eider will introduce any of the effects about which Federal entities have expressed concern.

IMPACTS OF CRITICAL HABITAT ON STATE LANDS AND IN STATE WATERS

The areas proposed for designation as critical habitat for the Steller's eider include property held by the State of Alaska. Of the total area encompassed by the critical habitat units (16,266,926 acres), about 34 percent (5,583,682 acres) is held by the state. Uses of state lands and waters can only be affected by designation of critical habitat when activities on those lands and in those waters involve a Federal nexus.

Exhibit 4-2 summarizes our preliminary assessment of the potential for impacts to state agencies. The table indicates the nature of activities that may positively or negatively affect critical habitat, whether eiders currently occupy the area, and our assessment of the overall potential for the designation to create new consultation responsibilities or other types of economic impacts such as delays in projects. These conclusions are based on information in the critical habitat proposal, as well as FWS guidance. Activities that may be affected by critical habitat designation primarily include oil and gas development and exploration, commercial fisheries management, wildlife management, and management of state lands and waters.

In this section, we first discuss the specific potential impacts of this designation on state

lands and waters in the critical habitat area. We then discuss the likelihood that these impacts actually would occur. At the time that this report was finalized, FWS had not received formal written comments from state agencies on the designation. FWS receipt of written comments from the state agencies will enable more complete responses to specific concerns.

Alaska Department of Fish and Game (ADFG)

The Alaska Department of Fish and Game (ADFG) administers programs governing commercial fishing and management of designated state lands. The ADFG manages fisheries that occur in state waters, including the following:

- Groundfish fisheries (e.g., ling cod, blue rockfish, black rockfish)
- ● Bering Sea crab fisheries,
- Alaska scallop fisheries,
- Salmon fisheries,

Exhibit 4-2

STATE LANDS AND WATERS:

SUMMARY OF IMPACTS UNDER THE PROPOSED CRITICAL HABITAT DESIGNATION

F O R T H E S T E L L E R ' S E I D E R

State Agency

Area Affected

Proposed Critical Habitat Unit

Current or Planned Activities that May Impact Critical Habitat Occupied?*

Potential for New or Reinitiated Consultation or Other Impacts**

Alaska Department of Fish and Game Management	State Lands and Waters	All	Commercial Fishing, "Special Area"
	Yes	Low	
Alaska Department of Natural Resources	State Waters and Lands	All	Resource Extraction
Yes	Low		
	Anchor River State Recreation Area	8	Facility Construction or Repair (e.g., trails)
	Yes	Low	
	Clam Gulch State Recreation Area	8	Facility Construction or Repair (e.g., trails)
	Yes	Low	
	Deep Creek State Recreation Area	8	Facility Construction or Repair (e.g., trails)
	Yes	Low	
	Kachemak Bay State Park and State Wilderness Park	8	Facility Construction or Repair (e.g., trails)

Yes	Low		
trails)	Yes	Low	Kenai River Special Management Area 8 Facility Construction or Repair (e.g.,
trails)	Yes	Low	Kodiak Area State Parks 9 Facility Construction or Repair (e.g.,
trails)	Yes	Low	Ninilchik State Recreation Area 8 Facility Construction or Repair (e.g.,

* Units are categorized as occupied/unoccupied based on descriptions provided in critical habitat proposal. Areas that are adjacent to occupied waters are denoted as occupied.

**New consultations or impacts that are necessitated by designation of critical habitat that would not have been needed given the listing of the species in the absence of critical habitat.

- Dive fisheries for invertebrates (e.g., urchins, abalone, clams, sea cucumbers),
- Shrimp fisheries,
- Clam fisheries,
- Herring fisheries, and
- Aquaculture (e.g., oysters).

Commercial fishing in state waters for species managed solely by the state do not require Federal commercial fishing permits. However, in some instances, Federal and state agencies share responsibilities over fisheries. For example, in the cases of the Bering Sea crab and Alaska scallop fisheries, NMFS issues Federal permits for these species, then delegates to the state the management of the fisheries for those species that occur in state waters. This situation creates a Federal nexus with the ADFG in some, but not all, state-managed fisheries. Furthermore, to the extent that ADFG uses Federal funds to administer its state-only commercial fishing program, a nexus may be established.

Although FWS has not yet received comments from ADFG regarding the effects of the proposed designation of critical habitat for the Steller's eider on state-managed fisheries, FWS received comments from the North Pacific Fishery Management Council regarding potential impacts of critical habitat designation on near-shore areas fished by their vessels. Based on 1999 data, the commenter states that pot fisheries targeting Pacific cod occur in Bechevin Bay, which is included in proposed critical habitat Unit 5. Additionally, areas around Kodiak Island (Unit 9), the Alaska Peninsula perimeter (Units 5 and 7), and the Eastern Aleutians perimeter (Unit 6) are fished for salmon, groundfish, shellfish, and herring. These areas appear to be within state jurisdiction, and therefore would be subject to a Federal nexus only if ADFG manages Federally-permitted species in these areas or if ADFG uses Federal funding to administer its commercial fisheries management program.

In addition to fisheries, ADFG manages certain "special areas" that are considered essential to the protection of fish and wildlife habitat. These areas include state wildlife sanctuaries, state wildlife refuges, and *state* critical habitat areas. To the extent that the state uses Federal funds to manage these areas, a Federal nexus would be created. In addition, to the extent that state management of these areas involves construction or maintenance activities requiring a Federal permit, FWS may be able to consult with ADFG on its management of these areas. For example, if filling wetland is involved in any activity performed by the ADFG on, or in, state lands and waters, a Federal Clean

Water Act Section 404 permit is required from the Army Corps of Engineers. Likewise, activities in or affecting navigable waters require a permit from the Corps under Section 10 of the Rivers and Harbors Act and discharge of dredged material into ocean waters requires a permit from the Corps under Section 103 of the Marine Research, Sanctuaries and Protection Act.

However, it is important to note that if the state determines that any state-managed fishery or activity with a Federal nexus has the potential to affect Steller's eider, a Section 7 consultation was already necessitated by virtue of the species being listed; the consultation was not made necessary as a result of critical habitat designation.

Alaska Department of Natural Resources (DNR)

The Alaska Department of Natural Resources (DNR) manages economic development of state lands (e.g., oil and gas leasing, mining, and gravel extraction). In addition, the DNR's Division of Parks and Outdoor Recreation manages state parks and the recreational activities allowed within them.

Activities under the jurisdiction of the DNR may involve a Federal nexus through Federal permitting or Federal funding. For example, private entities must obtain permits from MMS for oil and gas drilling and exploration in state waters, which include the first three miles of water from shore. Park development projects (e.g., trails, roads) may require any number of Federal permits. These include several possible permit requirements administered by the Army Corps of Engineers: a Federal Clean Water Act Section 404 permit for wetland disturbance; a permit under Section 10 of the Rivers and Harbors Act for activities affecting navigable waters; and a permit under Section 103 of the Marine Research, Sanctuaries and Protection Act for discharge of dredged material into ocean waters. In addition, FWS could consult if ADFG used Federal funds to manage these areas.

Likelihood of Impact

As noted above, FWS does not anticipate that the critical habitat designation for the Steller's eider will have any incremental effects beyond those associated with the listing of the species. That is, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat for the Steller's eider that are beyond those already required by the listing of the eider. In addition, because the proposed critical habitat already is occupied and has been subject to consultations in the past due to the listing, FWS anticipates no new consultations or substantive reinitiations of consultations as a result of the designation of critical habitat for the Steller's eider. Therefore, FWS considers it unlikely that the critical habitat designation will affect State entities through the nexuses described above.

IMPACTS OF CRITICAL HABITAT ON MUNICIPALITIES AND PRIVATE LANDS

Private property owners include Native Alaskans, who own land under the Alaskan Native Claims Settlement Act (ANCSA); regional and village corporations; private corporations and businesses; and non-Native private citizens. The areas proposed as critical habitat include 1,018,381 acres of Native-owned area and 741 acres of privately owned lands, roughly six percent and less than 0.1 percent of the total critical habitat area proposed, respectively.

For municipal and private land uses and marine activities to be affected by the proposed designation of critical habitat, a Federal nexus must exist (i.e., land uses or marine activities that involve Federal permits, Federal funding, or other Federal actions). Activities on municipal or on private lands that do not involve a Federal nexus are not affected by the designation of critical habitat; however, additional research or public comments would be useful to determine the presence of Federal nexuses. In addition, municipal and private lands within the critical habitat designation boundaries that do not contain primary constituent elements (e.g., developed parcels) are not considered critical habitat areas.

Exhibit 4-3 summarizes our preliminary assessment of the potential for impacts to municipalities and private entities. The table indicates the nature of activities that may positively or negatively affect critical habitat, whether eiders currently occupy the area (based on FWS determination), and our assessment of the overall potential for the designation to create new consultation responsibilities or other types of economic impacts such as delays in projects. These conclusions are based on information in the critical habitat proposal and on received comments, as well as FWS guidance.

In this section, we first discuss specific potential impacts of this designation on municipal and private lands in the critical habitat area. We then discuss the likelihood that these impacts actually would occur in the areas under analysis.

Community Expansion and Maintenance Projects

Communities in the proposed critical habitat area may undertake a variety of community expansion and maintenance activities, including:

- Road building,
- Sewer and wastewater treatment facility construction,
- Community housing construction,
- Airport construction, and
- Harbor and marina construction.

Exhibit 4-3

PRIVATE LANDS:

SUMMARY OF IMPACTS UNDER THE PROPOSED CRITICAL HABITAT DESIGNATION

F O R T H E S T E L L E R ' S E I D E R

Private Entities

Critical Habitat Unit

Current or Planned Activities that May Impact Critical Habitat Occupied?*

Potential for New or Reinitiated Consultation or Other Impacts**

North Slope Borough	1	Community Expansion	Yes	Low	
Ukpeagvik Inupiat Corporation	1	Community Expansion; Public Works Projects			Yes

Low				
Arctic Slope Regional Corporation	1		Community Expansion; Public Works Projects	Yes
Low				
City of King Cove	7		Community Expansion; Harbor Projects	Yes
Low				
Kenai Peninsula Borough	8		Community Expansion	Yes
				Low
Aleutians East Borough	6		Community Expansion	Yes
				Low
Kodiak Island Borough	9		Community Expansion; Marine Projects	Yes
Low				
Lower Kuskokwim Economic Development Council				2
Expansion	Yes	Low		Community
City of Point Hope	1		Community Expansion; Public Works Projects	Yes
Low				
Koniag Incorporated (Native Corporation)		9		Community Expansion; Log
Transfer/Rafting Facilities	Yes	Low		
Wainwright Traditional Council	1		Community Expansion; Public Works Projects	Yes
Low				
Native Village of Atkasuk	1		Community Expansion; Public Works Projects	Yes
Low				
City of Wainwright	1		Community Expansion; Public Works Projects	Yes
Low				
Association of Village Council Presidents (AVCP)		2		Community Expansion; Public Works
Projects	Yes	Low		

Exhibit 4-3 (continued)

PRIVATE LANDS:

SUMMARY OF IMPACTS UNDER THE PROPOSED CRITICAL HABITAT DESIGNATION FOR THE STELLER'S EIDER

Private Entities

Critical Habitat Unit

Current or Planned Activities that May Impact Critical Habitat Occupied?*

Potential for New or Reinitiated Consultation or Other Impacts**

Nunamiut Corporation	1	Community Expansion; Public Works Projects	Yes	Low
Native Village of Kaktovik	1	Community Expansion; Public Works Projects	Yes	Low
City of Atkasuk	1	Community Expansion; Public Works Projects	Yes	Low

* Units are categorized as occupied/unoccupied based on descriptions provided in critical habitat proposal. Areas that are adjacent to occupied waters are denoted as occupied.

** New consultations or impacts that are necessitated by designation of critical habitat that would not have been needed given the listing of the species in the absence of critical habitat.

In many cases, community expansion activities prompt a Federal nexus and therefore are subject to Section 7 consultation. For example, private developers, regional village corporations, and municipalities may require a Federal Clean Water Act Section 404 permit issued by the Army Corps of Engineers if development affects wetland areas. A Federal nexus also exists if development projects require a National Pollutant Discharge Elimination System permit from the U.S. Environmental Protection Agency to address wastewater discharges, or if a permit from the Corps is required under Section 103 of the Marine Research, Sanctuaries and Protection Act to address discharges of dredged material into ocean waters.

Federal grants for community expansion also prompt a Federal nexus. These may include funds from the Federal Aviation Administration for airport projects, Federal Housing Authority funds for community housing, and the Bureau of Indian Affairs funding for various projects.

Communities are concerned about the potential for project delays and additional project costs associated with Section 7 consultations regarding these projects. For example, the City of Homer received permit for residential and community development that expires June 30, 2002. The City of Homer is on the shore of Unit 8. To the extent that the proposed development affects the nearby critical habitat area (Kachemak Bay), a Federal nexus would exist. The city has expressed concerns that the consultation process could delay development projects until after this 404 permit has expired, and that the city then would have to pursue a renewal. However, it is important to note that if the project may affect Steller's eider, such consultation is necessitated with or without the presence of critical habitat. Indeed, the

Service has been conducting such consultations for years, and has been doing so in such a way that most parties are apparently unaware that these consultations even occur. This is not expected to change should the Service designate critical habitat for the Steller's eider.

The Lower Kuskokwim Economic Development Council and the Clark's Point Village Council have related concerns regarding the effect of consultation on development projects. In addition to the issue of project delay, these communities cite increased costs for conducting an assessment and the implications of the consultation process for the procurement of Federal grant monies. One commenter states that a Section 7 consultation may add 300 or more days for review and evaluation of a construction project grant application. The commenter maintains that steps involved with this review and evaluation "would consist of a biological assessment of 180 days, a USFWS review of 30 days, and a formal consultation of 90 days." Furthermore, since Federal grants are applied for and designated within a one year period, the 300-day consultation could put the grant application process at a standstill. In addition, the commenters believe that these consultations would place a costly burden on local residents and village organizations that are attempting to promote local economic development in the region.

It is important to note that the commenter is citing the maximum lengths of time needed to conduct a formal Section 7 consultation. Very few formal consultations have ever occurred for a village-based non-oil-exploration activity on the North Slope. None have occurred on the Yukon-Kuskokwim Delta, Alaska Peninsula, or in the Aleutian Islands. Moreover, as noted above, projects that may affect Steller's eider require consultation regardless of whether critical habitat is designated.

In addition, State Representatives Gail Phillips and Brian Porter, as well as State Senator Drue Pearce, are concerned that designation of critical habitat for the Steller's eider will hinder projects or programs proposed within the boundaries of the designated critical habitat areas by imposing not only regulatory but also court-ordered burdens. They state a concern that designation of critical habitat will only lead to unnecessary (and costly) litigation over uses of Alaska's natural resources, such as development programs.

Harbor and Marina Projects

FWS received comments from the City of King Cove and the Kodiak Island Borough expressing concern regarding potential impacts of critical habitat designation on harbor projects. Harbor projects may have a Federal nexus, and thereby are subject to the Section 7 consultation. For example, under Section 10 of the Rivers and Harbors Act, construction of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Corps of Engineers. This applies to all navigable waters, whether they are under state or Federal jurisdiction. The Fish and Wildlife Coordination Act provides the authority for the FWS to review and comment on the effects of activities permitted by the Corps of Engineers on fish and wildlife, and Section 10 of the Rivers and Harbors Act is a Federal nexus used by the FWS to comment on construction projects in state coastal waters. FWS comments under the Fish and Wildlife Coordination Act and the Rivers and Harbors Act are strictly advisory, however, and carry no weight of law. In addition, because of the Federal nexus on these projects, ESA Section 7 consultation is already necessitated by virtue of the species being listed, not by subsequent

designation of critical habitat.

Likelihood of Impact

As noted above, FWS does not anticipate that the critical habitat designation for the Steller's eider will have any incremental effects beyond those associated with the listing of the species. That is, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat for the Steller's eider that are beyond those already required by the listing of the eider. In addition, because the proposed critical habitat already is occupied and has been subject to consultations in the past due to the listing, FWS anticipates no new consultations or substantive reinitiations of consultations as a result of the designation of critical habitat for the Steller's eider. Therefore, FWS considers it unlikely that critical habitat designation for the Steller's eider will cause any appreciable effects on small entities.

OTHER POTENTIAL IMPACTS

The FWS currently is not aware of other Federal activities taking place on lands or in waters proposed as critical habitat for the spectacled eider. However, some Federal activities have been identified as potential concerns, but are not addressed in the summaries above. Additional information on the nature of other potential Federal activities would be helpful in evaluation of the economic effects of critical habitat designation.

This section considers additional socioeconomic impacts of designating critical habitat for the Steller's eider, looking beyond those effects discussed above. Specifically, we briefly consider:

- Potential effects on small entities, including businesses and governments; and
- Potential social and community impacts for rural communities and Alaska Natives.

POTENTIAL EFFECTS ON SMALL ENTITIES

The Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996) states that whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities.

This section addresses the potential impacts to small entities and communities located within the proposed critical habitat designation. Small entities in the proposed critical habitat areas for the Steller's eider that could theoretically be affected by the critical habitat designation include: commercial fishing enterprises; sport fishing, hunting and trapping enterprises; consultant businesses; and government entities. However, as explained below it unlikely that there will be effects on small entities associated with the critical habitat designation for the Steller's eider.

Commercial Fishing

As noted earlier, commercial fishing enterprises generally require Federal permits when fishing in Federal waters. Permitting constitutes a Federal nexus. As a result, activities of commercial fishing enterprises working in Federal waters could be affected by the Section 7 consultation on permit issuance. Likewise, commercial fishing enterprises in state-managed fisheries that require Federal permits could also be affected by Section 7 consultation. NMFS or ADFG fisheries management consultation under Section 7 could result in changes to fisheries management practices, thereby affecting allowable catch rates for commercial enterprises. Finally, if Federal funds were to be used by State of Alaska agencies to manage commercial marine fishery programs, a nexus would be established that would require Section 7 consultation on state fisheries management practices.

Commercial fishing enterprises range from large fleets to single boats. However, it is clear that

many commercial fishing enterprises are small operations. In addition, commercial fishing operations depend on seasonal work, leaving them particularly vulnerable to changes in allowable commercial fishing activities or ongoing consultation processes that could delay the start of a fishing season. As a result, small commercial fishing enterprises may be affected by changes in allowable marine activities. However, the FWS is already consulting on Federally managed fisheries, and the Service believes a critical habitat designation is unlikely to change the approach to these consultations. The result would be that fishermen are unlikely to see a difference with or without a critical habitat designation for the Steller's eider.

Hunting, Sport Fishing, and Trapping

Hunting, sport fishing, and trapping are regulated by the State of Alaska, which issues licenses, tags, permits, and other required hunting, fishing, and trapping documentation. Additional Federal requirements apply to waterfowl hunting (i.e., waterfowl hunters must have a duck stamp) and hunting on Federal lands. Therefore, Section 7 consultation may be required on Federal management practices related to hunting on Federal land. FWS also may consult on Federal waterfowl management practices. Finally, a nexus for Section 7 consultation may exist if the state uses Federal funding to administer sport fishing, hunting, and trapping regulatory programs.

Sport fishing, hunting, and trapping enterprises are generally very small and work is seasonal in nature. As a result, these enterprises could be affected by changes in Federal and state allowable hunting and trapping practices as a result of the designation of critical habitat for the Steller's eider. Considering the eider's biology and the current harvesting practices, however, any such effects are unlikely. Federal lands included in or adjacent to the designation of critical habitat for the Steller's eider that permit hunting or trapping include the Yukon Delta, Alaskan Peninsula/Becharof, Izembek, and Kodiak National Wildlife Refuges; the Aniakchak National Monument and Preserve; the Kenai Fjords National Park; and the Katmai National Park and Preserve. Because the management of these areas has already taken eider considerations into account, additional changes to management practices as result of a critical habitat designation for the Steller's eider concerns are unlikely. On the other hand, Section 7 consultations on these activities on other Federally-managed lands (e.g., parkland) could theoretically cause changes to land management practices, but result from the species being listed rather than a critical habitat designation.

Oil and Gas Exploration Consulting Operations

As noted earlier in the report, oil and gas exploration activities require a number of Federal permits. These permitting activities establish a nexus that may require the permitting agencies to consult with the FWS regarding exploration activities. These activities theoretically have the potential to be modified as a result of critical habitat designation for the Steller's eider.

Among the firms supporting the oil and gas exploration industry are small firms that provide contracting services. These firms could potentially be affected by delays or activity modifications resulting from Section 7 consultations on oil and gas exploration activities. However, as previously noted, oil and gas exploration activities are already subject to consultation requirement, and FWS has been conducting such consultations with oil industry representatives for years. Therefore, the incremental effect of critical habitat designation on these consultations is expected to be negligible.

Small Governments

The proposed critical habitat for the Steller's eider encompasses or is adjacent to a number of small coastal communities in the Wade Hampton and North Slope boroughs, and is adjacent to many nearshore communities on the Alaskan Peninsula, Kenai Peninsula, Kodiak Island, and eastern Aleutian Islands. Activities in these communities, such as road building, harbor dredging, or sewer construction, may require a Federal permit (e.g., Clean Water Act Section 403 or 404 permit). These permitting requirements establish a nexus that requires the Action agency to consult with FWS regarding these projects.

While some of these communities have adequate resources to fund the personnel time and analyses required by these consultations, as well as to respond to required modifications stemming from the consultation, many smaller communities do not have sufficient resources to support the consultation process. In these cases, theoretically consultations might place a significant strain on municipal personnel and funds, and could require diverting these resources from other community priorities. However, it is important to note that in every foreseeable instance, the need to consult on these projects derives from the original listing of the species, and not from the designation of critical habitat. Additional information on the nature of costs of consultations to applicants would be helpful in evaluation of the economic effects of critical habitat designation.

POTENTIAL EFFECTS ON RURAL COMMUNITIES AND ALASKAN NATIVES

The designation of critical habitat for the Steller's eider theoretically may affect rural communities and Alaskan Natives in several ways:

- Effects on Native and non-Native subsistence fishing, hunting, and trapping; and
- Effects on commercial enterprises that provide significant economic support for rural communities;

We discuss each of these in more detail below.

Subsistence Fishing, Hunting, and Trapping

Subsistence fishing, hunting, and trapping are vital source of food, materials, and tradable goods and cultural sustenance for many rural communities, particularly those that are populated primarily by Alaska Natives. For example, a mixed economy based on cash and subsistence practices exists in the Calista Region (Units 2, 3, and 4). While the rural cash economy is supported by Federal, Tribal, state and local government jobs, a subsistence economy exists year round. Community members hunt and trap game and birds, catch fish, and gather indigenous plants. Other subsistence practices include processing meat, hides, and other animal and plant resources for consumption and utilization; bartering, sharing, and selling harvested foods; carving, sewing, beading and basket making; and boat and sled building.

The nexus for the Alaskan subsistence tradition of the proposed critical habitat designation for the Steller's eider is complex. Subsistence hunting and fishing requires state hunting and fishing licenses, as well as any state-issued Tier II subsistence permits (when applicable). Subsistence hunting, trapping, and fishing on Federal lands and waters, pursuant to Title VIII of the Alaska National Interest Lands Conservation Act, requires additional Federal permits and other documentation from the Federal Subsistence Board.

A Federal nexus that requires Section 7 consultation on state subsistence permitting would exist only if the state obtained Federal funding to assist in administering the hunting, trapping, fishing, or subsistence regulatory programs. FWS consultations with the state on subsistence management may affect any Alaskan non-Federal lands and waters and result in required changes in state subsistence management practices.

Section 7 consultations with Federal land holders could theoretically result in required changes in subsistence management practices on Federal lands and in Federal waters. Areas included in or adjacent to the proposed critical habitat, such as the Yukon Delta National Wildlife Refuge, Aniakchak National Monument and Preserve, Alaska Peninsula/Becharof National Wildlife Refuge, and Izembek National Wildlife Refuge could be so affected. However, FWS, in its role as a member of the Federal Subsistence Boards, already provides input on Federal subsistence management practices. As a result, additional changes to Federal subsistence practices are unlikely, because FWS procedures already integrate concerns about the Steller's eider into the Federal Subsistence Board. Consequently, the designation of critical habitat for the eider is unlikely to affect land and water subsistence management practices in the abovementioned Federal lands or other Federal lands and waters within the proposed critical habitat.

Rural Communities and Alaska Natives

Small coastal communities rely heavily on commercial fishing, hunting, and trapping to sustain their economies. Changes to these industries are unlikely to result from the critical habitat designation for the spectacled eider and therefore significant economic affects with these communities in unlikely, as described above.

Additionally, community members sometimes travel to other parts of the state (e.g., North Slope) to take advantage of job opportunities, then bring their wages home. These job opportunities include commercial fishing and oil and gas exploration, two activities that potentially could be affected by the critical habitat designation for the Steller's eider (see Section 4, above). Any effect on these job opportunities could impact rural communities through the inflow of money (i.e., wages) into that economy.

Many rural communities are undertaking infrastructure-enhancing projects to improve quality of life for their residents. While these types of projects are important to any community, the rural nature of these areas makes basic infrastructure improvements particularly vital to improve the standard of living. The land-based

portions of the proposed critical habitat for the spectacled eider encompass several rural communities, although it is unknown to what extent the footprints of these projects encompass the primary constituent elements of Steller's eider critical habitat. To the extent that infrastructure projects are subject to Section 7 consultation (e.g., projects requiring Clean Water Act Section 403 or 404 permits, as described above), the residents in these communities could be affected by the ESA consultation process. However, the need to consult on these projects derives from the original listing of the species under the ESA, and not from the designation of critical habitat.

Approximately 72 Alaskan Native Villages are located in or near the nine proposed critical habitat units. As small community residents who are subsistence hunters, trappers, and anglers, many Native Alaskans theoretically could be affected by Section 7 consultations for the Steller's eider in ways already described above. However, for Native Alaskan communities, subsistence practices reach far beyond hunting and gathering and encompass an entire way of life passed on from generation to generation.

In addition, activities in Native Alaskan communities are representative of the types of projects potentially affected by critical habitat designation, as described above. For example, many affected Native communities are located in areas that rely heavily on water and air transportation. These communities may plan harbor improvements and other developments to improve non-road transportation systems. In Unalaska (located near Unit 7), for example, the economy is based on commercial fishing, fish processing, fleet service, and transportation. The Army Corps of Engineers is planning to make improvements to an existing boat harbor and to develop a second small boat harbor in South Channel, Iliuliuk Bay. Federal funding of construction projects such as these establishes a nexus that requires Section 7 consultation to ensure that activities being permitted do not jeopardize the continued existence of the species or have the potential to destroy or adversely modify critical habitat.

Likelihood of Impact

As noted above, FWS does not anticipate that the critical habitat designation for the Steller's eider will have any incremental effects on activities with a Federal nexus above those associated with the listing of the species. That is, FWS anticipates no further modifications to land uses or marine activities due to the designation of critical habitat for the Steller's eider that are beyond those already required by the listing of the eider. In addition, because the proposed critical habitat already is occupied and has been subject to consultations in the past due to the listing, FWS anticipates no new consultations or substantive reinitiations of consultations as a result of the designation of critical habitat for the Steller's eider. Therefore, FWS considers it unlikely that the effects on small entities discussed above associated with critical habitat designation for the Steller's eider will occur.

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APPENDIX A:

**MAPS OF
CRITICAL HABITAT UNITS**

**STELLER'S EIDER
CRITICAL HABITAT UNIT 1**

**STELLER'S EIDER
CRITICAL HABITAT UNIT 2**

**STELLER'S EIDER
CRITICAL HABITAT UNITS 3-9**