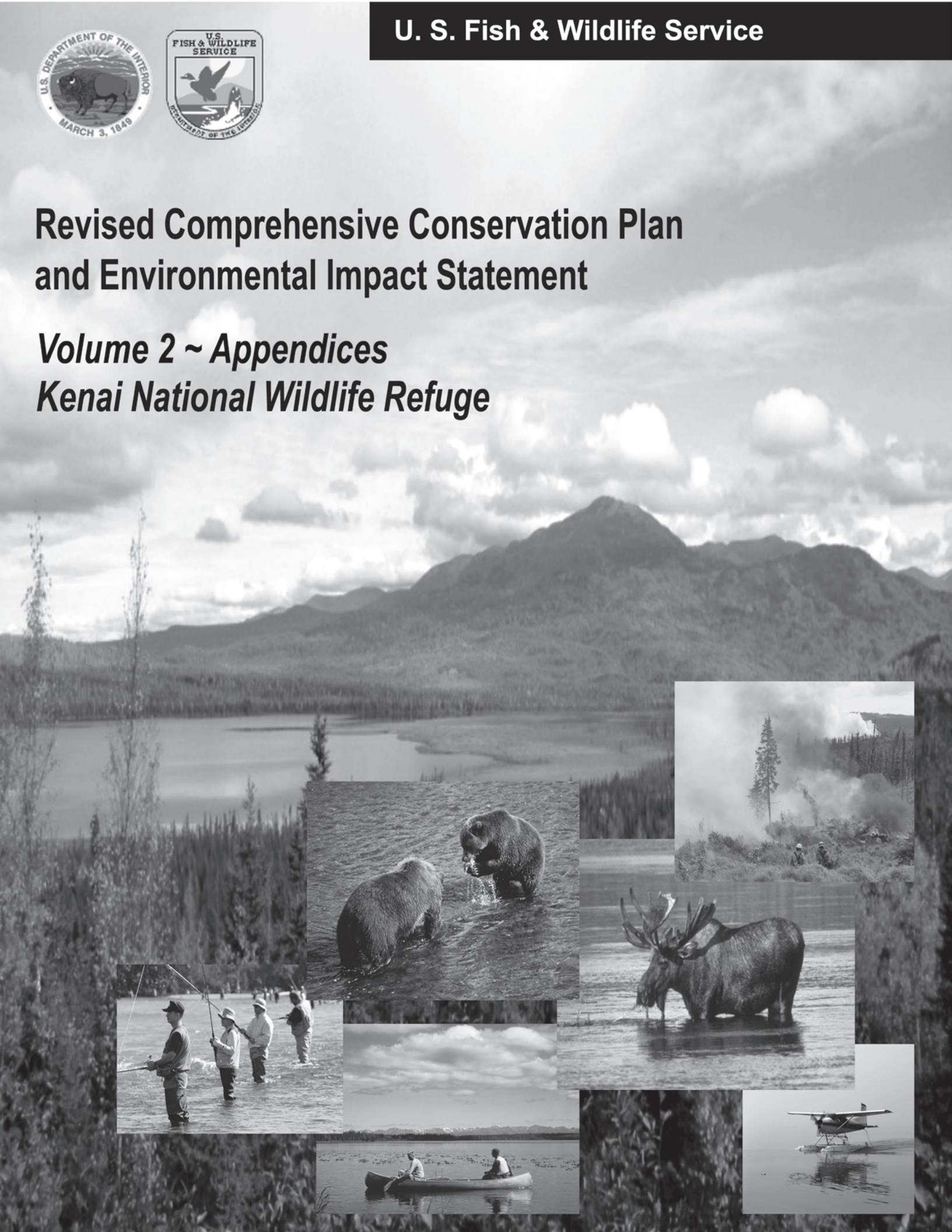
U. S. Fish & Wildlife Service

Revised Comprehensive Conservation Plan and Environmental Impact Statement

Volume 2 ~ Appendices
Kenai National Wildlife Refuge



U.S. Fish and Wildlife Service Mission Statement

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

National Wildlife Refuge Mission Statement

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

—National Wildlife Refuge System Improvement Act of 1997

The comprehensive conservation plan details program planning levels that are substantially greater than current budget allocations and, as such, is for strategic planning and program prioritization purposes only. This plan does not constitute a commitment for staffing increases or funding for future refuge-specific land acquisitions, construction projects, or operational and maintenance increases.

Cover photos from Kenai National Wildlife Refuge Image Library

Revised
Comprehensive Conservation Plan
and
Environmental Impact Statement

Volume 2 ~ Appendices
Kenai National Wildlife Refuge

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Dear Reader:

This Revised Comprehensive Conservation Plan (Plan) and Environmental Impact Statement (EIS) for the Kenai National Wildlife Refuge will guide management of the Refuge for the next 15 years. This Plan revises the Refuge's original comprehensive conservation plan completed in 1985. It outlines five management alternatives, including our preferred alternative, addresses management issues raised during public scoping, and presents our evaluation of the impacts associated with implementing each alternative.

This Plan has been published in two volumes. Volume 1 contains the background, issues, and analysis. Volume 2 contains the supporting appendices.

This Plan incorporates changes based on comments received on the Draft Plan. Those comments and our responses are presented in Volume 2, Appendix D. Most comments required only that we clarify or make minor corrections to the text. Others were more involved. For example, Objective 2.9 was re-written to remove the population objectives for Dall sheep and mountain goats in response to concerns expressed by the State of Alaska. Another change was to propose a change in regulations to allow the Refuge Manager to grant special use permits, for airplane access to normally closed lakes, to successful applicants in the State's limited drawing hunt program.

Most people will be unaffected by changes in Refuge management. For example, there will be no changes to how dog mushing activities can be performed on the Refuge.

Public involvement in the planning process is essential for development of an effective plan. While there will be no formal public review of this final Plan and EIS, comments on the plan will be considered until September 28, 2009. Comments should be specific, addressing merits of the alternatives and adequacy of the analysis. We will consider these comments as we prepare the Record of Decision. The Record of Decision will complete the comprehensive conservation planning process for Kenai National Wildlife Refuge.

You may view the Plan or a Summary of the Plan online at:
http://www.r7.fws.gov/nwr/planning/plans.htm or obtain a compact disk with both versions.

Comments and requests for copies of the Plan, the Summary, or a compact disk with both should be directed to:

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Thank you for participating in our planning process!
Your comments will help us prepare a better plan for the future of Kenai Refuge.

Table of Contents ~ Volume 2

Title Page i
Dear Reader Letter iii
Table of Contents v
Acronyms and Abbreviations xvii

Appendices

A Legal Guidance and Planning Coordination

B Coordination with the State of Alaska

C Management Direction, Policies, and Guidelines

D Comments Received and Our Response to Comments

E Easements and Right-of-Ways

F Species List

G Assessing River Values—Methodology and Results

H Preparers

I Mailing List

J Glossary

Tables

Table C-1. Activities, Public Uses, Commercial Uses, and Facilities by Management Category C-46
Table E-1. State Claimed RS 2477 Routes within the Kenai National Wildlife Refuge E-5
Table E-2. Active Right-of-Way Permits E-6
Table G-1. Attributes and Measurements Used To Conduct Outstandingly Remarkable Value Assessment G-7
Table G-2. Kenai River Evaluation G-8
Table G-3. Moose River Evaluation G-9
Table G-4. Russian River Evaluation G-10
Table G-5. Killey River Evaluation G-11
Table G-6. Swanson River Value G-12
Table G-7. Fox River Evaluation G-13
Table G-8. Chickaloon River Evaluation G-14
Table G-9. Comparison of River Values Evaluation G-15

Figures

Figure E-1. Easements and Indentifed RS-2477s E-3

Acronyms and Abbreviations

ADCED	Alaska Department of Community and Economic Development
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
ADGGS	Alaska Division of Geological and Geographical Surveys
ADNR	Alaska Department of Natural Resources
ADOT	Alaska Department of Transportation and Public Facilities
ADTPF	Alaska Department of Transportation and Public Facilities
AFS	Alaska Fire Service
ALCES	Alaska Landscape Cumulative Effects Simulator
ALMS	Alaska Landbird Monitoring Survey
ANCSA	Alaska Native Claims Settlement Act
ANHA	Alaska Natural History Association
ANILCA	Alaska National Interest Lands Conservation Act
AO	authorized officer
AOGCC	Alaska Oil and Gas Conservation Commission
AQRV	air quality-related values
ATV	all-terrain vehicle
AWFCG	Alaska Wildland Fire Coordinating Group
BAER	Burned Area Emergency Rehabilitation
BBS	Breeding Bird Survey
BLM	Bureau of Land Management
BLM/AFS	Bureau of Land Management Alaska Fire Service
Borough	Kenai Peninsula Borough
BSE	bovine spongiform encephalopathy (mad cow disease)
CAFF	Conservation of Arctic Flora and Fauna

CAP	Contaminants Assessment Process
CBC	Christmas Bird Count
CDC	Center for Disease Control
CDV	Canine Distemper Virus
CE	categorical exclusion
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIRI	Cook Inlet Region, Inc.
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CJD	Creutzfelt-Jacob disease
Conservation Fund	Land and Water Conservation Fund
CPV	*Canine Parvovirus*
CWD	chronic wasting disease
dB	decibels
DDT	dichlorodiphenyltrichloroethane
DEC	Alaska Department of Environmental Conservation
DEM	Digital Elevation Model
DLP	defense-of-life-or-property
DNR	Alaska Department of Natural Resources
DOI	Department of the Interior
E-SRS Project	East Swanson River Satellite Natural Gas Exploration and Development Project
e.g.	*exemplia gratia* – for example
EA	Environmental Assessment
EIN	easement identification number
EIA	environmental impact analysis
EIS	environmental impact statement
EO	executive order
EPA	Environmental Protection Agency

Et al.	*et alia* – and others
Etc.	*et cetera* – and others, especially of the same kind
et seq	*et sequens* – and the following one
F	Fahrenheit
FIA	Forest Inventory and Analysis
FIP	feline infectious peritonitis
FMH	Fire Monitoring Handbook
FMO	Fire Management Officer
FPA	Fire Program Analysis
FPV	feline panleukopenia virus
FRCC	Fire Regime/Condition Class
ft.	foot/feet (per context)
FY	fiscal year
GIS	Geographic Information Systems
GMU	game management unit
HCH	hexachlorocyclohexane
HPS	hantavirus pulmonary syndrome
I&M Plan	Inventorying and Monitoring Plan
IACUC	Institutional Animal Care and Use Committee
IBBST	Interagency Brown Bear Study Team
i.e.	*id est* – that is
IMPROVE	Interagency Monitoring of Protected Visual Environments
Improvement Act	National Wildlife Refuge System Improvement Act of 1997
Inc.	incorporated
IPM	integrated pest management
ISER	Institute for Social and Economic Research (University of Alaska)

IUP	Incidental Use Permits
Kenai Refuge	Kenai National Wildlife Refuge
KFWFO	Kenai Fish and Wildlife Field Office
KP-CWMA	Kenai Peninsula Cooperative Weed Management Area
KRSMA	Kenai River Special Management Area
LAC	Limits-of-Acceptable-Change
LMRD	Land Management Research Demonstration Site
LTEMP	Long-Term Ecological Monitoring Program
mcf	equals 1,000 cubic feet
MMPA	Marine Mammal Protection Act
MOU	Memorandum of Understanding
MRA	Minimum Requirements Analyses
MRC	Kenai Moose Research Center
NAAQS	National Atmospheric Air Quality Standards
NABCI	North American Bird Conservation Initiative
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
No.	number
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NWR	National Wildlife Refuge
ORV	off-road vehicle
Pad ES-A	East Swanson Pad A
Pad ES-B	East Swanson Pad B
PAH	polycyclic aromatic hydrocarbons

PCB	polychlorinated biphenyl
PDO	Pacific Decadal Oscillation
Peninsula	Kenai Peninsula
Plan	Kenai National Wildlife Refuge Revised Comprehensive Conservation Plan
PLO	public land order
PM 2.5	particulate matter up to 2.5 microns in diameter
PSD	prevention of significant deterioration
Range	Kenai National Moose Range
RARE II	Roadless Area Review and Evaluation
RAW	Remote Automated Weather Station
Refuge	Kenai National Wildlife Refuge
Refuge System	National Wildlife Refuge System
Refuge System Administration Act	National Wildlife Refuge System Administration Act (also as "Refuge Administration Act")
Refuge System Improvement Act	National Wildlife Refuge System Improvement Act (also as "Refuge Improvement Act")
RM	river mile
RNA	Research Natural Area
ROD	Record of Decision
RONS	Refuge Operational Needs System
RS-2477	Revised Statute 2477 (codified as U.S.C. 932); refers to potential established rights-of-way for construction of highways over public lands not reserved for public use
SAMMS	Service Asset Maintenance Management System
Service	U.S. Fish and Wildlife Service
SNAP	Scenarios Network for Alaska Planning
SOA DOTPF	State of Alaska Department of Transportation and Public Facilities
System	National Wildlife Refuge System
TFM	Technical Fire Management

TPH	total petroleum hydrocarbon
TSE	transmissible spongiform encephalopathies
TUS	Transportation and Utility Systems In and Across, and Access Into, Conservation System Units
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USGS-BRD	U.S. Geological Survey-Biological Resources Division
WNV	West Nile Virus
WRA	wildlife recreation area

Appendix A:

Legal Guidance and Planning Coordination

1. Legal Guidance and Planning Coordination

1.1 Introduction

Management of Kenai National Wildlife Refuge (Refuge, Kenai Refuge) is dictated, in large part, by the legislation that created the unit and the purposes and goals described in Volume 1, Chapter 1. However, other laws, regulations, and policies also guide the management of the Refuge. This Appendix identifies the acts and policy guidance that are integral in the development of this Comprehensive Conservation Plan (Plan).

1.2 Legal Guidance

Operation and management of the Refuge is influenced by a wide array of Federal laws, treaties, and executive orders. Among the most important are the National Wildlife Refuge System Administration Act, as amended by the National Wildlife System Improvement Act; the Refuge Recreation Act; the Endangered Species Act; and the Wilderness Act. These acts are described briefly, along with other acts and legal guidance that influence management of the Kenai Refuge.

1.2.1 International Treaties

Several treaties affect how the U.S. Fish and Wildlife Service (Service) manages Kenai Refuge. Among these are migratory bird treaties with Canada, Mexico, Japan, and Russia; and the Convention on Nature Protection and Wildlife Conservation in the Western Hemisphere. These treaties differ in emphasis and species of primary concern but collectively provide clear mandates for identifying and protecting important habitats and ecosystems and for protecting and managing individual species.

Treaties for migratory bird protection include management provisions such as (1) prohibiting disturbance of nesting colonies; (2) allowing the Secretary of the Interior to establish seasons for the taking of birds and the collection of their eggs by “indigenous inhabitants” of Alaska for their own nutritional and other essential needs; (3) directing each nation to undertake, to the maximum extent possible, measures necessary to protect and enhance migratory bird environments and to prevent and abate pollution or detrimental alternation of their habitats; and (4) providing that protective measures under the treaty may be applied to species and subspecies not listed in the specific convention, but which belong to one of the families containing listed species. Of the migratory bird species of concern in the treaties, those that use Kenai Refuge include several Species of Concern identified by the State of Alaska: American peregrine falcon, Steller’s eider, olive-sided flycatcher, gray-cheeked thrush, Townsend’s warbler, and blackpoll warbler. Of 192 bird species that have been recorded on or adjacent to the Refuge, 113 are known to breed in the area, and the majority are migratory.

warbler. Of 192 bird species that have been recorded on or adjacent to the Refuge, 113 are known to breed in the area, and the majority are migratory.

1.2.2 National Guidance

Alaska National Interest Lands Conservation Act of 1980 as amended, 16 U.S.C. 140hh–3233, 43 U.S.C. 1602–1784

ANILCA–In addition to amending the Alaska Native Claims Settlement Act, the Alaska Statehood Act, and the Wild and Scenic Rivers Act, and modifying portions of the Wilderness Act as it applies to Alaska lands, ANILCA expanded the Federal conservation system in Alaska (including national parks, refuges, forests, Wilderness areas, and Wild and Scenic Rivers. Specifically, title III of ANILCA established new refuges, identified the purposes of each refuge, and provided administrative guidance for management of refuges in Alaska, including requiring the preparation and periodic updating of a comprehensive conservation plan for each refuge.

In addition, ANILCA provided comprehensive management guidance for all Federal public lands in Alaska, including provisions regarding Wilderness; subsistence; transportation and utility corridors; oil and gas leasing; mining; public access; and hunting, fishing, and trapping. No Wild and Scenic Rivers were designated on Kenai Refuge by ANILCA. Section 1317 required that all Refuge lands not designated as Wilderness be reviewed for their suitability for Wilderness designation, in accordance with the provisions of the Wilderness Act. The 1988 Supplemental Environmental Impact Statement for the Wilderness Proposal of the Final Kenai Comprehensive Conservation Plan recommended, under Section 1317, 195,500 acres of Refuge land for designation as Wilderness. That recommendation remains in effect. Section 1317(c) provides that a recommendation of proposal for Wilderness designation does not affect the normal administration and management of the affected areas of the Refuge.

Alaska Native Claims Settlement Act of 1971 as amended, 43 U.S.C. 1601–1624

The purpose of this act was to provide for "…settlement of all claims by Natives and Native groups of Alaska, based on aboriginal land claims." It provided for grants of land and money and the establishment of Native corporations to maintain the economic affairs of Native organizations. In exchange, all aboriginal titles and claims, including any fishing and hunting rights, were extinguished. Section 12(a) allowed village corporations to select lands, with several stipulations, in national wildlife refuges. Section 22(g), however, stated that these lands were to "…remain subject to the laws and regulations governing use and development of such refuge." Other refuge lands were selected under Section 14(h)(1), which allowed regional corporations to select cemetery sites and historical places. Section 17(b) provided for public easement

across Native lands for access to Federal lands. Section 17(d)(2)(A) provided the basis for the enactment of ANILCA.

Coastal Zone Management Act of 1972

This act was passed in recognition of the increasing and conflicting uses that were causing irreparable harm to the biological and physical systems associated with coastal areas. The act directed states to complete comprehensive coastal management programs. It mandated that once a state's plan received Federal approval, Federal actions (which include this Comprehensive Conservation Plan) must be consistent with the state's plan.

Endangered Species Act of 1973 as amended, 16 U.S.C. 1231–1544

The Endangered Species Act provides for the conservation of threatened and endangered species of fish, wildlife, plants, and their critical habitats by Federal action and by encouraging the establishment of State programs. Although not specifically addressing the National Wildlife Refuge System (System), it does directly affect management activities on national wildlife refuges. It directs Federal agencies to take actions that would further the purposes of the act and to ensure that actions they carry out, authorize, or fund do not jeopardize endangered species or their critical habitat (section 7).

Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. s/s 1251 et seq.

This act regulates the discharge of pollutants into waters of the United States. The act protects fish and wildlife, establishes operation permits for all major sources of water pollution, limits the discharge of pollutants or toxins into water, and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit is obtained under the Clean Water Act.

National Environmental Policy Act of 1969 as amended, 42 U.S.C. 4321–4347 (NEPA)

This act and the implementing regulations developed by the Council on Environmental Quality (40 CFR 1500–1508) require Federal agencies to integrate the National Environmental Policy Act (NEPA) process with other planning at the earliest possible time to provide a systematic interdisciplinary approach to decision making; to identify and analyze the environmental effects of their actions; to describe appropriate alternatives to the proposed actions; and to involve the affected State and Federal agencies, tribal governments, and public in the planning and decision making process.

National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. 668dd–668ee

This act establishes a unifying mission for the National Wildlife Refuge System, a mission that—first and foremost—focuses on the conservation of fish, wildlife, plants, and their habitats. It requires the preparation of a comprehensive conservation plan for each unit of the System. Furthermore, it reinforces and expands the "compatibility standard" of the Refuge Recreation Act, which requires that public uses must be determined to be compatible with refuge and agency missions and purposes before they can be allowed and establishes a process for determining compatibility. The act also identifies six priority wildlife-dependent recreation uses, clarifies the authority of the Secretary of the Interior to accept donations of money for land acquisition, and places restrictions on the transfer, exchange, or other disposal of lands within the System.

The Refuge Recreation Act of 1962 as amended, 16 U.S.C. 460k–460k-4

This act requires that any recreation use on areas of the System be "compatible" with the primary purpose(s) for which the area was acquired or established. It also requires that sufficient funding be available for the development, operation, and maintenance of recreation uses that are not directly related to the area's primary purpose(s).

The Wilderness Act of 1964, 16 U.S.C 1131–1136

This act (P.L. 88-577) defined the Wilderness resource and established the National Wilderness Preservation System. It provides the framework for designation by Congress of new units to the National Wilderness Preservation System and prescribes for their management. The Wilderness review required by Section 1317 of ANILCA and included in the 1988 Supplemental Environmental Impact Statement for the Wilderness Proposal of the Final Kenai Comprehensive Conservation Plan was undertaken following the framework and guidance provided by the Wilderness Act. The recommendation for Wilderness designation included in the Record of Decision (ROD) for the 1988 Supplemental Environmental Impact Statement is a preliminary administrative determination that is conducted prior to being forwarded to Congress for final action. Kenai Refuge currently has 1,319,500 acres of designated Wilderness.

The Wild and Scenic Rivers Act of 1968, 16 U.S.C. 1271–1287

This act establishes a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system. Section 5(d)(1) requires that in all planning by Federal agencies for the use and development of water and related land resources, consideration be given to potential wild, scenic, and recreation rivers. Rivers are added to the national

system based on their free-flowing character and their outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural, ecological, or other values. Rivers in the system are managed to maintain and protect these outstandingly remarkable values for present and future generations. For Wild and Scenic Rivers in Alaska, ANILCA also provided direction for management of designated rivers. No Wild and Scenic Rivers have been designated on Kenai Refuge, though 17.3 miles of the Russian River designated as part of the national system has been recommended by the U.S. Forest Service (USDA 2002).

Other Laws

Laws that affect mineral leasing, recreation use, commercial fishing, preservation and protection of cultural and historic resources, and other activities on Federal lands are also considered in the comprehensive conservation planning process.

1.3 Planning Coordination

Nature is not constrained by government boundaries that are used to determine ownership or management of specific areas of land. Without physical barriers and with available habitat, fish and wildlife will freely roam through lands and waters regardless of ownership or management. To ensure the conservation of the many species that migrate across legal and political boundaries, a number of efforts—at scales ranging from local community and regional plans to national and international conservation programs—have been designed to monitor and protect these species. These lands were reviewed during the revision of the Kenai Refuge Comprehensive Conservation Plan to ensure that the revised management direction is consistent with these national conservation plans. The following list is not intended to be comprehensive but demonstrates the range of documents reviewed. When applicable, specific information from these plans has been incorporated into this document.

North American Waterbird Conservation Plan for the Americas (2002)

This plan provides a continental-scale framework for the conservation and management of 210 species of waterbirds, including seabirds, coastal waterbirds, wading birds, and marshbirds utilizing aquatic habitats in 29 nations throughout North America, Central America, the islands and pelagic waters of the Caribbean Sea and western Atlantic, the U.S.-associated Pacific Islands, and pelagic waters of the Pacific.

North American Waterfowl Management Plan

This conservation plan seeks to restore waterfowl populations in Canada, the United States, and Mexico to levels recorded in the 1970s.

The international partnership has worked to identify priority habitats for waterfowl and has established goals and objectives for waterfowl populations and habitats (USFWS 1998). The Chickaloon Flats portion of the Refuge provides breeding and migration habitat for a variety of waterfowl, including whistling and trumpeter swans, lesser and cackling Canada geese, white-fronted geese, snow geese, sandhill cranes, northern pintail, mallard, green-winged teal, and other dabbling ducks. Up to 5,000 lesser Canada geese at a time may use the Chickaloon estuary in late September and early October on their southward migration. Sixteen species of waterfowl are known to breed on the Refuge, including trumpeter swan, Canada goose, green-winged teal, mallard northern pintail, northern shoveler, American widgeon, ring-necked duck, greater scaup, harlequin duck, surf scoter, white-winged scoter, common goldeneye, Barrow's goldeneye, common merganser, and red-breasted merganser.

Partners in Flight

Partners in Flight is a cooperative effort involving partnerships among Federal, State, and local government agencies; philanthropic foundations; professional organizations; conservation groups; industry; the academic community; and private individuals. Partners in Flight was created in 1990 in response to growing concerns about declines in the populations of many land bird species and to emphasize the conservation of birds not covered by existing conservation initiatives. Bird conservation plans, including the *Landbird Conservation Plan for Alaska Biogeograhic Regions* (Boreal Partners in Flight Working Group 1999), are developed in each region to identify species and habitats most in need of conservation, to establish objectives and strategies to provide needed conservation activities, and to implement and monitor progress on the plans.

U.S. Shorebird Conservation Plan (Brown et al 2000)

This conservation plan seeks to stabilize populations of all shorebirds that are in decline because of factors affecting habitat in the United States. At a regional level, the plan's goal is to ensure that shorebird habitat is available in adequate quantity and quality to support shorebird populations in each region. Ultimately, the goal of the shorebird Conservation Plan is to restore and maintain shorebird populations throughout the western hemisphere through an international partnership. Twenty-four shorebird species have been recorded on the Refuge: greater yellowlegs, lesser yellowlegs, sandhill cranes, least sandpipers, spotted sandpipers, solitary sandpipers, Baird's sandpipers, pectoral sandpipers, semipalmated sandpipers, western sandpipers, semipalmated plovers, black-bellied plovers, American plovers, pacific golden-plovers, Wilson's snipe, ruddy turnstones, black turnstones, sanderlings, surfbird, whimbrel, wandering tattler, Hudsonian godwit, short-billed dowitcher, and red-necked phalarope.

1.3.1 Regional Management Plans

In addition to the national conservation plans, the Kenai Refuge Comprehensive Conservation Plan must consider the conservation plans and management goals of neighboring lands of the region. Regional plans, as well as goals and objectives from other programs, were reviewed to understand how Kenai Refuge can contribute to the goals for conservation within the State or local region. This list is not intended to be comprehensive, but demonstrates some of the major regional plans that were reviewed during the development of this draft. When applicable, specific information from these plans has been incorporated into this Plan.

Kenai Area Plan (DNR 2000)

This plan determines management intent, land use designations, and management guidelines that apply to all State lands on the Kenai Peninsula. The plan provides goals and specific guidelines that apply to State land and waters.

Kenai Peninsula Borough Coastal Management Plan (Kenai Peninsula Borough 2007)

This amended plan describes goals and objectives for resources within the coastal zone. The focus of the plan is to maintain the functions and values of coastal resources, including its socioeconomic values. The objectives of the plan were reviewed to look for opportunities to make progress on mutual goals.

Kenai Peninsula Borough Comprehensive Plan (Kenai Peninsula Borough 2005)

This plan outlines basic functions, authorities, and responsibilities of the Borough. It describes existing and expected future conditions; identifies important issues; and provides a basis for policy decisions through the development of goals, objectives, and implementation actions.

Kenai Peninsula Brown Bear Conservation Strategy (ADF&G 2000)

In November 1998, Alaska Department of Fish and Game (ADF&G) identified the Kenai Peninsula population of brown bears as a "Species of Special Concern." This administrative designation was a proactive measure designed to focus attention and research efforts on Kenai Peninsula brown bears, an isolated population in an area experiencing steady human population growth and increased human activity. This Conservation Strategy identifies the policies and management actions that help ensure the future of brown bears and their habitat on the Kenai Peninsula and avoid restrictive actions such as the listing of Kenai Peninsula brown bears under the Federal Endangered Species Act.

Kenai Peninsula Caribou Management Plan (ADF&G 2003)

This plan establishes goals, objectives, and criteria to maintain viable and healthy herds of caribou on the Kenai Peninsula, with special emphasis placed on suitable but unoccupied habitats in the Caribou Hills and alpine tundra south of Fox River.

Kenai River Comprehensive Management Plan (DNR 1997)

This plan provides a basis for management of State land and waters within the Kenai River Special Management Area (KRSMA), including the Kenai River, its tributaries, and those areas and habitats either having a hydrological connection to the Kenai River or those significant in terms of wildlife and fishery. It identifies management issues and provides management recommendations for the entire watershed and individual reaches of the river.

Upper Kenai River Interagency Cooperative Plan (DNR 1997)

This plan is a product of a joint effort of Federal and State agencies, the Kenai Peninsula Borough, Cook Inlet Region, Inc., local residents, and others interested in the future of the upper Kenai River corridor. The plan addresses the public lands and waters within one-quarter mile of the Kenai and Russian rivers between Kenai, Lower Russian, and Skilak Lakes, and was developed using the Limits-of-Acceptable-Change process. The purpose of the plan is to guide future actions of the managing agencies as they strive for collective vision for the river corridor.

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Appendix B:

Coordination with the State of Alaska

1. Coordination with the State of Alaska, Including the Master Memorandum of Understanding with the Department of Fish and Game

1.1 Introduction

Consistent with the principles of ecosystem management and the laws and policies described in Volume 2, Appendix A, effective management of the Kenai National Wildlife Refuge (Refuge) must be done in close coordination with the State of Alaska. This appendix is not intended to be a comprehensive list of state agencies, but rather to describe the primary state agencies that share concern and responsibilities for fish, wildlife, and other natural resources.

1.2 Alaska Department of Fish and Game

The Alaska Department of Fish and Game (ADF&G) has the primary responsibility for managing fish and resident wildlife populations. On refuge lands, the U.S. Fish and Wildlife Service (Service) and ADF&G share a mutual concern for all fish and wildlife resources and their habitats, and both are engaged in extensive fish and wildlife conservation, management, and protection programs. In 1982, the Service and ADF&G signed a Master Memorandum of Understanding (dated March 13, 1982) that defines the cooperative management roles of each agency (Volume 2, Appendix B, section 1.2.1). This memorandum sets the framework for cooperation between the two agencies.

Through the direction of the Boards of Fisheries and Game, the State of Alaska establishes fishing, hunting, and trapping regulations throughout the state. These regulations apply to federal public lands unless superseded by federal subsistence regulations. The state is divided into 26 game management units (GMUs); most of these are further divided into subunits. State management objectives are developed for wildlife populations within the GMUs. All Kenai Refuge lands lie within GMU 15. Management objectives for wildlife and fish populations on the Refuge are discussed in Volume 1, Chapter 2.

The state process for developing regulations involves substantial public input to the Alaska Boards of Fisheries and Game concerning changes in regulations and allocations. Input may be directly to the boards through testimony and proposals or indirectly through participation in local fish and game advisory committees. The advisory committees assist the boards in assessing local fish and wildlife issues and proposed regulations. Biological staff from ADF&G also provides data and analysis of proposals to the boards. Regulations may be changes by the boards at regular meetings, by emergency regulations, or by emergency order.

regulations. Biological staff from ADF&G also provides data and analysis of proposals to the boards. Regulations may be changes by the boards at regular meetings, by emergency regulations, or by emergency order.

Although many biologists within ADF&G have law enforcement authority, most enforcement of fishing and hunting regulations is carried out by Refuge law enforcement officers and officers of the Alaska Department of Public Safety, Bureau of Wildlife Enforcement.

ADF&G's Division of Wildlife Conservation works to conserve and enhance Alaska's wildlife and to provide for a wide range of uses for the greatest benefit of current and future generations of people through management of wildlife populations and habitat, research, information transfer, regulatory activities, and public service. Wildlife Conservation is responsible for overseeing development of management plans for a variety of wildlife populations throughout the state.

ADF&G's Division of Sport Fish is responsible for the state's recreational fishery resources: the conservation of self-perpetuating populations of fish; management of sport fisheries in both salt and fresh water; and hatchery production and release of fish for recreational fishing. The goals of the division are to conserve naturally reproducing populations of sport fish species, provide a diverse mix of recreational fishing opportunities, and optimize the social and economic benefits of Alaska's recreational fisheries.

ADF&G's Division of Subsistence is the research branch of the department responsible for providing comprehensive information on the customary and traditional use of wild resources. Information is provided to meet management goals, aid in regulation development, facilitate collaborative agreements, assess environmental impacts, and describe the unique role of wild resources in Alaska.

1.2.1 Master Memorandum of Understanding Between the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service

This Master Memorandum of Understanding between the State of Alaska, Department of Fish and Game, hereinafter referred to as the Department, and the U.S. Fish and Wildlife Service, hereinafter referred to as the Service, reflects the general policy guidelines within which the two agencies agree to operate.

WHEREAS, the Department, under the Constitution, laws, and regulations of the State of Alaska), is responsible for the management, protection, maintenance, enhancement, rehabilitation, and extension of the fish and wildlife resources of the State on the sustained-yield principle, subject to preferences among beneficial uses; and

WHEREAS, the Service, by authority of the Constitution, laws of Congress, and regulations of the U.S. Department of Interior, has a

mandated management responsibility for certain species or classes of wildlife, and is responsible for the management of Service lands in Alaska, and the conservation of fish and wildlife resources on these lands; and

WHEREAS, the Department and the Service share a mutual concern for fish and wildlife resources and their habitats and both are engaged in extensive fish and wildlife conservation, management, and protection programs and desire to develop and maintain a cooperative relationship, which will be in the best interests of both parties, the concerned fish and wildlife resources, and their habitats, and produce the greatest public benefit; and

WHEREAS, it has been recognized in the Alaska National Interest Lands Conservation Act and subsequent implementing Federal regulations that the resources and use of Service lands in Alaska are substantially different than those of other states; and

WHEREAS, the Department and the Service recognize the increasing need to coordinate resource planning and policy development;

NOW, THEREFORE, the parties hereto do hereby agree as follows:

THE DEPARTMENT OF FISH AND GAME AGREES:

1. To recognize the Service as the agency with the responsibility to manage migratory birds, endangered species, and other species mandated by Federal law, and on Service lands in Alaska to conserve fish and wildlife and their habitats and regulate human use.

2. To manage fish and resident wildlife populations in their natural species diversity on Service lands.

3. To consult with the Regional Director in a timely manner and comply with applicable Federal laws and regulations before embarking on enhancement or construction activities on Service lands.

THE FISH AND WILDLIFE SERVICE AGREES:

1. To recognize the Department as the agency with the primary responsibility to manage fish and resident wildlife within the State of Alaska.

2. To recognize the right of the Department to enter onto Service lands at any time to conduct routine management activities which do not involve construction, disturbance to the land, or alterations of ecosystems.

3. To cooperate with the Department in planning for enhancement or development activities on Service lands which require permits,

environmental assessments, compatibility assessments, or similar regulatory documents by responding to the Department in a timely manner with requirements, timetables, and any other necessary input.

4. To manage the fish and wildlife habitat on Service lands so as to ensure conservation of fish and wildlife populations and their habitats in their natural diversity.

5. To consider carefully the impact of any proposed treaties or international agreements relating to fish and wildlife resources on the State of Alaska which could diminish the jurisdictional authority of the State and to consult freely with the State when these treaties or agreements have a primary impact on the State.

6. To review present U.S. Fish and Wildlife Service policies and any future proposed changes in those policies in consultation with the Department to determine if modified or special policies are needed for Alaska.

7. To adopt refuge management plans whose provisions—including provision for animal damage control—are in substantial agreement with the Department's fish and wildlife management plans, unless such plans are determined formally to be incompatible with the purposes for which the respective refuges were established.

8. To utilize the State's regulatory process to maximum extent allowed by Federal law in developing new or modifying existing Federal regulations or proposing changes in existing State regulations governing or affecting the taking of fish and wildlife on Service lands in Alaska.

THE DEPARTMENT OF FISH AND GAME AND THE FISH AND WILDLIFE SERVICE MUTUALLY AGREE:

1. To coordinate planning for management of fish and wildlife resources on Service lands so that conflicts arising from differing legal mandates, objectives, and policies either do not arise or are minimized.

2. To consult with each other when developing policy and legislation which affect the attainment of wildlife resource management goals and objectives or management plans.

3. To recognize that the taking of fish and wildlife by hunting, trapping, or fishing on Service lands in Alaska is authorized in accordance with applicable State and Federal law unless State regulations are found to be incompatible with documented Refuge goals, objectives, or management plans.

4. To develop such supplemental memoranda of understanding between the Commissioner and the Regional Director as may be required to implement the policies contained herein.

5. That this Master Memorandum of Understanding shall become effective when signed by the Commissioner of the Alaska Department of Fish and Game and the Alaska Regional Director of the U.S. Fish and Wildlife Service and shall continue in force until terminated by either party by providing notice in writing 120 days in advance of the intended date of termination.

6. That amendments to this Master Memorandum of Understanding may be proposed by either party and shall become effective upon approval by both parties.

STATE OF ALASKA	**U.S. DEPARTMENT OF THE INTERIOR**
Department of Fish and Game	Fish and Wildlife Service
/signed/ Ronald O. Skoog Commissioner	/signed/ Keith M. Schreiner Regional Director, Alaska
March 13, 1982 Date	March 13, 1982 Date

1.3 Alaska Department of Natural Resources

The Alaska Department of Natural Resources (DNR) and its divisions are also key management partners, coordinating with the Service and other federal and state agencies in managing public lands (federal and state) in Alaska. DNR manages all state-owned lands, water, and surface and subsurface resources except for fish and game. DNR's Division of Mining, Land and Water mangers the state's water and land interests within national wildlife refuges. These interests will become increasingly significant in the next 10 to 15 years, especially in regard to water rights, navigable waters, ownership of submerged lands, and rights-of-way over Refuge lands.

1.4 Alaska Department of Environmental Conservation (ADEC)

The Alaska Department of Environmental Conservation (ADEC) and its divisions are also key management partners, coordinating with the Service and other Federal and State agencies in managing the cleanup and remediation of contaminated sites and/or spill events within the Refuge's oil and gas units. ADEC also issues air quality permits to industry for equipment used in the oil and gas units. The ADEC cleanup standards are usually used for contaminated soil and groundwater cleanup and remediation if Service standards have not been established.

Appendix C:

Management Direction, Policies, and Guidelines

1. Management Direction, Policies, and Guidelines

1.1 Introduction

This appendix presents an overview of the management direction for national wildlife refuges in Alaska, and includes management direction specific to Kenai National Wildlife Refuge (Kenai Refuge, Refuge). The primary sources of this management direction are the laws governing the National Wildlife Refuge System (Refuge System) and the regulations, policies, and other guidance, both national and regional, developed to implement these laws. Although each refuge is unique, it is only one piece of this system. The management direction presented here represents the common base for management of the Alaska refuges and identifies appropriate sideboards for management of individual refuges such as Kenai Refuge.

Refuge-specific deviations from these region-wide management policies and guidelines are clearly identified along with supporting rationale.

This appendix contains the following:

- Descriptions of the management categories and their associated general management intent
- Policies and guidelines specific to each category
- A table that displays activities, public uses, commercial uses, and facilities by management category

Under all action alternatives (Alternatives B–E), management of the Refuge would comply with the management direction described in this section. As a result, the alternatives share a set of common management policies and guidelines. These directions provide a common base on which each of the alternatives is built and represents the typical level of management necessary to comply with existing law, regulation, and policy.

The management category descriptions are not the same as those from the previous (1980s) round of Comprehensive Conservation Plans, which evolved over the course of the planning process. These management category descriptions will remain constant for all the plans unless a well-justified exception is warranted as described above.

If there is any conflict between the existing Refuge plan and these management guidelines, before a final revised Comprehensive Conservation Plan (Plan) is adopted for the Refuge, the direction in the existing Plan will take precedence over that contained in these guidelines (unless the conflict is the result of changes in law, judicial rulings, or other non-discretionary guidance).

1.2 Management Categories

Although five management categories, ranging from Intensive management to designated Wilderness, are used to describe management levels throughout refuges in Alaska, four categories—Wilderness, Minimal, Moderate, and Intensive—would be used to describe management on Kenai Refuge under the preferred alternative. Under the preferred alternative and at the end of the life of the Alaska pipeline project, Moderate management lands would convert to Minimal management and only three management categories—Wilderness, Minimal, and Intensive Management—would be used to describe management levels on the Refuge.

A management category is used to define the level of human activity appropriate to a specific area of the Refuge. It is a set of Refuge management directions applied to an area in light of its resources and existing and potential uses to facilitate management and the accomplishment of Refuge purposes and goals. The Management Activities Table (table C-1) shows those management activities, public uses, commercial uses, and facilities that may be allowed in each management category and under what conditions.

1.2.1 Wilderness

This category applies only to areas designated by Congress as units of the National Wilderness Preservation System; areas proposed for Wilderness designation will be managed under Minimal management, consistent with section 1317(c) of Alaska National Interest Lands Conservation Act (ANILCA) and U.S Fish & Wildlife Service (Service) policy. Designated Wilderness will be managed under the Wilderness Act of 1964 and the exceptions provided by ANILCA. Because Wilderness units are part of a nationwide, multi-agency system, the Service recognizes that responsibilities for managing Refuge Wilderness go beyond the mission of the Service and that the purposes of the Wilderness Act are within and supplemental to the other purposes for which individual refuges were established. (Also, see section 1.3.17.)

The history and intent behind the Wilderness Act make Wilderness more than just another category of management. Wilderness encourages having a broadened perspective of the Refuge landscape, one that extends beyond managing it solely as wildlife habitat. Wilderness is managed as an area “retaining its primeval character and influence.” In addition, Wilderness provides human visitors with opportunities for solitude or a primitive and unconfined type of recreation, which may be characterized in terms of experiential dimensions such as discovery, self-reliance, and challenge.

Wilderness areas are managed to preserve their experiential, aesthetic, scientific, and other related values. Research has shown that some values of Wilderness extend beyond their boundaries to people who

may never visit but who benefit from the protection of natural ecological processes—benefits such as clean air and water and the simple knowledge that such places exist. In managing Wilderness, managers are encouraged to consider these off-site and symbolic values as well as tangible resource values.

Permanent structures are generally prohibited; examples of exceptions are historic and cultural resources and in certain circumstances, administrative structures or cabins that predate ANILCA, cabins that are necessary for trapping, and public use cabins necessary for the protection of human health and safety. Facilities and structures are rustic and unobtrusive in appearance.

Compatible commercial uses of Wilderness areas are generally limited to those activities that facilitate wilderness recreation (e.g., guided fishing, hunting, and wilderness trips). All commercial activities and facilities require authorizations such as special use permits.

Actions such as prescribed fires or invasive species control may be conducted when necessary to protect life or property, or to restore, maintain, or protect wilderness values. Management activities in Wilderness must be found to be the minimum requirements for the administration of the area as Wilderness.

1.2.2 Minimal Management

Minimal management is designed to maintain the natural environment with very little evidence of human-caused change. Habitats should be allowed to change and function through natural processes. Administration will ensure that the resource values and environmental characteristics identified in the Comprehensive Conservation Plan are conserved. Public uses, economic activities, and facilities should minimize disturbance to habitats and resources. Ground-disturbing activities are to be avoided whenever possible.

Management actions in this category focus on understanding natural systems and monitoring the health of Refuge resources. Generally, no roads or permanent structures are allowed (except cabins). Temporary structures may be allowed in situations in which removal is planned after the period of authorized use, and the site can be rehabilitated using plants native to the immediate area. Existing cabins may be allowed for administrative, public use, subsistence, or commercial or economic (e.g., guiding) purposes. New subsistence or commercial cabins may be authorized if no reasonable alternatives exist. Public use or administrative cabins may be constructed if necessary for health and safety.

Public use of the Refuge for wildlife-dependent recreation and subsistence activities is encouraged. Public use facilities are not generally provided. Mechanized and motorized equipment may be

allowed when the overall impacts are temporary or where its use furthers management goals.

If a transportation or utility system, as defined in section 1102 of the Alaska National Interest Lands Conservation Act (ANILCA), is proposed to cross an area in Minimal management, the authorization process would incorporate a corresponding Comprehensive Conservation Plan amendment to change the management category in the affected area from Minimal management to Moderate or Intensive management, as appropriate.

Compatible economic activities may be allowed where the evidence of those activities does not last past the season of use, except as noted in the preceding discussion of cabins. The primary economic activities are likely to be guiding and outfitting of recreation activities such as hunting, fishing, hiking, river floating, and sightseeing. All economic activities and facilities require authorizations such as special use permits.

1.2.3 Moderate Management

Moderate management is meant to allow compatible management actions, public uses, commercial uses, and facilities that may result in changes to the natural environment that are temporary or permanent but small in scale and that do not disrupt natural processes. The natural landscape is the dominant feature of Moderate management areas, although signs of human actions may be visible.

Management actions in the Moderate management category will focus on maintaining, restoring, or enhancing habitats to maintain healthy populations of plants and animals where natural processes predominate. For example, logging and prescribed burning may be used to convert mature forests to earlier native seral stages to enhance browse for moose. In general, management facilities, both temporary and permanent, will be allowed for the purposes of gathering data needed to understand and manage resources and natural systems of the Refuge. Structures will be designed to minimize overall visual impact.

Public facilities provided in Moderate management will, while protecting habitats and resources, allow the public to enjoy and use Refuge resources in low numbers over a large area, or they will encourage the short-term enjoyment of the Refuge in focused areas. The emphasis is on small facilities that encourage outdoor experiences. Facilities such as public use cabins, rustic campgrounds, kiosks, viewing platforms, trails, and toilets may be provided. Facilities will be designed to blend with the surrounding environment.

Compatible economic activities may be allowed where impacts to natural processes and habitats are temporary (e.g., small-scale logging where an earlier seral stage meets management goals; facilities in support of guiding and outfitting services such as tent platforms or

cabins that encourage enhanced public use). All economic activities and facilities require authorizations such as special use permits.

1.2.4 Intensive Management

This category is designed to allow compatible management actions, public facilities, and economic activities that may result in alterations to the natural environment. In Intensive management areas, the presence of human intervention may be very apparent. Roads, buildings, and other structures are likely to be seen. Intensive management is applied to the smallest area reasonable to accommodate the intended uses. When Intensive management is proposed for an area, the specific purposes for its establishment will be described.

Natural processes or habitats may be modified through human intervention. Habitats may be highly modified to enhance conditions for one or more animal species. For example, water regimes may be artificially controlled to improve habitat for waterfowl.

High levels of public use may be accommodated and encouraged through modifications to the natural environment such as paving, buildings, developed campgrounds, and other facilities that could alter the natural environment in specific areas. Public facilities are designed to provide a safe and enjoyable experience of the natural environment and an increased understanding of Refuge resources for a wide range of visitors. Facilities may accommodate a large number of visitors while protecting Refuge resources from damage through overuse.

Compatible economic uses of Refuge resources that result in alterations to the natural environment may be authorized in Intensive management areas. All economic uses are subject to the compatibility standard, must contribute to the purposes of the Refuge, and require official authorizations such as special use permits.

1.2.5 Special Management

Special management lands are managed within one of the categories described previously but have additional requirements because of their status. An example of Special Management areas would be Research Natural Areas.

1.2.5.1 Management of Selected Lands

The Service retains management responsibility for lands selected but not yet conveyed to Native village and regional corporations or to the State of Alaska. The appropriate Native corporation or agency of the State of Alaska will be contacted and its views considered prior to issuing a permit involving these lands. Fees collected for special use or right-of-way permits will be held in escrow until the selected lands are conveyed or relinquished. Management of these lands will be the same as for adjacent Refuge lands.

1.2.5.2 Alaska Native Claims Settlement Act Section 22(g)

Section 22(g) of the Alaska Native Claims Settlement Act (ANCSA) provides that those refuge lands established prior to December 18, 1971, and are conveyed under that act remain subject to the laws and regulations governing the use and development of the Refuge. The compatibility standard, as it applies to activities occurring on these lands, is described in 50 CFR 25.21(b)(1). In addition, the Service retains the right of first refusal on village corporation lands if these lands are ever offered for sale.

The Refuge will work with landowners to balance the commercial development and use of 22(g) lands with the protection of resources important to Refuge purposes.

1.3 Management Policies and Guidelines

Refuge management is governed by Federal laws such as the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd), as amended (Refuge Administration Act); the National Wildlife Refuge System Improvement Act of 1997, an amendment to the Refuge Administration Act (P.L. 105-57) (Refuge Improvement Act); and ANILCA; by regulations implementing these laws; by treaties; by Service policy; and by principles of sound resource management that establish standards for resource management or limit the range of potential activities that may be allowed on the Refuge.

ANILCA authorizes traditional activities such as subsistence; the exercise of valid commercial fishing rights; and hunting, fishing, and trapping in accordance with State and Federal laws. Under Service regulations implementing this direction, "[p]ublic recreation activities within the Alaska National Wildlife Refuges are authorized as long as such activities are conducted in a manner compatible with the purposes for which the areas were established" (50 CFR 36.31[a]). Such recreation activities include but are not limited to sightseeing, nature observations and photography, hunting, fishing, boating, camping, hiking, picnicking, and other related activities. The Refuge Administration Act, as amended by the Refuge Improvement Act, defines "wildlife-dependent recreation" and "wildlife-dependent recreational use" as "hunting, fishing, wildlife observation and photography, or environmental education and interpretation" (16 U.S.C. § 668ee). These uses are encouraged and will receive emphasis in management of public use on refuges.

1.3.1 Management Emergencies

It may be necessary, when emergencies occur on the Refuge, to deviate from policies and guidelines discussed in the Comprehensive Conservation Plan. Activities not allowed on the Refuge or under a

specific management category, as shown in table 1, may occur during or as a result of emergencies. For example, if naturally occurring or human-caused actions (e.g., landslides, floods, fires, droughts) adversely affect Refuge resources, it may be necessary to undertake rehabilitation, restoration, habitat improvement, water management, fisheries enhancement, or other actions that would not otherwise be allowed to the same extent on the Refuge. Threats to human health and safety may also result during emergencies. In emergencies, the Refuge manager is authorized to take prudent and reasonable actions to protect human life and to address immediate health, safety, or critical resource-protection needs.

1.3.2 Land Exchanges and Acquisitions

Under section 1302 of ANILCA, and subject to certain restrictions, the Service may acquire (by purchase, donation, or exchange) any lands within the boundaries of Alaska refuges. Proposed land exchanges or acquisitions must benefit fish and wildlife resources, satisfy other purposes for which the Refuge was established, or be necessary to satisfy other national interests. The Service can also purchase conservation easements or enter into cooperative management agreements to meet these objectives.

1.3.3 Land Protection Plans

Department of Interior and Service policies require development of a step-down plan, called a land protection plan, addressing priorities for habitat conservation within Refuge boundaries. Land protection plans inform private landowners what land within Refuge boundaries the Service would like to see conserved for fish and wildlife habitat. The plans do the following:

- Identify the private lands within the Refuge boundary that the Service believes should be conserved
- Display the relative protection priority for each parcel
- Discuss alternative means of land and resource conservation
- Analyze the impacts on local residents of acquisition

The Service only acquires land from willing landowners. It is Service policy to acquire land only when other methods of achieving goals are not appropriate, available, or effective. Sometimes resource conservation goals can be met through cooperative management agreements with landowners or by similar means. The Refuge will work with all landowners to ensure that overall fish and wildlife and habitat values within the Refuge are conserved.

A land protection plan for the Refuge was completed in October 1994. A pre-acquisition environmental site assessment is required for all real property proposed for acquisition by the Service or for public domain lands returning to Service jurisdiction (Service Manual 341 FW 3).

1.3.4 Appropriate Refuge Uses and Compatibility

Comprehensive conservation plans include a review of the appropriateness and compatibility of existing Refuge uses and of any planned future public uses.

1.3.4.1 Appropriate Refuge Uses

All uses of a national wildlife refuge over which the Service has jurisdiction must be determined to be appropriate uses under the Appropriate Refuge Uses Policy (Service Manual 630 FW 1). An appropriate use of a national wildlife refuge is a proposed or existing use on a refuge that meets at least one of the following four conditions.

1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).

2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Refuge Improvement Act was signed into law.

3) The use involves the take of fish and wildlife under State regulations.

4) The Refuge manager has evaluated the use following guidelines in the Service Manual 603 FW 1.11 (listed below) and found it appropriate.

    a) Do we have jurisdiction over the use?
    b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?
    c) Is the use consistent with applicable executive orders, Department of the Interior and Service policies?
    d) Is the use consistent with public safety?
    e) Is the use consistent with goals and objectives in an approved management plan or other document?
    f) Has an earlier documented analysis not denied the use, or is this the first time the use has been proposed?
    g) Is the use manageable within available budget and staff?
    h) Will this be manageable in the future within existing resources?
    i) Does the use contribute to the public's understanding and appreciation of the Refuge's natural or cultural

resources, or is the use beneficial to the Refuge's natural or cultural resources?

j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality, compatible, wildlife-dependent recreation in the future?

This plan identifies those existing and proposed uses that are found appropriate and compatible. If additional uses not addressed in this plan are proposed for the Refuge, the Refuge manager will determine if they are appropriate uses following guidance in the Service Manual (603 FW 1).

1.3.4.2 Compatibility Determinations

The Refuge Administration Act states that "the Secretary [of the Interior] is authorized, under such regulations as he [or she] may prescribe, to… permit the use of any area within the [Refuge] System for any purpose, including but not limited to hunting, fishing, public recreation and accommodations, and access whenever he [or she] determines that such uses are compatible . . . ."

A compatible use is a proposed or existing wildlife-dependent recreation use or any other use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with nor detract from the fulfillment of the Refuge System mission or the purposes for which the national wildlife refuge was established. Compatibility determinations are not required for refuge management activities, except economic activities. Economic uses of a natural resource must contribute to achieving refuge purposes or the Refuge System mission. They are also not required where statute directs mandatory approval of the activity, as in the case of facilities for national defense.

If a use is found to be incompatible, the Refuge will follow normal administrative procedures for stopping the action. If the use is a new use requiring a special use permit, the Refuge manager will not issue a permit. If the use is an existing use already under permit, the Refuge manager will work with the permittee to modify the use to make it compatible or will terminate the permit.

Ending incompatible uses that do not require a special use permit or other formal authorization, or that cannot be addressed by other Federal or State agencies, require the Refuge to initiate a closure or restriction consistent with the provisions of 50 CFR 36.42. Permanent closures or restrictions can be made only after notice and public hearings in appropriate communities and publication in the *Federal Register*.

Compatibility determinations for existing hunting, fishing, wildlife observation and photography, and environmental education and interpretation must be re-evaluated with the preparation or revision of a comprehensive conservation plan or at least every 15 years, whichever is earlier. Refuge compatibility determinations for all other uses must be re-evaluated every 10 years or earlier if conditions change or significant new information relative to the use and its effects becomes available.

Compatibility determinations for Kenai Refuge were completed in 2007.

To review completed compatibility determinations for all refuges in Alaska, go to http://alaska.fws.gov/nwr/planning/completed.htm. Additional details on applying compatibility standards and completing refuge compatibility determinations are found in the compatibility regulations at 50 CFR (Parts 25, 26, and 29) and in the Service Manual (603 FW 2).

1.3.4.3 Mitigation

In the interest of serving the public, it is the policy of the Service, throughout the nation, to seek to prevent, reduce, or compensate for losses of fish, wildlife, and their habitats, and uses thereof, from land and water development. To that end, the Service developed a Mitigation Policy in 1981 that includes measures ranging from avoiding an activity that results in loss of such resources to seeking compensation by replacement of or substitution for resource loss.

The Service will promulgate regulations, develop stipulations, and issue permits to reduce or eliminate potential adverse impacts resulting from compatible activities that may be authorized under this Plan. These regulations, stipulations, and permits would mitigate impacts in a variety of means, as stipulated in the Mitigation Policy guidelines (Service Manual 501 FW 2.1). The means, in order of application, are as follows:

1. Avoiding the impact altogether by not taking a certain action or parts of an action
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
5. Compensating for the impact by replacing or providing substitute resources or environments

When determining activities or uses are compatible, projects should be designed first to avoid adverse impacts. The Service generally does not allow compensatory mitigation on Refuge System lands. Only in

limited and exceptional circumstances related to existing right-of-ways could compensatory mitigation be used to find a use compatible. The Service Manual (501 FW 2 and 603 FW 2) provides more information.

Mitigation may consist of standard stipulations such as those attached to right-of-way permits; special stipulations that may be attached to leases or permits on a site-specific basis; and site-specific, project-specific mitigation identified through detailed step-down management plans or the environmental assessment process. In all instances, mitigation must support the mission of the Refuge System and must be compatible with the purposes of the Refuge. The degree, type, and extent of mitigation undertaken would depend on the site-specific conditions present and the management goals and objectives of the action being implemented.

1.3.5 Coastal Zone Consistency

Although Federal lands, including lands in the Refuge System, are excluded from the coastal zone (16 U.S.C., section 1453[1]), the Coastal Zone Management Act of 1972, as amended, directs Federal agencies conducting activities within the coastal zone or that may affect any land or water use or natural resources of the coastal zone to conduct these activities in a manner that is consistent "to the maximum extent practicable"[1] with approved State management programs (16 U.S.C. 1456).

The Alaska Coastal Zone Management Act of 1977, as amended, and the subsequent Alaska Coastal Management Program, as amended, and Final Environmental Impact Statement (1979) establish policy guidance and standards for the review of projects within or potentially affecting Alaska's coastal zone. In addition, specific policies have been developed for activities and uses of coastal lands and water resources within regional coastal resource districts. Most incorporated cities, municipalities, boroughs and unincorporated areas (coastal resource service areas) within the coastal zone now have State-approved coastal management programs.

Although State and coastal district program policies are to guide consistency determinations, more restrictive Federal agency standards may be applied. Federal regulations state that "(w)hen Federal agency standards are more restrictive than standards or requirements contained in the State's management program, the Federal agency may continue to apply its stricter standards . . ." (15 CFR 930.39[d]).

Certain Federal actions may require a Federal Coastal Consistency Determination. The Refuge will contact the Department of Natural

[1]"To the maximum extent practicable" means "to the fullest degree permitted by existing law (15 CFR 930.32)."

Resources' Alaska Coastal Management Program for program applicability before beginning a project that may affect the coastal zone.

Section 7.3 of Volume 1, Chapter 7 is a consistency determination covering all the alternatives for management of Kenai Refuge that are addressed in this document.

1.3.6 Cooperation and Coordination with Others

1.3.6.1 Federal, State, and Local Governments

The Refuge will continue to work closely with those Federal, State, and local governments and agencies whose programs affect or are affected by the Refuge. State, and local government input will be sought during the development of regulatory policies addressing management of the Refuge System (Executive Order 13083, "Federalism"). When possible, the Service will participate in interagency activities (such as joint fish and wildlife surveys and co-funded research). It will enter into cooperative agreements and share data, equipment, and/or aircraft costs to meet mutual management goals and objectives.

The Refuge and the State of Alaska will cooperatively manage fish and wildlife resources within the Refuge. The Master Memorandum of Understanding between the Service and the Alaska Department of Fish and Game, dated March 13, 1982, defines the cooperative management roles of each agency (Volume 2, Appendix B). In this agreement, the Alaska Department of Fish and Game agreed to "recognize the Service as the agency with the responsibility to manage migratory birds, endangered species, and other species mandated by Federal law, and on Service lands in Alaska to conserve fish and wildlife and their habitats and regulate human use." Correspondingly, the Service agreed to "recognize the right of the Alaska Department of Fish and Game as the agency with the primary responsibility to manage fish and resident wildlife within the State of Alaska." Further discussion of intergovernmental cooperation regarding the preservation, use, and management of fish and wildlife resources is found in 43 CFR 24 (Department of the Interior Fish and Wildlife Policy: State and Federal Relationships).

The Service does not require Refuge compatibility determinations for State wildlife management activities on a national wildlife refuge pursuant to a cooperative agreement between the State of Alaska (State) and the Service where the Refuge manager has made a written determination that such activities support fulfilling the Refuge purposes or the Refuge System mission. When the activity proposed by the State is not part of a cooperative agreement or the State is not acting as the Service's agent, a special use permit may be required, and a Refuge compatibility determination will need to be completed before the activity may be allowed. Separate Refuge compatibility determinations addressing specific proposals will be required for State

management activities that propose predator management, fish and wildlife control (with the exception of emergency removal of individual rogue animals), reintroduction of species, non-native species management, pest management, disease prevention and control, fishery restoration, fishery enhancement, native fish introductions, non-native species introductions, construction of facilities, helicopter and off-road vehicle access, or any other un-permitted activity (an activity that is not allowed) that could alter ecosystems on the Refuge.

The Service will cooperate with other State agencies such as the Department of Natural Resources and Department of Transportation and Public Facilities on matters of mutual interest and may enter into informal and formal management agreements.

1.3.6.2 Tribes and Native American Organizations

The Service's Native American Policy (USFWS 1994) identifies general principles that guide the Service's government-to-government relationships with tribal governments in the conservation of fish and wildlife resources. Additional guidance has been provided by Executive Order 13084, "Consultation and Coordination with Indian Tribal Governments," issued May 14, 1998, and the Department of the Interior–Alaska Policy on Government-to-Government Relations with Alaska Native Tribes, issued January 18, 2001 (DOI 2001). The Refuge will maintain government-to-government relationships with tribal governments. The Refuge will also work directly with regional and village corporations and respect Native American cultural values when planning and implementing Refuge programs.

1.3.6.3 Owners of Refuge Inholdings and Adjacent Lands

The Refuge will work cooperatively with inholders and adjacent landowners, providing information on Refuge management activities and policies. The Refuge will consult periodically with them regarding topics of mutual interest; will respond promptly to concerns over Refuge programs; and will participate in cooperative projects (e.g., water quality monitoring and fish and wildlife management).

1.3.6.4 Fish and Wildlife Service Jurisdiction over Waters within Kenai Refuge

Where the United States holds title to submerged lands beneath waters within the Kenai National Wildlife Refuge (Refuge), the Service has jurisdiction over activities on the water. The United States owns the large majority of submerged lands beneath navigable and non-navigable waters within the external boundaries of Kenai National Wildlife Refuge. The Service's statutory authority to manage these lands and waters is based the National Wildlife Refuge System Administration Act of 1966, as amended.

In 1941, the United States withdrew and reserved most submerged lands of the Kenai NWR by Executive Order 8979 that established the Kenai National Moose Range (Moose Range). This pre-statehood withdrawal and reservation has maintained Federal ownership of submerged lands beneath navigable waters that otherwise would have transferred to the State of Alaska in 1959 under the Equal Footing Doctrine, the Submerged Lands Act of 1953, and the Alaska Statehood Act of 1958. Tustumena Lake is one example of a large and navigable Refuge water body whose submerged lands did not pass to the State because it was within the former Kenai National Moose Range.

On March 20, 1970 the Ninth Circuit Court overturned a lower court decision that had entered a summary judgment to quiet title to the submerged land in Tustumena Lake to the State of Alaska. The Ninth Circuit Court found that the intent of Executive Order 8979 was to reserve both land and water of Lake Tustumena within the boundary of the Kenai National Moose Range to the United States. The court found that the submerged land in Tustumena Lake belonged to the United States and was managed by the U.S. Fish and Wildlife Service (Service).

In 1980, under the Alaska National Interest Lands Conservation Act (ANILCA), Congress expanded the Moose Range and renamed it the Kenai National Wildlife Refuge, retaining all federally owned pre-statehood lands, waters, interests, and submerged lands. Those areas of land and water added to the new Refuge under ANILCA (e.g., the extreme southern region of the Refuge) contain both non-navigable and navigable waters. State laws and regulations apply everywhere on the lands and waters of the Refuge unless they conflict with or are preempted by Federal laws or regulations or both.

1.3.6.5 Other Constituencies

The Refuge will inform local communities, special interest groups, and others who have expressed an interest in or are affected by Refuge programs about Refuge management policies and activities. The Refuge will seek input from these constituents when issues arise that may affect how the Refuge is managed. When appropriate, local residents and other stakeholders will be asked to participate in Refuge activities so their expertise and local knowledge can be incorporated into Refuge management.

1.3.7 Ecosystem and Landscape Management

Species do not function alone; they function together in the environment as part of an ecosystem. Refuge resources will be managed by employing ecosystem-management concepts. Individual species are viewed as integral to the diversity of those ecosystems and are indicators of the healthy functioning of the entire ecosystem. When the Service identifies species to use as indicators of the health of an ecosystem, it will do so through a rigorous peer-reviewed scientific

process involving experts from other Federal agencies and the Alaska Department of Fish and Game.

Inventorying, monitoring, and maintaining a comprehensive database of selected ecosystem components are critical for making Refuge management decisions and for ensuring proper long-term ecosystem stewardship. This includes regular and recurring monitoring of status and trends of ecosystem components such as fish, wildlife, plants, climatic conditions, soils, and waterbodies. All monitoring will employ appropriate disciplines, new technologies, and scientific capabilities whenever practical.

1.3.7.1 Air Quality

The Service's authorities for air quality management are included in several laws. The most direct mandates to manage air resources are found in the Wilderness Act and the Clean Air Act.

The Service is required by the Clean Air Act to preserve, protect, and enhance air quality and air quality-related values on Service lands. Air quality-related values include visibility, plants, animals, soil, water quality, cultural and historical resources, and virtually all resources that are dependent upon and affected by air quality. In addition, the Wilderness Act requires the Service to protect and preserve the wilderness character, including the pristine air quality, of designated areas.

Class I air quality sites receive the highest level of protection. Very little deterioration is allowed in these areas, and the Federal land manager has an "affirmative responsibility" to protect air quality-related values on those lands. With the exception of three Class I air quality sites in designated Wilderness on the Alaska Maritime National Wildlife Refuge, all other lands managed by the Service in Alaska are classified as Class II and receive protection through the Clean Air Act. Moderate deterioration, associated with well-managed growth, is allowed in Class II areas.

If air quality or related resources are at risk, the Refuge manager will work with the Service's Air Quality Branch; the regional air quality coordinator; the Alaska Department of Environmental Conservation and other State, local, and Federal agencies; and the public, as appropriate, in developing an air quality management plan as outlined in the Service Manual (563 FW 2.8).

1.3.7.2 Water Resources (Hydrology) Management

Every national wildlife refuge in Alaska shares the common purpose of ensuring that water resources are maintained and protected. ANILCA mandates that the Service safeguard water quality and necessary water quantity within refuges and to conserve fish and wildlife populations and habitats in their natural diversity.

Although the Service has reserved water rights sufficient to accomplish the purposes of the refuges, the Refuge Administration Act and the Service Manual (403 FW 1 through 3) direct the Service to obtain, to the extent practicable, water supplies of adequate quantity and quality for Service facilities, for Refuge purposes, and as trust resources; and to obtain the legal right to use that water through State laws, regulations, and procedures.

The Alaska Region of the Service conducted a water resources threats analysis (Harle 1994) for the purpose of guiding water resource investigations and protecting water resources by acquiring instream water rights. Based on the results of the threats analysis, the Service's regional office developed a strategic plan for systematically quantifying the surface water on refuges within Alaska (Bayha et al. 1997).

Using existing data or through the collection of hydrologic and biologic data, the Service applies to the State of Alaska for appropriative water rights, for instream water reservations, and for water withdrawals to meet the Service's needs. Establishing State water rights is only a part of a management strategy to protect Refuge resources and to understand ecosystem processes. Collection of hydrologic data allows the Service to accomplish the following:

- Plan flood plain and riparian zone management
- Estimate flow for ungauged streams within the Refuge
- Supplement historical or current fisheries and wildlife studies
- Detect and evaluate future natural or human-induced changes in the hydrologic system
- Provide stream profile and velocity data for the design of fish weirs or other structures
- Estimate the potential for future flooding and erosion
- Analyze the impacts of proposed projects on stream flow and water supply
- Provide a basis for decision-making about commercial operations on some important streams.
- Provide baseline water quality information.

All facilities and activities on refuges must comply with pollution control standards set by Federal laws (e.g., the Clean Water Act 33 U.S.C. 1251 and the Safe Drinking Water Act 42 U.S.C. 300f); State laws where Federal law so provides; and the regulations, policies, and standards implementing these laws.

1.3.7.3 Visual Resource Management

Visual resource management has two primary purposes: (1) to manage the quality of the visual environment and (2) to reduce the visual impact

of development activities. To accomplish these purposes, the Refuge will identify and maintain scenic values and will, within the constraints imposed by the Comprehensive Conservation Plan, minimize the visual impacts of Refuge development and uses. All activities and facilities on the Refuge will be designed to blend into the landscape to the extent practical. The Service will cooperate with other Federal, State, local, tribal, and private agencies and organizations to prevent significant deterioration of visual resources.

1.3.7.4 Cultural, Historical, and Paleontological Resources

The Service has long-term responsibilities for cultural resources on Refuge lands. Cultural resources on Refuge lands are managed under a number of laws, executive orders, and regulations, including the Antiquities Act; the National Historic Preservation Act, as amended; the Archaeological Resources Protection Act; the American Indian Religious Freedom Act; the Native American Graves Protection and Repatriation Act; Executive Order 11593, "Protection and Enhancement of the Cultural Environment"; Executive Order 13007, "Indian Sacred Sites"; and 36 CFR 800.

The 1980 amendments to the National Historic Preservation Act direct the Service to inventory and evaluate cultural resources for their eligibility for inclusion on the National Register of Historic Places. Pending a complete evaluation, all cultural resources will be considered potentially eligible for the National Register of Historic Places. All significant historic, archaeological, cultural, and paleontological resources on the Refuge will be protected and managed in accordance with Federal and State law.

A cultural resource plan for the Refuge will be completed by 2013. This plan provides guidance for cultural resource management on the Refuge. It outlines legal mandates and considerations, reviews current information about resources, and establishes goals and objectives for the program. The cultural resource plan should be updated every five years.

It is illegal to collect archaeological materials and/or paleontological remains on the Refuge without a permit. Historic aircraft and other World War II material will be managed in accordance with the policy published December 20, 1985, in the *Federal Register* (FR 50:51952-51953). These materials may be collected on Refuge lands only as authorized by a permit issued to a qualified organization or individual. Cultural resource research permits will only be issued to qualified individuals operating under appropriate research designs. The Refuge will encourage archaeologists, historians, ethnologists, and paleontologists from educational institutions and other government agencies to pursue their research interests on Refuge lands as long as these research interests are compatible with Refuge purposes. Research that collects data from threatened sites and minimizes disturbance to intact sites will be encouraged.

When any Federal undertaking—including any action funded or authorized by the Federal government and having the potential to directly or indirectly affect any archaeological or historic site—is planned, a consultation must be initiated with the State Historic Preservation Officer under section 106 of the National Historic Preservation Act. If sites that may be affected are found in the project area, their significance will be evaluated to determine their eligibility for inclusion in the National Register of Historic Places. For eligible sites, consultation will result in a course of action causing the least possible impact. Impacts may be minimized in a variety of ways, including relocation or redesign of a project, site hardening, mitigation through information collection, or cancellation of the project if no alternatives are feasible. To protect archaeological and historic sites, other uses may be precluded. Private interests proposing to conduct commercial uses on the Refuge will normally be required to fund studies necessary for consultation and for mitigation of impacts.

The Refuge will implement Executive Order 13007, "Indian Sacred Sites", allowing access to identified sacred sites and avoiding adversely affecting the physical integrity of these sites. Where appropriate, the Service will maintain the confidentiality of sacred sites.

Further information on cultural resources management can be found in the Service Manual (614 FW 1 through 5) and the Cultural Resources Handbook (USFWS 1992).

1.3.8 Fish and Wildlife Habitat Management

1.3.8.1 Habitat Management

Habitats are managed in keeping with the purposes, goals, and objectives of a refuge. In Alaska, this means habitats are largely managed to maintain natural diversity and natural processes. However, in some cases, habitats are manipulated to maintain or improve conditions for selected fish and wildlife populations, to control invasive plant species, or to manage fire fuels on Refuge lands. These habitat management and manipulation activities will be carried out in support of the purposes, goals, and objectives of the Refuge. Generally, refuges use the least intrusive management measures needed. Where practical and economically feasible, habitat management practices should maintain a natural appearance on the landscape. Habitat management practices, even those carried out for the benefit of a single species or small group of species, will maintain the natural diversity of native (indigenous) wildlife species and habitat types to the extent possible.

Habitat management and manipulation may be achieved by mechanical, chemical, and manual methods, including the use of fire, or by a combination of methods. Mechanical treatment could include mechanical removal, crushing, cutting, or mowing. When applicable, State and Federal guidelines for timber management will be followed.

Mechanical treatment could also include the construction of fish passages, fish ladders, fish barriers, water impoundments, and structures such as fences or artificial nests; and raising or lowering of water levels to manage wildlife or waterfowl habitat. Riparian or aquatic habitat management and manipulation may be achieved by acquiring instream flow reservations or making beneficial water diversions.

Chemical treatment involves the use of chemicals to restore nutrient levels in a lake system (fertilization) for fisheries restoration, to reduce hazardous fuels, or to eliminate invasive plant and animal species, normally by killing them or destroying their ability to spread or prosper. Before chemical treatment is approved for use, the Refuge will analyze the need for action, the options for treatment, and the potential impacts of those options through the National Environmental Policy Act (NEPA) process. Pest control, including integrated pest management, is discussed in section 1.3.9.8.

Manual treatment could include the use of hand tools to remove, reduce, or modify plants or to modify habitats (e.g., removal of beaver dams).

Aquatic habitat modification may include activities and structures such as streambank restoration, passage structures, fish barriers, or obstacle removal that results in physical modification of aquatic or riparian habitats. These activities would be undertaken to maintain or restore native fish populations and may require appropriate NEPA compliance and Refuge compatibility determinations.

1.3.8.2 Fire Management

Fire management is the full range of activities necessary to conserve, protect, and enhance habitat and to maintain desired ecological conditions for the benefit of fish and wildlife. Fire management activities include preparedness, emergency suppression operations, wildland fire use, fire prevention, education, monitoring, research, prescribed fire, hazardous fuel reduction, and mechanical treatments. All activities will be conducted in accordance with Refuge, Service, and Department of Interior policies and approved interagency and Refuge-specific fire management plans. Additional guidance on fire management can be found in the Service Manual (621 FW 1 through 3).

Fire management plans provide the basis for integrating fire as a critical natural process into other Refuge plans and activities at a landscape scale. The Refuge fire management plan provides specific information on the application and management of fire on the Refuge. The Alaska Interagency Wildland Fire Management Plan provides a cooperative framework and operational guidelines for the suppression of wildland fires. The suppression of human-caused and unwanted wildland fires and the use of nature-caused wildland fires and

prescribed fires as management tools are important management prerogatives.

Wildland Fire Suppression
Fire suppression activity is the work of confining, constraining, controlling, or monitoring a fire or portion of a fire to protect, prevent, or reduce the loss of identified values. Suppression takes place, with the highest priority being the safety of firefighters and the public, using the appropriate management response based on values to be protected. The Alaska Interagency Wildland Fire Management Plan, amended in October 1998, is the guiding document for suppression actions. The plan establishes four management options—critical, full, modified, and limited—that direct a range of wildlife fire management responses. Refuge lands have been classified by fire management zones for limited, modified, or full suppression, with all facilities mapped.

The Bureau of Land Management Alaska Fire Service (BLM/AFS) provides emergency suppression services on Refuge lands in Alaska (Department Manual 620 DM 2), as directed by the Refuge manager. Through a cooperative agreement with BLM/AFS, the State of Alaska Division of Forestry provides emergency suppression services on Refuge lands in State protection zones, as directed by the Refuge manager.

Wildland Fire Use
Wildland fire use is the application of the appropriate management response to naturally ignited wildland fires to accomplish resource management objectives outlined in fire management plans. Wildland fires may be used to protect, maintain, and enhance natural and cultural resources and, as nearly as possible, wildland fires will be allowed to function in their natural ecological role. Optional management is described in each Refuge fire management plan.

Prescribed Fire
Prescribed fires are ignited by management action to meet specific wildland fuel, vegetation, and habitat management objectives. Prior to each ignition, a written, approved plan outlining prescription conditions is required. Use of prescribed fires must also comply with the Alaska Enhanced Smoke Management Plan for Prescribed Fire. The plan provides guidance and direction concerning smoke issues related to prescribed fire.

1.3.9 Fish and Wildlife Population Management

Conservation of habitat is a key element in maintaining the natural diversity of populations on the Refuge, and management of native fish and wildlife populations is an important component of maintaining healthy ecosystems. The Refuge will be managed in accordance with the purposes of the Refuge and consistent with the Policy on Maintaining Biological Integrity, Diversity, and Environmental Health of the National Wildlife Refuge System (Service Manual 601 FW 3) to

ensure native species are managed in their natural diversity and abundance.

The Refuge will work with the State of Alaska to conserve fish and wildlife populations, recognizing that populations may experience fluctuations in abundance because of environmental factors and may require management actions for conservation purposes. The Refuge will be managed to maintain the genetic variability of wild, native fish stocks.

1.3.9.1 Wildlife Inventory and Monitoring Plan

To assess presence, relative abundance, distribution, and trends in populations of fish, wildlife, and plants, the Refuge will draft a Wildlife Inventory and Monitoring Plan (I & M Plan) The I & M Plan describes objectives, justification, methods, management implications, geographic scale, report schedules, and database management for studies on species targeted for inventory and monitoring. The I & M Plan will include studies that address environmental parameters (e.g., weather), hydrology, soils, and fire history to explain potential changes in the distribution, relative abundance, and populations of fish, wildlife, and plants. The I & M Plan will be forwarded to the regional office for review by the regional Refuge biologist and other professional staff prior to final approval by the regional Refuge chief. The Refuge will update its I & M Plan every two years, but will only need regional review and approval every five to eight years.

1.3.9.2 Scientific Peer Review

Biologists, ecologists, botanists, and other Refuge personnel conducting scientific investigations will adhere to Refuge, regional, Service, and Department of Interior policies on scientific conduct, including scientific peer review. The overall goal of scientific peer review is to ensure that information collected, analyzed, interpreted, and reported to the public, and upon which policy and management decisions are based, meets established standards of the scientific community. To achieve this goal, study plans for projects longer than two weeks and reports to be disseminated to the public must be peer reviewed. The region's peer review procedure is available upon request. The type and level of review shall be commensurate with the potential significance of the scientific information and its likely influence on policy and management actions.

1.3.9.3 Compliance with the Animal Welfare Act

The Animal Welfare Act of 1996, as amended, established legal standards for animal care and use. To prescribe methods and set standards for the design, performance, and conduct of animal care and use, research facilities and Federal agencies must establish an Institutional Animal Care and Use Committee (IACUC). Field studies conducted or authorized by Refuge employees within the purview of the

Animal Welfare Act will require review and approval of an IACUC. Any Refuge study that involves an invasive procedure or that harms or materially alters the behavior of an animal under study should be reviewed and approved by an IACUC prior to implementing field work. Note that a scientific collection permit is also required from the Alaska Department of Fish and Game under 5 Alaska Administrative Code 92.033.

1.3.9.4 Marking and Banding

These activities include fish and wildlife capture, marking, banding, radio-collaring, release, tracking, and other information gathering techniques. Cooperation with appropriate partners, including the Alaska Department of Fish and Game, will be stressed, and specific protocols will be followed, taking advantage of all appropriate disciplines and new technologies wherever possible.

1.3.9.5 Threatened or Endangered Species

The Refuge will consult with the U.S. Fish & Wildlife Service Ecological Services field office on actions that may affect listed, proposed, or candidate species or designated or proposed critical habitat. These actions include Refuge operations, public use programs, private lands and Federal assistance activities, promulgating regulations, and issuing permits (USFWS 1973, Section 7 Consultation Handbook 1998).

1.3.9.6 Reintroductions

A species may be introduced on a Refuge only if that species is native to the Refuge (i.e., a reintroduction). Non-native species may not be introduced. Definitions of native and non-native species are found in the glossary.

Reintroductions can be useful tools for restoring species to natural ranges and reestablishing a refuge's natural fish, wildlife, and habitat diversity. Reintroductions would require appropriate NEPA compliance; a review to ensure consistency with the Policy on Maintaining Biological Integrity, Diversity, and Environmental Health of the National Wildlife Refuge System; an ANILCA section 810 determination; and a refuge compatibility determination. Reintroductions also require extensive coordination with adjacent landowners and with the State of Alaska. In evaluating the project, the cause(s) of the extirpation should be evaluated and management actions taken to alleviate the cause(s) prior to reintroduction.

The environmental requirements of the species and the ecological dynamics of the area proposed for the reintroduction need to be thoroughly reviewed prior to a reintroduction. Some factors to consider include behavior, diseases, general ecology of the species, habitat requirements, inter- and intra-species competition, life history, genetics, management practices, population dynamics, and predators. Consideration should be given to whether there have been significant

habitat changes since the species' extirpation (e.g., is the area still within the species' natural range?).

1.3.9.7 Fish and Wildlife Control

These activities involve the control, relocation, and/or removal of native species, including predators, to maintain natural diversity of fish, wildlife, and habitats. These management actions may be employed with species of fish and wildlife within their original range to restore other depleted native populations. These activities are subject to appropriate NEPA compliance, an ANILCA section 810 determination, and a Refuge compatibility determination.

Predator management includes the relocation, removal, sterilization, and other management of native predators to accomplish management objectives. The Service considers predator management to be a legitimate conservation tool when applied in a prudent and ecologically sound manner and when other alternatives are not practical. The key requirements are that a predator-management program be ecologically sound and biologically justified. In keeping with the Service's mandate to, first and foremost, maintain the biological integrity, diversity, and environmental health of fish and wildlife populations at the refuge scale, a predator population will not intentionally be reduced below a level consistent with the low end of natural population cycles (see Service Manual 601 FW 3). At Kenai Refuge, predator management actions will only be considered to protect a reintroduced, threatened, or endangered species.

A predator-management program requires appropriate NEPA compliance, an ANILCA section 810 determination, and if conducted by other than the Service or an agent of the Service, a Refuge compatibility determination. Alternative management actions must be evaluated prior to pursuing direct predator control activities. Any proposal to allow or implement a predator-management program on national wildlife refuges in Alaska will be subject to public review and closely coordinated with the Alaska Department of Fish and Game, local communities, tribal governments, and adjacent landowners and/or managers. Predator-management activities must be monitored and evaluated for effectiveness and resource impacts.

Normal environmental education and population management activities—such as trapper education programs and regulation changes that allow for increased harvests of predatory animals by licensed trappers and hunters—are not considered to be "predator management." The control or extirpation of non-native predators is not considered to be "predator management" (see section 1.3.9.8).

1.3.9.8 Management of Non-native, Invasive, and Pest Species

In general, non-native species (including feral domestic animals) are not compatible with Refuge purposes or with Refuge System policies. When a non-native species (fish, wildlife, or plants) occurs on a refuge, the Service

may control or eliminate that species. Where a population of a non-native species has already been established on a refuge and this population does not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the Refuge, the species may be managed as part of the Refuge's diverse ecosystems.

Pests are defined as those organisms (vertebrates, invertebrates, plants, and microorganisms and their vectors) that are detrimental to fish, wildlife, human health, fish and wildlife habitat, or to established management goals. Pests also include noxious weeds and other organisms classified as pests by law (Administrative Manual 30 AM 12).

Invasive species are non-native species whose introduction does or is likely to cause economic or environmental harm, or harm to human health. The Federal government is prohibited by executive order, law, and policy from authorizing, funding, or carrying out actions that are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere (Service Manual 620 FW 1). Refuge managers conduct habitat management activities to prevent, control, or eradicate invasive species using techniques described through an integrated pest management plan or other similar management plan. Refuge integrated pest management planning will address the advantages and limitations of potential techniques, including chemical, biological, mechanical, and cultural techniques. Management of invasive species on refuges is guided by the National Strategy for Invasive Species Management and conducted within the context of applicable policy (Service Manual 620 FW 1).

By definition, invasive species cause significant impacts to the land and water resources or to the species of plants and animals that use these habitats. To manage invasive plants, the Refuge will include weed inventories as part of all habitat inventories. The Refuge will review the proposed action's potential to introduce or spread invasive plants and will take measures to reduce the hazards (e.g., require weed-free feed for pack animals).

Introduced vertebrates (e.g., fox and rats) may also adversely affect wildlife populations, particularly in island ecosystems where species historically occurred without vertebrate predators. Presence of these invasive species may interfere with attainment of Refuge purposes and management goals.

Pests on refuges may also be controlled to prevent damage to private property; and routine protection of Refuge buildings, structures and facilities is addressed in Refuge policy (Refuge Manual 7 RM 14).

The Refuge will coordinate with other landowners and agencies and use integrated pest management practices to enhance the detection, prevention, and management of invasive species and other pests. Use of chemical control measures on Refuge lands requires regional office

review and approval of a pesticide-use proposal (Administrative Manual 30 AM 12 and Refuge Manual 7 RM 14).

1.3.9.9 Disease Prevention and Control

Certain disease organisms, viruses or vectors of disease (e.g., rabies or parasites) may threaten human health or the health and survival of native wildlife or plant species. These threats may be managed or eliminated after consideration of all reasonable options and consultation with the State of Alaska and other concerned parties. This will normally only occur when severe resource damage is likely or when public health or safety is jeopardized. Wherever possible, an integrated approach to pest management will be used in accordance with the Service's Administrative Manual (30 AM 12) and Refuge Manual (7 RM 14). If chemical controls are used, a pesticide-use proposal must be approved.

1.3.9.10 Fishery Restoration

Fishery restoration is any management action that increases fishery resources to allow full use of available habitat or to reach a population level based on historical biologic data. Although the goal of restoration is self-sustaining populations, situations may exist in which some form of fishery management or facilities could continue indefinitely.

Where fishery resources have been severely adversely affected, the Refuge will work with the State of Alaska, local tribes, and other partners to restore habitats and populations to appropriate, sustainable conditions. Restoration emphasis will focus on strategies that are the least intrusive to ecosystems and do not compromise the viability or genetic characteristics of the depleted population. This may include regulatory adjustments and/or evaluations of escapement goals. If the stocks have been reduced or are threatened, temporary restoration facilities may be allowed in designated Wilderness or Wild River areas, as long as the facilities will not significantly detract from the values for which those areas were established.

1.3.9.11 Fishery Enhancement

Fishery enhancement is any management action or set of actions that is applied to a fishery stock to supplement numbers of harvestable fish to a level beyond that which could be naturally produced based on a determination or reasonable estimate of historic levels. This could be accomplished by stocking barren lakes, providing access to barren spawning areas (fish passages), constructing hatcheries, outstocking in productive systems, or fertilizing rearing habitat.

Refuge management priorities will focus on conserving naturally diverse ecosystems. Fishery enhancement facilities for the purpose of artificially increasing fish populations normally will not occur within any management category.

Proposals for fishery-enhancement projects will be subject to the provisions of NEPA regulations, an ANILCA section 810 determination, and a Refuge compatibility determination. No fishery enhancement facilities or activities can be authorized in Wilderness management areas, consistent with the Ninth Circuit Court of Appeals decision on salmon enhancement in Tustumena Lake (*Wilderness Society v. United States Fish and Wildlife Service, 353 F.3d 1051 [9th Cir. 2003]*).

1.3.10 Subsistence Use Management

Title VIII of ANILCA provides that rural Alaska residents engaged in a subsistence way of life be allowed to continue using resources within refuges for traditional purposes. These resources include fish and wildlife, house logs and firewood, and other plant materials (berries, bark, etc.). Many aspects of subsistence management are addressed outside of refuge comprehensive conservation plans. The Federal Subsistence Board, through its rulemaking process, addresses seasons, harvest limits, and customary and traditional use determinations. The Federal board has established Regional Subsistence Advisory Councils to provide for meaningful public input to the rulemaking process.

The Refuge will work with others to monitor subsistence harvest. The Refuge will supplement the State's ongoing harvest and resource monitoring programs to provide additional information on the status of fish and wildlife populations harvested for subsistence uses. This monitoring is intended to identify potential problems before populations of fish and wildlife become depleted and to ensure preference is given to subsistence users as required by law. All information the Refuge gathers through subsistence monitoring will be shared with local State fish and game advisory committees, tribes, and other entities. Refuge staff attend various subsistence-related meetings, including those of local fish and game advisory committees and Regional Subsistence Advisory Councils, and provide information on the status of subsistence resources and management.

The noncommercial gathering by local rural residents of fruits, berries, mushrooms, and other plant materials for subsistence uses and of dead standing or down timber for firewood is allowed without a special use permit. Harvest of live standing timber for house logs, firewood, or other uses is allowed, although specific requirements vary by size and location. See 50 CFR 36.15 for specific details. Timber stocks subject to subsistence use will also be monitored to ensure they remain available over the long term.

Under section 816 of ANILCA, refuge lands may be closed to the taking of fish and wildlife if closure is deemed necessary for reasons of public safety, administration, or to ensure the continued viability of particular populations of fish or wildlife.

1.3.10.1 Access for Subsistence Purposes

Access to Refuge lands by traditional means will be allowed for subsistence purposes in accordance with section 811 of ANILCA, subject to reasonable regulation (50 CFR 36.12). Traditional means include snowmachines, motorboats, dog teams, and other means of surface transportation traditionally used by local rural residents engaged in subsistence activities. Use of these traditional means of travel will be in compliance with State and Federal law in such a manner to prevent waste of harvested resources or damage to the Refuge and to prevent herding, harassment, hazing, or driving of wildlife.

1.3.10.2 Section 810 Evaluations

The Refuge will evaluate the effects of proposed activities on subsistence use to ensure compliance with section 810 of ANILCA. The Refuge will work with the Federal Subsistence Board, Regional Subsistence Advisory Councils, local fish and game advisory committees, tribes, Native corporations, the Alaska Department of Fish and Game, and other appropriate local sources to determine whether a proposed activity would "significantly restrict" subsistence uses. If the Refuge determines that a proposal would probably result in adverse effects to subsistence use, the Refuge would follow the requirements identified in section 810 before making a final decision on the proposal.

1.3.11 Public Access and Transportation Management

1.3.11.1 Snowmachines, Motorboats, Airplanes, and Nonmotorized Surface Transportation

Section 1110(a) of ANILCA allows the use of snowmachines (during periods of adequate snow cover and frozen river conditions), motorboats, airplanes, and nonmotorized surface transportation methods for traditional activities and for travel to and from villages and homesites. Such access shall be subject to reasonable regulations to protect the natural and other values of the Refuge (43 CFR 36.11). See Kenai specific regulations at 50 CFR 36.39(i)(1)(2)(4) and (7)(vi). Specific areas may be closed, in accordance with these regulations, to such uses. The Refuge manager is responsible for determining when snow cover is adequate to protect the underlying vegetation and soil from damage by snowmachine use. The use of horses, mules, and other animals for transportation is generally allowed; however, some restrictions or closures may be imposed to protect the integrity of certain trails or to address other resource concerns.

1.3.11.2 Off-Road Vehicles

Refuge-specific regulations (50 CFR 36.39(3)[i]) prohibits the use of air cushion, airboat, or other motorized watercraft, except motorboats, on Kenai Refuge, except as authorized by a special use permit from the Refuge manager. Off-road vehicle use, including operation on lake and river ice, is not permitted. Licensed highway vehicles are permitted on

Hidden, Engineer, Kelly, Peterson, and Watson lakes for ice fishing purposes only, and must enter and exit lakes via existing boat ramps (50 CFR 36.39(3)[ii]).

1.3.11.3 Helicopters

The use of a helicopter in any area other than at designated landing areas pursuant to the terms and conditions of a permit issued by the Service, or pursuant to a memorandum of understanding between the Service and another party, or involved in emergency or search and rescue operations is prohibited (43 CFR 36.11(f)(4)).

Helicopter landings for volcano monitoring, geologic hazards evaluations, and fisheries and wildlife management activities may be authorized under special use permit or other authorization, subject to site-specific stipulations. Helicopter landings for initial-attack fire suppression must comply with operational guidance in the Alaska Interagency Wildland Fire Management Plan. Helicopter landings by commercial operators and for general public access are generally not allowed in designated Wilderness. Where such use was established prior to Wilderness designation, it may be allowed to continue.

1.3.11.4 Access to Inholdings

Section 1110(b) of ANILCA ensures adequate and feasible access, for economic or other purposes, across a refuge for any person or entity that has a valid inholding. An inholding is defined as State-owned or privately-owned land, including subsurface rights underlying public lands, valid mining claims, or other valid occupancy that is within or effectively surrounded by one or more conservation system units. When a right-of-way permit is necessary under this provision (e.g., construction of permanent or long-term facilities), the Service will review and process the application in accordance with regulations at 43 CFR 36 and 50 CFR 29. Such permits are subject to terms and conditions as specified in the regulations.

1.3.11.5 Temporary Access

Temporary access, as defined by 43 CFR 36.12(a)(2), is "limited, short-term (i.e., up to one year from issuance of the permit) access which does not require permanent facilities for access to State or private lands." Temporary access is limited to survey, geophysical, exploratory, or other temporary uses of nonfederal lands and where access is not otherwise provided for in 43 CFR 36.10 or 43 CFR 36.11.

The Refuge will evaluate applications for temporary access across the Refuge and shall issue a permit with the necessary stipulations and conditions to ensure that the access granted is compatible with the purposes for which the Refuge was established, that it complies with the provisions of section 810 of ANILCA, and that it ensures that no permanent harm will result to Refuge resources.

1.3.11.6 Subsistence Access

See Access for Subsistence Purposes under Subsistence Use Management (section 1.3.10.1).

1.3.11.7 Transportation and Utility Systems

Transportation and utility systems include roads, highways, railroads, airports, pipelines, electrical transmission lines, communication systems, and related structures and facilities reasonably and minimally necessary for the construction, operation, and maintenance of such systems (section 1102 of ANILCA). Anyone seeking to acquire a right-of-way across Refuge lands for a transportation or utility system must, consistent with 43 CFR 36, file an application with the regional office. Regulations at 43 CFR 36 and 50 CFR 29 establish specific procedures and time constraints for application review, compliance with NEPA, decision-making, and appeals.

The Service will decide whether to approve or disapprove that portion of a transportation or utility system that would cross Refuge lands, except for those on designated Wilderness. When the proposed transportation or utility system would cross a designated Wilderness area, the Service tentatively approves or disapproves the application subject to the President's subsequent decision. If the President approves, a recommendation is submitted to Congress for final approval.

A right-of-way for a transportation or utility system across Refuge lands can be granted only if the system meets the compatibility standard, the criteria outlined in section 1104(g)(2) of ANILCA, and the regulations at 43 CFR 36.7(a)(2), and if there is no economically feasible and prudent alternative route for the system. If approved, permits issued for a transportation or utility system will contain terms and conditions as required under regulations at 43 CFR 36.9(b) and 50 CFR 29.21 through 29.24. Right-of-ways that cross any area within the boundaries of a Wild and Scenic River unit will assure that the stream flow of, and transportation on, the river are not interfered with or impeded and that the facility is located and constructed in an environmentally sound manner (section 1107[b] of ANILCA and the regulations at 43 CFR 36.9[c] and [d]). Additional special requirements apply to right-of-ways for pipelines issued under the Mineral Leasing Act of 1920 (30 U.S.C. 185), section 1107(c) of ANILCA, and regulations at 43 CFR 36.9(d).

When considering an application for a transportation or utility system, the authorization process would incorporate a corresponding comprehensive conservation plan amendment to update the desired management category(s) of the affected area if the system were to be approved.

1.3.11.8 State Transportation Planning

Federal transportation planning regulations require each state to develop a long-range statewide transportation plan in consultation and

coordination with other government agencies and the public. In Alaska, transportation projects nominated for funding are evaluated and ranked by the Alaska Department of Transportation and Public Facilities. When appropriate, the Refuge will participate in the State transportation planning process and provide input regarding environmental considerations of proposed projects affecting Refuge lands and resources.

1.3.11.9 RS 2477 Right-of-Ways

The State of Alaska asserts numerous claims to roads, trails, and paths across Federal lands under Revised Statute 2477 (RS 2477), a section in the Mining Act of 1866 that states, "The right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted." RS 2477 was repealed by the Federal Land Policy and Management Act of 1976, subject to valid existing claims.

Assertion and identification of potential right-of-ways does not establish the validity of these claims nor the public's right to use them. The validity of all RS 2477 right-of-ways will be determined on a case-by-case basis, either through the courts or by other legally-binding document. The State of Alaska has identified two routes on the Refuge it asserts may be claimed as right-of-ways under RS 2477 (Volume 2, Appendix E).

1.3.11.10 17(b) Easements

Section 17(b) of the Alaska Native Claims Settlement Act of December 18, 1971, authorizes the Secretary of the Interior to reserve easements on lands conveyed to Native corporations to guarantee access to public lands and waters (Volume 2, Appendix E). Easements across Native lands include linear easements (e.g., roads and trails) and site easements. Site easements are reserved for use as temporary campsites and to change modes of transportation.

The Service is responsible for administering those public easements inside and outside Refuge boundaries that provide access to Refuge lands. Service authority for administering 17(b) easements is restricted to the lands within the easement. The size, route, and general location of 17(b) easements are identified on maps filed with conveyance documents. Conveyance documents also specify the terms and conditions of use, including the acceptable periods and methods of public access.

1.3.11.11 Navigation Aids and other Facilities

Section 1310 of ANILCA authorizes reasonable access to and operation and maintenance of existing air and water navigation aids, communications sites, and related facilities. It authorizes existing facilities for weather, climate, and fisheries research and monitoring subject to applicable laws and regulations. Reasonable access to and operation and maintenance of facilities for national defense and related

air and water navigation are also provided for, including within designated Wilderness areas.

New facilities shall be authorized only after consultation with the head of the Federal department or agency undertaking the establishment, operation, or maintenance and in accordance with mutually agreed to terms and conditions.

1.3.12 Recreation and Other Public Use

Public recreation activities compatible with Refuge purposes are authorized unless specifically prohibited (50 CFR 36.31). Compatible recreation uses of the Refuge will continue. The Refuge Administration Act identifies compatible hunting, fishing, wildlife observation and photography, and environmental education and interpretation as priority public uses. These uses are encouraged and will receive emphasis in public use management.

Both consumptive (e.g., hunting, fishing, and trapping) and non-consumptive (e.g., wildlife observation and photography) recreation uses are appropriate. Some recreational uses are incidental to others. For example, camping and hiking may be related to hunting, fishing, wildlife photography, or other recreational uses. Kenai Refuge-specific regulations exist for numerous recreation and public use activities, including but not limited to hunting, trapping, fishing, camping, and bicycling (see 50 CFR 36.39).

Subsistence uses are addressed under Subsistence Use Management (section 1.3.10). When it is necessary to restrict the taking of fish and wildlife on a refuge to protect the continued viability of such populations, the taking of fish and wildlife for nonwasteful subsistence uses on refuges shall be accorded priority over the taking of fish and wildlife for other purposes when consistent with ANILCA and other applicable laws, regulations, and policies.

The Refuge will be managed to provide recreation experiences in generally natural wildland settings. Recreation use would be managed consistent with the designated management area category. Intensive and Moderate management areas will be managed for greater concentrations of visitors than will be Minimal management and Wilderness areas. The Refuge will manage all recreation use to avoid crowded conditions and to minimize adverse effects to cultural resources, fish and wildlife, wilderness, and other special values of the Refuge. “Leave No Trace” will be the standard.

The least intrusive means of managing use will be employed. Education will be the primary management tool for recreation management, using brochures, maps, signs, and personal contacts. However, if voluntary methods fail, other actions may be taken. Actions that may be taken to manage recreation include limiting commercial guiding and outfitting; regulating use and access subject to the provisions of section 1110(a) of

ANILCA; and recommending changes in State and/or Federal fishing, hunting, and/or trapping regulations. When necessary, recreation opportunities may be seasonally or otherwise restricted to minimize user conflicts and to protect the natural or other values of a refuge.

Any restrictions on public use will follow the public participation and closure procedures at 50 CFR 36, 43 CFR 36, or other applicable regulations. State management actions available through the Master Memorandum of Understanding (Volume 2, Appendix B) and other State management tools will also be used where mutually desirable.

A Visitor Services Plan may be prepared for the entire Refuge, or more specific management plans may be prepared for areas of relatively concentrated use.

1.3.13 Public Use Facilities

Facilities may be provided to support certain recreation and other public uses. Recreation facilities may be located on Refuge lands and at administrative sites. Visitor centers and highly developed environmental education and interpretive sites may be located off Refuge lands at administrative sites or other appropriate locations. Public use facilities may include roads, trails, boat-launch sites, airstrips, campgrounds, interpretive sites, environmental education sites, visitor centers, public use cabins, visitor-contact facilities, and signs.

All new buildings (e.g., visitor centers, restrooms, public use cabins, and visitor-contact buildings), some recreation facilities (e.g., fishing platforms) and additions and alterations to existing buildings will comply with current accessibility standards. Other non-building recreation facilities (e.g., campgrounds, trails) are not currently covered under these standards, although access for the disabled will be considered in the design of new or upgraded facilities. As funds are available, existing buildings will be updated to meet these standards.

The level of development and appearance of facilities will be appropriate for the management category of the area in which they are located. More intensive and sophisticated facilities will be constructed in the Intensive management category; more rustic and rudimentary facilities will occur in the other management categories.

1.3.13.1 Cabins

Reservation and special use permits are required for most public use of cabins. Management of cabins will be consistent with the Refuge's Cabin Management Plan and in accordance with the Service's cabin regulations (50 CFR 36.33) and regional cabin policy. Private recreation-use cabins will not be authorized.

Public use cabins are intended to provide the public with unique opportunities to enjoy and use the Refuge. They also help ensure public health and safety in bad weather and emergencies.

1.3.13.2 Temporary Facilities for the Taking of Fish and Wildlife

Per section 1316 of ANILCA, the Refuge will allow the use of temporary campsites, tent platforms, shelters, and other temporary facilities and equipment directly and necessarily related to the taking of fish and wildlife, provided these facilities are not detrimental to Refuge purposes. Special use permits may be issued for tent frames, caches, and other facilities. Appropriate stipulations will be included in the special use permits to ensure protection of Refuge resources.

The following criteria will be considered in evaluating applications for temporary facilities:

- Where feasible, they will be located in a manner to not displace or compete with existing public uses.
- They will be located away from the vicinity of existing cabins.
- They will be located on sites that are not currently popular campsites.
- They will be located to minimize displacement of wildlife.

The following conditions may be imposed on temporary facility special use permits:

- The time of occupancy will coincide with the State and/or Federal hunting, fishing, and/or trapping season for the species for which the temporary facility is being used.
- At the end of the specified occupancy, tents and other readily portable materials will be removed.
- To the extent feasible, temporary structures will be built with materials that blend into and are compatible with the surrounding landscape.
- To the extent feasible, temporary facilities will be screened from water and located so that they are as unobtrusive as possible when viewed from trails and areas of significant public use.

1.3.14 Outreach

Outreach is two-way communication between the Refuge and the public to establish mutual understanding, promote public involvement, and influence public attitudes and actions. The Refuge will continue to take advantage of partnership opportunities in providing these services, including working with the Alaska Natural History Association; Alaska Public Lands Information Centers; Friends of Alaska National Wildlife Refuges; local, State, and other Federal agencies; local schools; tribal governments; Alaska Native organizations; and others.

Use of outreach as a management tool is key to the success of many of the management activities outlined in this Plan. Two outreach activities—environmental education and interpretation—are included in the six priority public uses identified in the Refuge Improvement

Act. Many other activities are also available for use by Refuge staff in its outreach program, which may be developed in more detail as a step-down management plan. All outreach activities must be continually evaluated to determine whether they fulfill Refuge management goals and objectives. The Refuge will ensure that these services are available to all segments of the public, including those with disabilities and those who speak languages other than English.

Refuge staff will work with the news media, attend public meetings and workshops, develop Internet home pages, invite the public to the Refuge (open houses), and foster one-on-one communication.

1.3.15 Commercial-Use Management

Commercial uses are activities involving use of a refuge or its resources for a profit. Subsistence uses are not included in commercial uses. Refer to section 1.3.10 for policies related to subsistence.

Except for mining on valid claims under the 1872 Mining Law, other activities where specific property rights are held by entities other than the Federal government or where specifically exempted by law, all commercial uses must comply with both NEPA and the compatibility requirements of the Refuge Administration Act. A written authorization (such as a special use permit) is required to conduct commercial activities on any refuge. Compliance with NEPA and a Refuge compatibility determination will be required prior to deciding whether to authorize a commercial use. Prior to authorizing any economic use of a natural resource, the Refuge manager must determine that each use, except for proposed activities authorized by ANILCA, contributes to the achievement of Refuge purposes or the Refuge System mission (50 CFR 29.1). Except for commercial services described previously, commercial enterprises are prohibited in designated Wilderness.

1.3.15.1 Commercial Recreation Services

Air-taxi and water-taxi operators, wildlife-viewing guides, tour operators, wilderness guides, recreational fishing guides, big-game hunting guides, and others providing recreation services are required, under 50 CFR 27.97, to obtain special use permits to operate on Refuge lands. Where the number of special use permits is limited, Refuge managers will award permits competitively (50 CFR 36.41). Special use permits require compliance with all applicable laws and regulations (e.g., United States Coast Guard licensing regulations). Permit stipulations ensure that camps; travel methods; storage of food, fish, and game meat; and activities are compatible with Refuge purposes and reduce the potential for impacts to resources and to other Refuge users. If problems arise relating to commercial recreation activities—such as disturbance of active nests, conflicts with subsistence use, chronic incidence of bears getting into food, or violations of State or Federal regulations—the Refuge may modify or terminate use under the special

use permit stipulations. The Refuge will monitor the number and type of guides and outfitters operating in the Refuge and the number of clients and will, if necessary, further regulate use.

Under section 1307 of ANILCA, local preference is provided for all new commercial visitor services except guiding for recreational hunting and fishing. Regulations defining local preference are at 50 CFR 36.37.

1.3.15.2 Mineral Exploration and Development

Oil and Gas Assessment
Geological and geophysical studies, including subsurface core sampling and seismic activities, require special use permits with site-specific stipulations that ensure consistency with the management objectives of this plan. Decisions to allow exploration will be made on a case-by-case basis, but in any case, may only be authorized where existing Federal leases are held or where private subsurface ownership of oil, gas, or coal exists within Kenai Refuge.

Oil and Gas Leasing
Oil and gas leasing or production development may be allowed only in areas of Kenai Refuge where current Federal leases are held, or where private subsurface ownership of oil, gas, or coal exists within the Refuge.

When authorized, oil and gas development actions will be subject to stipulations on access, seasonal use, and site restoration; operators would be required to use technology that minimizes impacts on fish, wildlife, and habitat. The Refuge will work closely with leaseholders to minimize adverse effects of mineral exploration and extraction on Refuge resources and recreation opportunities.

Sand, Gravel, and Other Common Variety (Saleable) Minerals
Common variety minerals—such as sand, gravel, stone, limestone, pumice, pumicite, cinders, and clay—may be sold pursuant to the Materials Act of July 31, 1947 (30 U.S.C. 601 and 602), as amended. Regulations are found at 43 CFR 3600. Disposal is also authorized under the Refuge Revenue Sharing Act (16 U.S.C. 715s). Also see 612 FW 1 of the Service Manual. Extraction may be authorized, where compatible, in Intensive and Moderate management areas to support construction and maintenance projects on Refuge lands if no reasonable material sites exist off Refuge lands.

Other Mineral Leasing
In general, mineral leasing is not allowed on refuge land. Geothermal leasing is not allowed on refuges under section 1014(c) of the Geothermal Steam Act (30 U.S.C. 1014). Coal mining is also prohibited, subject to valid existing rights, under section 16 of the Federal Coal Leasing Amendment Act of 1975 (30 U.S.C. 201 Notes) and the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1272; 43 CFR 3400.2). Cook Inlet Region, Inc. (CIRI), holds rights to approximately 200,000 acres of subsurface oil, gas, and coal within Kenai Refuge. In

specific cases of national need, however, mineral exploration, development, or extraction may be permitted under section 1502 of ANILCA. The President must determine that the national need for the mineral activity outweighs the other public values of the land. Any recommendation by the President would take effect only after enactment of a joint resolution by Congress.

1.3.15.3 Commercial Fishing and Related Facilities

Under section 304(d) of ANILCA, the Service will continue to allow individuals with valid commercial fishing rights or privileges to operate on the Refuge. The use of campsites, cabins, motor vehicles, and aircraft on the Refuge in support of commercial fishing is subject to reasonable regulation. Section 304(d) provides for restricting commercial fishing rights if the use is determined to be inconsistent with Refuge purposes *and* to be a "significant expansion of commercial fishing activities . . . beyond the level of such activities during 1979." The Service recognizes that fishery levels are cyclic and will take that into consideration when applying the 1979-level criteria. Any new fishery and related facilities and equipment will have to meet the compatibility standard.

Aquaculture and mariculture support facilities may be allowed in Intensive management, subject to provisions of State and Federal laws. Seafood processing plants will not be allowed.

1.3.15.4 Commercial Harvest of Timber and Firewood

Commercial harvest of timber and firewood will only be authorized under a special use permit and when necessary to fulfill overall Refuge management objectives. Within Moderate, Minimal and Wild River management categories, commercial harvest of timber and firewood to accomplish management objectives will only occur when an approved Refuge fire management plan identifies the need to reduce fuel loads in an area. Applicable Federal and State of Alaska guidelines for timber management will be followed. Commercial harvest of timber and firewood is not allowed in designated Wilderness.

1.3.15.5 Commercial Gathering of Other Resources

Commercial gathering of other resources (e.g., antlers or mushrooms) requires a special use permit under 50 CFR 27.51 and may be allowed if determined to contribute to Refuge purposes or the System mission (50 CFR 29.1).

1.3.15.6 Commercial Filming and Recording Activities

It is Service policy to provide Refuge access and/or assistance to firms and individuals in the pursuit of commercial visual and audio recordings when they are compatible with Refuge purposes or the mission of the Refuge System. Commercial films, television production, or sound

tracks made within refuges for other than news purposes require a special use permit or authorization (43 CFR 5.1).

Commercial filming or recording activities such as videotaping, audio taping, and photography for the purpose of advertising products and services are subject to an A/V Production Permit (Refuge Manual 8 RM 16).

Permits are not required for still photography on Refuge lands open to the general public, including commercial still photography, so long as no models or props which are not a part of the site's natural or cultural resources or administrative facilities are used (16 U.S.C. 460l-6d[c]).

1.3.15.7 Other Commercial Uses

Generally, other commercial uses such as grazing, agriculture, and hydroelectric power development will not be allowed. An exception may be made for low-head or small run-of-the-river hydropower facilities. These may be authorized in Intensive and Moderate management areas on a case-by-case basis. See section 1.3.11.7 for transmission lines, pipelines, and other right-of-ways mentioned in Title XI of ANILCA.

1.3.16 Environmental Contaminants Identification and Cleanup

One goal of the Refuge Administration Act is to maintain the biological integrity, diversity, and environmental health of the Refuge System. In support of this goal, the Service studies environmental contaminants that may threaten trust species (i.e., those species for which the Service has primary jurisdiction) and other resources of the Refuge. This work will continue as new concerns are identified and as funding allows.

An assessment of known or suspected contaminants threats is normally completed for each refuge as part of the national Contaminants Assessment Process. During comprehensive conservation plan revisions, existing information will be reviewed, and an assessment of potential contaminants threats will be entered into an electronic database. A contaminant assessment report will also be prepared.

When contaminants are identified on Refuge lands, the Service will initiate discussions with the responsible party or parties to remedy the situation. If the Service caused the contamination, funds will be sought to define the extent and type of the contamination and to remedy it. Appropriate environmental regulations—including the Resource Conservation Recovery Act, Comprehensive Environmental Response and Compensation Liability Act, Oil Pollution Act of 1990, and State of Alaska regulations (e.g., 18 AAC 75)—would be followed during remediation work.

All spills of petroleum products and hazardous materials must be reported to the Alaska Department of Environmental Conservation and to the National Response Center. Incidents also need to be reported to the U.S. Fish & Wildlife Service Regional Spill Response Coordinator. The Refuge

will refer to the U.S. Fish & Wildlife Service Region 7 Spill Response Contingency Plan and other relevant plans when responding to spills.

1.3.17 Management of Designated Wilderness

Designated Wilderness will be managed in accordance with the Wilderness Act of 1964, as modified by provisions of ANILCA; Service guidelines as found in the Refuge Manual (6 RM 8) and Part 610 of the Service Manual, when approved; and regional policy. Preserving the wilderness character of the area is the management focus for designated Wilderness. A minimum requirements analysis will be conducted for administrative activities proposed in Wilderness areas. This two-step decision process involves determining if an activity should be conducted in the Wilderness Area and if so, determining the minimum tool, which is the least intrusive tool, equipment, device, force, regulation, or practice determined necessary to achieve a management objective in Wilderness.

Certain activities are legislatively prohibited in designated Wilderness, including oil, gas, and other mineral leasing and most surface-disturbing activities. Section 4(c) of the Wilderness Act generally prohibits roads, commercial enterprises, motor vehicles, motorboats, other forms of mechanical transport, motorized equipment, the landing of aircraft, and structures and installations in Wilderness areas. Provisions of ANILCA, however, provide exceptions to some of these prohibitions for specific purposes, such as allowing motorized public access for traditional activities and for the continuation of pre-existing commercial and private use cabins. The following are some of the ANILCA provisions that apply and their applicable sections affecting public use of Wilderness areas:

- Access for subsistence purposes (section 811)
- Access for traditional activities and to and from villages and home sites (section 1110[a])
- Access to State- or privately-owned lands (including subsurface rights), valid mining claims, or other valid occupancy (section 1110 [b])
- Construction and use of cabins for traditional and customary uses (section 1303)

Other provisions of ANILCA affect the administrative uses of Wilderness Areas, including the following:

- Access for mineral assessment purposes, as part of the Alaska Mineral Resources Assessment Program (section 1010)
- Construction and maintenance of navigation aids and other facilities (section 1310)
- Continuation of existing, and construction of new, public use cabins (sections 1315[c] and [d])

Under 50 CFR 35.5(b), regional policy (RW-16) allows local residents engaged in subsistence activities to use chainsaws. Other motorized equipment not related to transportation (such as generators and water pumps) are not allowed.

Granting right-of-ways for transportation or utility systems through designated Wilderness requires Presidential and Congressional approval (section 1106[b] of ANILCA; see also section 1.3.11.7).

A step-down Wilderness stewardship plan will be prepared for specific designated Wilderness areas to address in greater detail their resources, uses, and management. Specific details would be included on how the broad management direction provided in the Comprehensive Conservation Plan would be applied in a given designated Wilderness area to preserve the wilderness character. The step-down plan would be prepared in cooperation with and would include appropriate public involvement.

1.3.18 Management of Research Natural Areas

The Service recognizes the importance of preserving plant and animal communities in a natural state for research purposes. Research Natural Areas (RNAs) on National Wildlife Refuges are part of a national network of reserved areas under various ownerships. This network is the result of a designation system recognized by other Federal land administering agencies and the Federal Committee on Ecological Reserves. RNAs are intended to represent the full array of North American ecosystems; biological communities, habitats, and phenomena; and geological and hydrological formation and conditions. RNAs are areas where natural processes are allowed to dominate without human intervention. However, under certain circumstances, deliberate manipulation is used to maintain unique features that the RNA was established to protect.

Designation and management of RNAs is delegated to the director of the U.S. Fish & Wildlife Service (Service) by the National Wildlife Refuge System Administration Act of 1966. Service policy 8 RM 10.8 states that “RNAs must be reasonably protected from any influence that could alter or disrupt the characteristic phenomena for which the area was established.” Activities on RNAs are limited to research, study, observation, monitoring, and educational activities that are nondestructive and nonmanipulative, and that maintain unmodified conditions. Policy encourages scientific use by responsible scientists and educators, providing their activities do not impair or threaten the features of the areas; public uses that contribute to modification of the areas should be discontinued or are expressly prohibited if such uses threaten serious impairment of research or education values. Use of RNAs should be governed by a natural area management plan that is compatible with established Refuge objectives.

1.3.19 Administration of Kenai National Wildlife Refuge

1.3.19.1 Administrative Sites and Visitor Facilities

Administrative sites include temporary and permanent field camps, residences, offices and associated storage, communication, and transportation facilities. The type of administrative site and level of development will be consistent with the management intent of the management category in which they are constructed. Administrative field camps or other administrative facilities within Minimal, Wild River, and Wilderness management categories will only be allowed when required to meet management objectives, when no reasonable alternative sites exist, and when the facilities are essential to protect the health and safety of employees. New facilities would only be the minimum required to meet long-term needs.

Fuel storage or other hazardous-material storage in conjunction with administrative sites will meet all Federal and State requirements for spill containment and storage. Hazardous materials stored within the Wild River and Wilderness management categories will be in small (55-gallon or less) containers.

Under section 1306 of ANILCA, the Secretary of the Interior may establish administrative sites and visitor facilities, either within or outside the boundaries of a conservation system unit, in accordance with the unit's management plan and for the purposes of ensuring the preservation, protection, and proper management of the unit. Section 1306 further states that to the "extent practicable and desirable, the Secretary shall attempt to locate such sites and facilities on Native lands in the vicinity of the unit."

Department of Interior guidelines, developed in 1995 and implementing section 1306, require that prior to initiating a search for an administrative site or visitor facility, site-selection criteria be developed, with public input, and all proposals be evaluated according to the site-selection criteria. If it is determined that Native lands satisfy the site-selection criteria and are desirable and practicable for the intended use, the highest-ranked Native lands shall be selected as the preferred site, subject to a specific site evaluation. If no Native lands satisfy the site-selection criteria, the highest-ranked parcel will become the preferred site. Public comments will be considered prior to making a final decision.

1.3.19.2 Applicability of Refuge Regulations to Off-Refuge Administrative and Visitor Facility Sites

Under 50 CFR 36.1(c), the Service is authorized to enforce regulations concerning public safety and protection of government property and State of Alaska fish and wildlife regulations on administrative and visitor facility sites that may be held in fee or less-than-fee title and are either inside or outside the approved boundaries of any Alaska national wildlife refuge.

1.3.19.3 Refuge Management Plans

Some management programs are addressed in sufficient detail in the Comprehensive Conservation Plan (Plan) to be integrated directly into the budgetary process. For other programs, it may be necessary to prepare step-down management plans to implement general strategies identified in this Plan. Additional information on the step-down planning process can be found in 602 FW 3 of the Service Manual.

The following step-down management plans will be drafted upon approval of this revised Plan:

Title of Step-Down Management Plan	Timeframe for Initiating Development
Oil and Gas Unit Restoration and Recreation Management Plan	Within 3 years of Revised Comprehensive Conservation Plan's approval
Sqilantnu Archaeological District Management Plan	Within 5 years of Revised Comprehensive Conservation Plan's approval
Stepanka Archaeological District Management Plan	Within 3 years of Revised Comprehensive Conservation Plan's approval
Trail Needs Assessment	Within 3 years of Revised Comprehensive Conservation Plan's approval
Terrestrial and Aquatic Invasive Species Management Plan	Within 5 years of Revised Comprehensive Conservation Plan's approval
Wilderness Stewardship Plan	Immediately upon Revised Comprehensive Conservation Plan's approval
Wildland Fire Monitoring Plan	Within 3 years of Revised Comprehensive Conservation Plan's approval
Wildlife Inventory and Monitoring Plan	Within 2 years of Revised Comprehensive Conservation Plan's approval

1.3.20 Alaska Mineral Resource Assessment Program

Section 1010 of ANILCA requires that all Federal lands be assessed for their oil, gas, and other mineral potential, although section 304(c) of ANILCA prohibits new hardrock mining on refuges. Mineral assessment techniques that do not have lasting impacts—such as side-scanning radar, trenching, and core drilling—may be allowed throughout the Refuge. Special use permits issued to other government agencies or their contractors for assessment work would include stipulations to ensure that the assessment program is compatible with Refuge purposes. For example, stipulations may limit access during nesting, calving, or spawning, or at other times when fish and wildlife may be especially vulnerable to disturbance.

1.4 Management Categories Table

1.4.1 Introduction

This table lists activities, public uses, commercial uses, and facilities by management category. In some cases, it provides very specific guidance (such as for highway vehicles). In other cases (such as for research and management facilities), the direction is general. While facilities may be allowed in all management categories, the types of facilities and how they would be constructed and operated vary widely by management category. The descriptions of the management categories reflect a clear distinction in the level of action, type of action, and constraints that may be placed on activities or development within the management categories. They should be used to reflect the desired future condition of the area when site-specific proposals are being evaluated. Activities allowed or authorized will be managed differently depending on the management category in which they occur and are also subject to management direction provided in Refuge-specific step-down management plans.

1.4.2 Definitions for Management Categories Table

The following are definitions for terms used in the table.
Allowed—Activity, use, or facility is allowed under existing NEPA analysis, appropriate use findings, Refuge compatibility determinations, and applicable laws and regulations of the Service, other Federal agencies, and the State of Alaska.

May be allowed—Activity, use, or facility may be allowed subject to site-specific NEPA analysis, an appropriate use finding (when required), a specific Refuge compatibility determination (when required), and compliance with all applicable laws and regulations of the Service, other Federal agencies, and the State of Alaska.

May be authorized—Activity, use, or facility may be allowed; a special use permit or other authorization is required.

Not allowed—Activity, use, or facility is not allowed.

The following terms are used:

NEPA analysis—All activities, uses, and facilities proposed for a Refuge that have the potential to result in significant effects on the environment require an analysis of potential environmental impacts under the National Environmental Policy Act. This analysis may be documented as a categorical exclusion (CE), an environmental assessment (EA), or an environmental impact statement (EIS), depending on the nature of the proposed project.

Appropriate Use—All uses over which the Service has jurisdiction must be determined to be appropriate following direction in Service Manual 630 FW 1. Hunting, fishing, wildlife observation and photography, and environmental education and interpretation are

considered appropriate by national policy with no further analysis required. See section 1.3.4.1 for a description of the criteria used to determine if other uses are appropriate.

Compatibility—All activities, uses, and facilities allowed on the Refuge, except management actions undertaken by or for the Service, must be compatible with the purposes of the Refuge and the mission of the Refuge System. The analysis that occurs results in a Refuge compatibility determination. Management activities undertaken by the Service or by volunteers, cooperators, or contractors working for the Service, with limited exception, are exempt from compatibility review (Part 603 of the Service Manual).

Regulations—All activities, uses and facilities allowed on a Refuge must comply with any applicable regulations, as published in the Code of Federal Regulations. Regulations are developed by the Service through a public process to implement the legal authorities under which the Service manages the Refuge System. For specific information on these regulations, see the appropriate topic in this appendix. For some activities, other Federal agency and/or State regulations may also apply.

Temporary—Temporary is defined as a continuous period of time not to exceed 12 months, except as specifically provided otherwise. Special use permits or other authorizations may prescribe a longer period of time, but the structures or other human-made improvements need to be readily and completely dismantled and removed from the site when the period of authorized use terminates.

The following guidelines apply to all activities, uses, and facilities allowed on a refuge.

Area or time restrictions—All activities and uses allowed on a refuge may be restricted in certain areas or at certain times, at the discretion of the Refuge manager and with the appropriate level of public involvement, by emergency (short-term) or permanent regulation, if necessary to protect Refuge resources or human health and safety.

Management emergencies—Activities, uses, and facilities not allowed on a refuge or in specific management categories may be allowed if naturally-occurring or human-caused actions adversely affect Refuge resources or threaten human health and safety.

Table C-1. Activities, Public Uses, Commercial Uses, and Facilities by Management Category

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
ECOSYSTEM, HABITAT, AND FISH AND WILDLIFE MANAGEMENT				
Ecosystem and Landscape Management				
Collecting Information on and Monitoring Ecosystem Components Data gathering, monitoring, and maintaining a comprehensive data base of selected ecosystem components (plants, animals, fish, water, air). (See sections 1.3.8 and 1.3. 9)	Allowed; see section 1.3.17*	Allowed	Allowed	Allowed
Research and Management Access and collection of data necessary for management decisions or to further science by the Service. (See section 1.3. 8)	Allowed; see section 1.3.17*	Allowed	Allowed	Allowed
Access and collection of data necessary for management decisions or to further science by ADF&G.	Allowed; see section 1.3.17*	Allowed	Allowed	Allowed
Access and collection of data necessary for management decisions or to further science by other researchers.	May be authorized; see section 1.3.17*	May be authorized	May be authorized	May be authorized
Research and Management Facilities May be permanent or temporary structures or camps, including weirs, counting towers, and sonar counters. (See section 1.3.19.1)	May be allowed; consistent with section 1.3.17*	May be allowed	May be allowed	May be allowed
Fish and Wildlife Habitat Management				
Describing, Locating, and Mapping Habitats Development of quantitative, written, and graphic descriptions of fish and wildlife habitat, including water, food, and shelter components.	Allowed; see section 1.3.17*	Allowed	Allowed	Allowed

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Habitat Management (See section 1.3.8.1) *Mechanical Treatment* Activities such as cutting, crushing, or mowing of vegetation; water control structures; fencing; artificial nest structures.	Not allowed; with exceptions consistent with section 1.2.1. See also section 1.3.17*	Not allowed; with exceptions consistent with section 1.2.2	May be allowed	May be allowed
Chemical Treatment Use of chemicals to remove or control non-native species.	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Manual Treatment Use of hand tools to remove, reduce, or modify hazardous plant fuels, exotic plant species, or to modify habitats (e.g., remove beaver dams).	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Aquatic Habitat Modifications Activities such as stream bank restoration, passage structures, fish barriers, or removal of obstacles which result in physical modification of aquatic habitats to maintain or restore native fish species. (See section 1.3.8.1)	May be allowed; consistent with section 1.2.1; See also section 1.3.17*	May be allowed	May be allowed	May be allowed
Fire Management—Prescribed Fires Fire ignited by management actions to meet specific management objectives. (See section 1.3.8.2)	May be allowed; see section 1.2.1*	May be allowed	May be allowed	May be allowed
Fire Management—Wildland Fire Use The planned use of naturally occurring fires to meet management objectives. (See section 1.3.8.2)	May be allowed*	May be allowed	May be allowed	May be allowed
Fire Management—Fire Suppression Management actions intended to protect identified resources from a fire, extinguish a fire, or alter a fire's direction of spread. (See section 1.3.8.2)	Allowed	Allowed	Allowed	Allowed

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Non-native and Pest Plant Control Monitoring, extirpation, control, removal, and/or relocation and other management practices for pest and non-native plant species. (See section 1.3.9.8)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Chemical Treatment Use of chemicals to remove or control non-native species. (See sections 1.3.8.1 and 1.3.9.8)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Water Quality and Quantity Management Monitoring of water quality and quantity to identify baseline data and for management purposes; includes installation of gauging stations. (See section 1.3.7.2)	Allowed; see section 1.3.17*	Allowed	Allowed	Allowed
Fish and Wildlife Population Management				
Reintroduction of Species The reintroduction of native species to restore natural diversity of fish, wildlife, and habitats. (See section 1.3.9.6)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Fish and Wildlife Control The control, relocation, sterilization, removal, or other management of native species, including predators, to maintain natural diversity of fish, wildlife, and habitats; to protect reintroduced, threatened, or endangered species, or to restore depleted native populations. (See section 1.3.9.7)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Non-native Species Management The removal or control of non-native species (including predators). (See section 1.3.9.8)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Pest Management and Disease Prevention and Control Relocation or removal of organisms that threaten human health or survival of native fish, wildlife, or plant species. Management practices directed at controlling pathogens that threaten fish, wildlife, and people, such as rabies and parasite control. (See section 1.3.9.9)	May be allowed; see section 1.3.17*	May be allowed	May be allowed	May be allowed
Fishery Restoration Actions taken to restore fish access to spawning and rearing habitat, or actions taken to restore populations to historic levels. Includes harvest management, escapement goals, habitat restoration, stocking, egg incubation boxes, and lake fertilization. (See section 1.3.9.10)	May be allowed*	May be allowed	May be allowed	May be allowed
Fishery Restoration Facilities Fisheries facilities may be permanent or temporary and may include hatcheries, fish ladders, fish passages, fish barriers, and associated structures. (See sections 1.3.9.10 and 1.3.19)	May be authorized*	May be authorized	May be authorized	May be authorized
Fishery Enhancement Activities applied to a fish stock to supplement numbers of harvestable fish to a level beyond what could be naturally produced based upon a determination or reasonable estimate of historic levels. (See section 1.3.9.11)	Not allowed	Not allowed	May be allowed	May be allowed
Fishery Enhancement Facilities May be permanent or temporary and may include hatcheries, egg incubation boxes, fish ladders, fish passages, fish barriers, and associated structures. (See sections 1.3.9.11 and 1.3.19)	Not allowed	Not allowed	May be authorized	May be authorized

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Native Fish Introductions Movement of native fish species within a drainage on the refuge to areas where they have not historically existed. (See section 1.3.9.6)	May be allowed*	May be allowed	May be allowed	May be allowed
Non-native Species Introductions Introduction of species not naturally occurring within the Refuge. (See section 1.3.9.6)	Not allowed	Not allowed	Not allowed	Not allowed
SUBSISTENCE (See section 1.3.12)				
Subsistence Activities				
Fishing, Hunting, Trapping, and Berry Picking The taking of fish and wildlife and other natural resources for personal consumption, as provided by law.	Allowed	Allowed	Allowed	Allowed
Collection of House Logs and Firewood Harvesting live standing timber greater than 3 inches diameter at breast height for personal or extended family use.	May be authorized	May be authorized	May be authorized	May be authorized
Collection of Plant Materials Harvesting trees less than 3 inches diameter at breast height, dead standing or downed timber, grass, bark, and other plant materials used for subsistence purposes.	Allowed	Allowed	Allowed	Allowed
Temporary Facilities Establishment and use of tent platforms, shelters, and other temporary facilities and equipment directly related to the taking of fish and wildlife. (See section 1.3.13.2)	Allowed	Allowed	Allowed	Allowed
Subsistence Cabins – See Cabins (See also section 1.3.13.1)				

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Subsistence Access – subject to reasonable regulations under provisions of Section 810 of ANILCA (See section 1.3.11.1)				
Use of snowmobiles, motorboats, and other means of surface transportation traditionally employed for subsistence purposes.	Allowed	Allowed	Allowed	Allowed
ACCESS (See section 1.3.12) Restrictions subject to provisions of Section 1110 of ANILCA as applicable; see also Subsistence Access section above.				
Foot	Allowed	Allowed	Allowed	Allowed
Dogs and Dog Teams	Allowed**	Allowed**	Allowed**	Allowed**
Other Domestic Animals Includes horses, mules, llamas, etc.	Allowed	Allowed	Allowed	Allowed
Bicycles Includes all types of bicycles, e.g., road, BMX, mountain, etc.	Not Allowed	Not Allowed	Allowed**	Allowed**
Nonmotorized Boats Includes canoes, kayaks, rafts, etc.	Allowed	Allowed	Allowed	Allowed
Motorized				
Motor Boats Includes inboard and outboard motor power boats, including jet boats; does not include jet driven personal water craft, air boats, and air cushion vehicles.	Allowed**	Allowed**	Allowed**	Allowed**
Highway Vehicles	Not allowed	Not allowed	May be allowed on designated roads	Allowed on all-weather roads
Off-Road Vehicles (All-Terrain Vehicles) Includes air boats and air cushion vehicles. (See sections 1.3.11.1 and 1.3.11.2)	Not allowed	Not allowed	Not allowed	Not allowed
Airplanes Fixed-wing aircraft such as float planes and wheeled planes.	Allowed**	Allowed**	Allowed**	Allowed**

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Helicopters Includes all rotary-wing aircraft. (See section 1.3.11.3)	May be authorized; consistent with sections 1.2.1 and 1.3.17	May be authorized	May be authorized	May be authorized
Snowmachines (Snowmobiles) A self-propelled vehicle intended for off-road travel primarily on snow and having a curb weight of not more than 1,000 pounds (450 kg), driven by track or tracks in contact with the snow.	Allowed**	Allowed**	Allowed**	Allowed**
PUBLIC USE, RECREATION, and OUTREACH ACTIVITIES Also see ACCESS and Commercial Recreation sections.				
Hunting and Fishing Note: Activities are priority public uses. (See section 1.3.12)	Allowed**	Allowed**	Allowed**	Allowed**
Trapping (See section 1.3.12)	Allowed**	Allowed**	Allowed**	Allowed**
Wildlife Observation, Wildlife Photography, Interpretation and Environmental Education Note: Activities are priority public uses (See section 1.3.12	Allowed	Allowed	Allowed	Allowed
Walking, Hiking, Camping at Undeveloped Sites, and Dog Sledding (See sections 1.3 and 1.3.12)	Allowed	Allowed	Allowed	Allowed
General Photography See also COMMERCIAL USES. (See sections 1.3 and 1.3.12)	Allowed	Allowed	Allowed	Allowed
Outreach Activities (See sections 1.3 and 1.3.14)	Allowed	Allowed	Allowed	Allowed

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Public Use and Recreation Facilities – level of development is consistent with management intent of the category (See section 1.3.14)				
All Weather Roads And associated developments, including bridges.	Not allowed	Not allowed	May be allowed	May be allowed
Unimproved Roads Note: while unimproved roads are not allowed in Minimal management and Wilderness, roads may exist. In these management categories, the roads would not be designated for use or maintained.	Not allowed	Not allowed	May be allowed	May be allowed
Designated Off-Road Vehicle (All-Terrain Vehicle) Trails and Routes	Not allowed	Not allowed	Not allowed	Not allowed
Roadside Exhibits and Waysides	Not applicable	Not applicable	May be allowed	May be allowed
Constructed and Maintained Airstrips	Not allowed	Not allowed	May be allowed	May be allowed
Cleared Landing Strips and Areas Includes unimproved areas where airplanes land. Minor brush cutting or rock removal by hand is allowed for maintenance.	Existing strips allowed to remain; new strips not allowed; see section 1.3.17*	Existing strips allowed to remain; new strips not allowed	Existing strips allowed to remain; new strips not allowed	Existing strips allowed to remain; new strips not allowed
Constructed Hiking Trails Includes bridges, boardwalks, trailheads, and related facilities.	May be allowed*	May be allowed	May be allowed	May be allowed
Designated Hiking Routes Unimproved and unmaintained trails; may be designated by signs, cairns, and/or on maps.	Allowed	Allowed	Allowed	Allowed
Boat Launches and Docks Designated sites for launching and storing watercraft or tying up a float plane.	Not Allowed	May be allowed	May be allowed	May be allowed
Visitor Contact Facilities A variety of staffed and unstaffed facilities providing information on the Refuge and its resources to the public; facilities range from visitor centers to kiosks and signs. (See section 1.3.13)	Generally not allowed; see sections 1.2.1 and 1.3.17*	May be allowed	May be allowed	May be allowed

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Campgrounds Developed sites accessible by highway vehicles.	Not applicable	Not applicable	May be allowed	May be allowed
Hardened Campsites Areas where people can camp that are accessible by vehicle or on foot but where the only facilities provided are for public health and safety and/or resource protection; may include gravel pads for tents, hardened trails, and/or primitive toilets. (See section 1.3.13)	Allowed; consistent with section 1.3.17*	Allowed	Allowed	Allowed
Primitive Camping Sites selected by users to pitch tents or other temporary shelters. Sites are not improved or maintained.	Allowed**	Allowed**	Allowed**	Allowed**
Temporary Facilities Includes tent frames, caches, and other similar or related facilities; does not include cabins. See also SUBSISTENCE, COMMERCIAL USES, and Administrative Facilities. (See section 1.3.13.2)	May be authorized	May be authorized	May be authorized	May be authorized
Cabins – also other related structures such as outdoor toilets, food caches, storage sheds, and fish drying racks (See section 1.3.14.1)				
Public Use Cabin A cabin administered by the Service and available for use by the public; intended only for short-term public recreational use and occupancy.	May be allowed; consistent with section 1.3.17*	May be allowed	May be allowed	May be allowed
Administrative Cabin Any cabin primarily used by refuge staff or other authorized personnel for the administration of the Refuge. (See section 1.3.19.1)	May be allowed; consistent with section 1.3.17*	May be allowed	May be allowed	May be allowed
Subsistence Cabin Any cabin necessary for health and safety and to provide for the continuation of ongoing subsistence activities; **not** for recreational use.	May be authorized; consistent with section 1.3.17	May be authorized	May be authorized	May be authorized

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

Commercial Cabin Any cabin which is used in association with a commercial operation, including but not limited to commercial fishing activities and recreational guiding services.	Not allowed consistent with section 1.3.17	May be authorized	May be authorized	May be authorized
Other Cabins Cabins associated with authorized uses by other government agencies.	May be authorized; consistent with section 1.3.17	May be authorized	May be authorized	May be authorized
Administrative Facilities (See section 1.3.19.1)				
Administrative Field Camps **Temporary** facilities used by refuge staff and other authorized personnel to support individual (generally) field projects; may include but is not limited to tent frames and temporary/portable outhouses, shower facilities, storage/maintenance facilities, and caches.	May be allowed*	May be allowed	May be allowed	May be allowed
Administrative Field Sites Permanent facilities used by refuge staff or other authorized personnel for the administration of the Refuge. Includes administrative cabins and related structures (see Cabins) and larger multi-facility administrative sites necessary to support on going field projects, research, and other management activities. Temporary facilities, to meet short-term needs, may supplement the permanent facilities at these sites.	Use of existing sites allowed, including replacement of existing facilities as necessary; new sites may be allowed; consistent with sections 1.2.1 and 1.3.17*	Use of existing sites allowed, including replacement of existing facilities as necessary; new sites may be allowed	Use of existing sites allowed, including replacement of existing facilities as necessary; new sites may be allowed	Use of existing sites allowed, including replacement of existing facilities as necessary; new sites may be allowed
Refuge Administrative Office Complex Facilities necessary to house refuge operations, outreach, and maintenance activities, and associated infrastructure; includes staff offices, storage, maintenance, parking lots, and other similar facilities.	Not allowed	Not allowed	Not allowed	May be allowed

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Hazardous Materials Storage Sites, including appropriate structures and equipment, necessary for the storage and transfer of fuels and other hazardous materials used for administrative purposes; must be in compliance with all federal and state requirements.	May be allowed	May be allowed	May be allowed	May be allowed
Residences Residential housing for refuge staff and their families; includes single and multi-family dwellings.	Not allowed	Not allowed	Not allowed	May be allowed
Bunkhouses Quarters to house temporary and similar employees, volunteers, visitors, and other agency personnel.	Not allowed	Not allowed	May be allowed	May be allowed
Aircraft Hangars and Facilities for Storage of Aircraft	Not allowed*	Not allowed	Not allowed	May be allowed
Boat Launches and Docks Designated sites for launching and storing watercraft or tying up a float plane.	Not Allowed*	May be allowed	May be allowed	May be allowed
Radio Repeater Sites Sites used to maintain radio communications equipment; may include helispots for access.	May be allowed*	May be allowed	May be allowed	May be allowed
COMMERCIAL USES Except as noted, a special use permit or other authorization is required for economic use of a refuge.				
Commercial Recreation – includes all forms of guiding, including those operated by nonprofit, educational, and other noncommercial groups (See section 1.3.15.1)				
Guiding and Outfitting	May be authorized	May be authorized	May be authorized	May be authorized
Transporting	May be authorized	May be authorized	May be authorized	May be authorized
Fixed-Wing Air Taxis	May be authorized	May be authorized	May be authorized	May be authorized
Helicopter Air Taxis	Not allowed; with exceptions consistent with section 1.3.11.3	May be authorized	May be authorized	May be authorized
Bus and Auto Tours	Not applicable	Not applicable	May be authorized	May be authorized

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Mineral Exploration (See section 1.3.16.2) See section 1.3.21 for information on the Alaska Mineral Resource Assessment Program				
Surface Geological Studies Includes surface rock collecting and geological mapping activities (includes helicopter or fixed-wing access).	Not allowed	May be authorized	May be authorized	May be authorized
Geophysical Exploration and Seismic Studies Examination of subsurface rock formations through devices that set off and record vibrations in the earth. Usually involves mechanized surface transportation, but may be helicopter supported; includes studies conducted for the Department of the Interior.	Not allowed	Not allowed with exceptions consistent with section 1.3.15.2	Not allowed with exceptions consistent with section 1.3.15.2	Not allowed with exceptions consistent with section 1.3.15.2
Core Sampling Using helicopter transported motorized drill rig to extract subsurface rock samples; does not include exploratory wells; includes sampling conducted for Department of the Interior.	Not allowed	May be authorized	May be authorized	May be authorized
Other Geophysical Studies Helicopter-supported gravity and magnetic surveys and other minimal impact activities that do not require mechanized surface transportation.	Not allowed	May be authorized	May be authorized	May be authorized
Mineral Development (see section 1.3.15.2)				
Oil and Gas Leasing Leasing, drilling, and extraction of oil and gas for commercial purposes. Includes all associated above and below ground facilities.	Not allowed	Not allowed with exceptions consistent with section 1.3.15.2	Not allowed with exceptions consistent with section 1.3.15.2	Not allowed with exceptions consistent with section 1.3.15.2
Sale of Sand, Gravel, and Other Common Variety Minerals Extraction of sand, gravel, and other saleable minerals for commercial purposes; includes commercial use by federal, state, and local agencies.	Not allowed	Not allowed	May be authorized	May be authorized
Other Mineral Leasing	Not allowed	Not allowed	Not allowed	Not allowed

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ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Includes the extraction of coal, geothermal resources, potassium, sodium, phosphate, sulfur, or other leaseable minerals for commercial purposes. For cases of national need, see section 1.3.15.2.				
Mining of Hardrock Minerals Development of valid (pre-ANILCA) mining claims (lode, placer, and mill sites) on refuge lands for the purpose of extracting hardrock minerals.	Allowed only on valid claims	Allowed only on valid claims	Allowed only on valid claims	Allowed only on valid claims
Other Commercial Activities				
Commercial Filming, Videotaping, and Audiotaping (See section 1.3.15.6)	May be authorized	May be authorized	May be authorized	May be authorized
Grazing (See section 1.3.15.7)	Not allowed	Not allowed	Not allowed	Not allowed
Agriculture (Commercial) (See section 1.3.15.7)	Not allowed	Not allowed	Not allowed	Not allowed
Commercial Fishery Support Facilities At or below 1979 levels. (See section 1.3.15.3)	Allowed	Allowed	Allowed	Allowed
Commercial Fishery Support Facilities Above 1979 levels. (See section 1.3.15.3)	Not allowed	May be authorized	May be authorized	May be authorized
Seafood Processing (See section 1.3.15.3)	Not allowed	Not allowed	Not allowed	Not allowed
Aquaculture and Mariculture Support Facilities (See section 1.3.15.3)	Not allowed	Not allowed	Not allowed	May be authorized
Commercial Timber and Firewood Harvest (See section 1.3.15.4)	Not allowed	May be authorized	May be authorized	May be authorized
Commercial Gathering of Other Refuge Resources (See section 1.3.15.5)	Not allowed	Not allowed	May be authorized	May be authorized

**Subject to a minimum requirements analysis.*

***Subject to Kenai Refuge regulations.*

ACTIVITY	MANAGEMENT of WILDERNESS	MINIMAL MANAGEMENT	MODERATE MANAGEMENT	INTENSIVE MANAGEMENT
Transportation and Utility Systems Includes transmission lines, pipelines, telephone and electrical power lines, oil and gas pipelines, communication systems, roads, airstrips, and other necessary related facilities. Does not include facilities associated with on-refuge oil and gas development. (See section 1.3.11.7)	Must be authorized by Congress	Not allowed subject to the provisions of ANILCA Title XI	May be authorized	May be authorized
Navigation Aids and Other Facilities Includes air and water navigation aids and related facilities, communication sites and related facilities; facilities for national defense purposes and related air/water navigation aids; and facilities for weather, climate, and fisheries research and monitoring; includes both private and government facilities. (See section 1.3.11.11)	May be authorized*	May be authorized	May be authorized	May be authorized
Major Hydroelectric Power Development Hydroelectric dams creating a change in streamflow with an elevation change and reservoir behind the dam. (See section 1.3.15.7)	Not allowed	Not allowed	Not allowed	Not allowed
Small Hydroelectric Power Development Hydroelectric generation by low-head or instream structures that do not change the flow of the river. (See section 1.3.15.7)	Not allowed	Not Allowed	May be authorized	May be authorized

* *Subject to a minimum requirements analysis.*

** *Subject to Kenai Refuge regulations*

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Appendix D

Comments Received and our Responses to Comments

Kenai National Wildlife Refuge Draft Revised Comprehensive Conservation Plan

USFWS
United States Fish and Wildlife Service

Summary of Public Comment

December 2008

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Table of Contents

Table of Contents	1
Summary of Public Comment	2
Introduction	2
Content Analysis Process	2
Summary of Issues	3
Climate	3
Cultural Resources	4
General Ecological	4
Fisheries/Aquatics	4
General (No Natural Resource)	4
Geology and Minerals	4
Infrastructure	5
Legal and Regulatory (Incl. Process)	5
Land Designation and Management	5
Recreation	6
Socioeconomics	6
Soil Resources	7
Transportation	7
Vegetation and Fire	8
Wildlife and Wildlife Habitat	8
Water Resources	9
Appendix A – Removed – not pertinent	11
Appendix B – Demographic Summary	12
Appendix C – Organized Response Report	14
Appendix D — Commenting Individuals and Organizations	15
Appendix E — Letters and Comments	17

Summary of Public Comment

Introduction

The following is a summary of the public comments received by the U.S. Fish and Wildlife Service (Service) in response to the Draft Revised Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Kenai National Wildlife Refuge.

A Comprehensive Conservation Plan (CCP) and EIS were completed for the Kenai Refuge in 1985 following direction in Section 304(g) of ANILCA. The Service has since identified the need to update Kenai's CCP, providing refuge managers with an updated 15-year management strategy for achieving refuge purposes and contributing toward the mission of the National Wildlife Refuge System. The Draft Revised CCP defines long-term goals and objectives toward which refuge management activities are directed, and identifies which uses may be compatible with the purposes of the refuge.

The Draft CCP/EIS describes and evaluates five alternatives for managing the Kenai Refuge for the next 15 years. In addition, five central planning issues were raised during scoping and public involvement. The Draft Plan/EIS for the Kenai Refuge describes and evaluates, in detail, specific management actions under Alternatives A through E and how each alternative addresses the five central planning issues. The notice of availability for the Draft EIS was published May 8, 2008 and the public comment period ended September 1, 2008.

The Service received 53 responses—including letters and e-mails—of which 47 contained original language. The remaining 6 responses were organized response campaign (form) letters. This Summary of Public Comment document is based on the 47 original responses and the text of the form letter's master copy. All responses have been analyzed using a process called content analysis, which is described below. Respondents are self-selected; therefore their comments do not necessarily represent the sentiments of the public as a whole.

This report attempts to provide summary representation of the wide range of views submitted. In considering these views, it is important for the public and decision makers to understand that this process makes no attempt to treat input as if it were a vote. In no way does content analysis attempt to sway decision makers toward the will of any majority. Instead, content analysis ensures that every comment is considered at some point in the decision process. In addition to this summary analysis, the Kenai staff is completing a formal response to comments, where the specific comments are individually considered and treated.

Content Analysis Process

Content analysis is a method of evaluating messages in order to elicit meanings and derive information. This approach has been applied to the analysis of public comment. While this summary does not seek to capture every specific concern, it strives to succinctly identify all key resource issues and themes and for decision makers and the public.

Each public response is given a unique identifying number, which allows analysts to link specific comments to original letters. Respondents' names and addresses are then entered into a project-specific database program, enabling creation of a complete mailing list of all

respondents. The database is also used to track pertinent demographic information such as responses from special interest groups or federal, state, tribal, county, and local governments.

All input is considered and reviewed by two analysts. Each response is first read by one analyst and sorted into comments addressing various concerns and themes. A second analyst reviews the sorted comments to ensure accuracy and consistency. Comments are then entered verbatim into the database. In preparing the final summary analysis, public issues are reviewed again using database printouts. These reports track all coded input and allow analysts to identify a wide range of issues and concerns, and analyze the relationships between them.

Through the content analysis process, analysts strive to identify all relevant issues, not just those represented by the majority of respondents. The breadth, depth, and rationale of each comment are especially important. Content analysis is intended to facilitate good decision-making by helping the planning team to clarify, adjust, or incorporate technical information into preparation of planning documents and rules. All responses (i.e., public hearing transcripts, letters, emails, faxes, and other types of input) are included in this analysis.

The final product includes a narrative description of public comment by topic, which addresses and highlights the key ideas that were promoted by the public. This process and the resulting summary are not intended to replace comments in their original form. Rather, they provide a concise summary of the letters and other input on file. Both the planning team and the public are encouraged to review the actual letters firsthand.

Summary of Issues

A number of issues were identified in the public comments received for the project. Comments were organized and "coded" to reflect different resource issues that each commenter expressed concern about. This summary is organized according the same coding categories. The public responses received in relation to the Draft Plan/EIS were diverse. As can be expected with draft documents, numerous comments focused on semantic, grammatical, and technical/editorial improvements. This summary does not reflect the many comments of a technical/editorial nature, but maintains a focus on resource themes.

Climate

Several comments were received in relation to Climate conditions; all of these came from two specific respondents. Several of these comments focused on the value and importance of climate science, research, and monitoring.

One respondent believes the CCP should identify and describe the "significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants" within the Refuge and identify "the actions necessary to correct or mitigate such problems." This group requests that impacts of climate change be a central consideration in the development of the refuge CCP. Furthermore, this group requests the Service to incorporate adaptive management strategies based on research and monitoring into the CCP that will help alleviate the effects of climate change.

Cultural Resources

A single response with cultural resource implications was received. This respondent recommends implementing Tribal consultation from Indian Tribal Governments to include "traditional ecological knowledge about local subsistence use and harvest, cultural resources, and migration patterns of subsistence resources in the planning area." This group further recommends developing a Tribal Government-to-Government Consultation Plan that includes input from Tribal Government regarding management practices and for the Refuge.

General Ecological

Two respondents also expressed concerns or provided information of a "general ecological" nature. In essence, these comments stated that the Service should take specific actions to protect the general ecology of the refuge. One respondent recommends incorporating an ecological network or flow diagram to aid in clarifying the cause-and-effect relationship within the refuge's ecosystems to help insure prioritization of objectives. Another respondent encourages the Service to include analyses in the Final CCP that demonstrate how chosen actions will preserve the connectivity of the refuge in the face of certain factors, i.e., recreation, industrial ,and administrative demands, etc., which threaten the integrity of wildland habitat.

Fisheries/Aquatics

Two respondents provided comments that focused on conditions related to fisheries and aquatics. Several comments from these responses are technical/editorial in nature, but some address objectives dealing with fisheries management. Some comments request various objectives to be revised while other comments request clarification or further discussion and analysis of expected impacts. In addition, several respondents provide data that is recommended to be used during fisheries/aquatics analysis.

General (No Natural Resource)

Many respondents made comments that were not specific to a resource. Many of these simply express support the current and proposed management direction of the Refuge, or state a preference among alternatives. Many individuals believe the range of alternatives, as they related to the issues, are acceptable. Several respondents support the Service's Preferred Alternative and feel it represents the better choice over other alternatives and provides sound planning to safeguard the Refuge's mission. Other respondents support a modified version of the Service's Preferred Alternative with specific recommended changes.

Geology and Minerals

Two comments were received in relation to this resource. One is a detailed discussion of oil and gas management that focuses on the history of and potential for spills and contamination. This same commenter also indicated support pursuing testing and remediation of contamination associated with past and present industrial uses on the refuge to ensure the safety of users. The second comment is from an organization that recommends clarifying Objective 1.21, regarding the anticipated soil survey. This organization further recommends that various geologic surveys be included in the final survey.

Infrastructure

Three different respondents commented on infrastructure. Each provided a single, specific comment. One respondent recommends amending Alternative E to include Alternative A's provision which calls for removing "most" industrial roads and facilities, and restoring the sites. Another respondent suggests the CCP include expected allocation of costs over the next 30 years for infrastructure, i.e., roads, electricity, emergency services. The third respondent expressed a concern with the maintenance of Mystery Creek Road, and the need to conduct improvements to assure public safety.

Legal and Regulatory (Incl. Process)

Several respondents provide comments relating to legal and regulatory issues. Many of these comments focus on Wilderness Reviews. One conservation group requests that "the Service sufficiently review wilderness lands and make a range of wilderness recommendations within the Alternatives to be analyzed in the CCP revision process." This group believes that by not doing so, the Service is "out of compliance with Alaska National Interest Lands and Conservation Act (ANILCA), the National Environmental Policy Act (NEPA), and the agency's own policies and guidelines."

Several groups comment on the Wild and Scenic Rivers Act. These groups point out that the CCP identifies and describes seven refuge rivers with "outstandingly remarkable values," but fails to determine the eligibility and suitability of these rivers. These groups request the Service consider potential national wild, scenic, and recreation river areas for addition to the Wild and Scenic River System.

One organization urges the Service to more rigorously adhere to regional guidelines. This organization identifies that the Refuge has a number of unique circumstances that warrant certain deviations from Management Policies and Guidelines, but feels that many of these deviations "lack the required justification, trigger state jurisdictional concern, and/or are misleading or inaccurate. Furthermore, this organization requests the Service modify several Objectives by: using more recent information, providing more meaningful targets for long term guidance, and inviting interested parties to participate in future planning processes.

One group encourages the Service to continue providing the public the opportunity to participate in the development or revision of these plans. One individual requests an extended comment period. Another group believes the cooperative planning process between the Service, State, and the public should be outlined in the CCP.

Land Designation and Management

The majority of comments concerning land designation and management focus on the analysis of oil- and gas-related activities. Some organizations feel that oil and gas activities are not adequately addressed in the document. While some comments suggest a lack of analysis throughout the entire document, many comments identify specific areas where additional information is needed to clarify, correct, or add to the oil and gas activity discussion. Some specific areas include: the discussion of Oil and Gas Occurrences and Potential in Chapter 4; impacts from ongoing oil and gas activities in Chapter 4; cumulative impacts section in Chapter 4; and irreversible and irretrievable impacts section in Chapter 4. One organization

believes "…portrayal of opportunities for oil and gas leasing in misleading and incomplete." Other organizations state the CCP does not provided adequate scientific data or documentation to support statements about impacts from oil and gas activities. One organization suggests that future assumptions related to oil and gas development be addressed through a "Reasonable Foreseeable Development" scenario. Another group is concerned about the insufficient acknowledgement of the existence of oil and gas exploration and production rights and interests within the Refuge.

Some respondents support testing and remediation for contamination associated with past and present industrial uses. These respondents believe this action will improve environmental quality of the refuge and clean-up costs in the future. Conversely, other industry groups believe restoration of any site to "predevelopment conditions" is not practical and may conflict with the rights and obligations the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, etc. In addition, one organization recommends developing an Oil and Gas Infrastructure Decommissioning Plan for the Refuge to ensure that proper steps will be taken to decommission the facilities and restore the area for future public uses and expansion of wildlife habitat.

Some respondents support restrictions of helicopter and airplane access to lakes located in designated wilderness. Other groups believe the Service's decision not to review or recommend lands for wilderness recommendations is lacking and out of compliance with federal laws and agency regulations. These groups urge the Service to complete wilderness reviews and recommendations in this CCP process and request that this issue be rectified in the Final EIS and Revised CCP. Several respondents believe the Service should give consideration to potential national wild, scenic, and recreational river areas.

Recreation

Respondents request a wide range of recreation-related items be either included or clarified in the CCP. The majority of these comments are from government organizations and recreation groups. Some of these requests include: conducting a more balanced analysis of openings and closures on all user groups; using more recent user information showing the actual long-term trend of use on both the Kenai River and the Kenai Peninsula; clarifying the term "recreation opportunity settings"; and conducting additional assessments to identify other potential impacts.

Some respondents suggest that certain assumptions in the CCP are unconfirmed and lack substantial evidence. Some respondents do not support a registration system for canoeing and believes the CCP does not show adequate justification for implementing such a system.

Several respondents are concerned with overcrowding and protecting visitor experience. One organization is concerned that any effort to reduce perceived crowding in certain areas will create additional impacts in areas inside and perhaps outside the Refuge.

Socioeconomics

Several comments address socioeconomic issues. Many of these cite specific sections and language from the CCP/EIS, and provide additional information or critique of analysis. A few comments requested a more detailed environmental justice analysis in the CCP, including impacts on low-income and minority communities, cumulative and indirect

impacts, and impacts to subsistence, cultural, and historic resources. One organization believes that the analysis of conservation concerns related to subsistence harvest regulations is inadequate. Another group believes that certain sections regarding the economy use dated information. In addition, some respondents request to include the value derived from the oil and gas industry when calculating the economic significance of the Refuge.

Soil Resources

One organization recommends clarifying Objective 1.21, regarding the anticipated soil survey. This organization further recommends that various soil surveys be included in the final survey.

Transportation

Transportation was clearly one of the key issues from public comment on the project, with most respondents providing at least some specific comment on transportation and general access to the Kenai Refuge. These comments generally include issues dealing with aircraft, snow machines, and general access to pipeline roads.

Aircraft access and landing are primary concerns for many respondents. As one respondent stated, "Aircraft access is a way of life in Alaska." Some respondents recommend certain areas be off-limits to aircraft while other respondents request opening more landing sites for small planes. Many comments deal with aircraft studies, lake landing expansion, and Chickaloon flats/Indian Creek airstrip.

Some groups believe that including adequate studies regarding aircraft and wildlife relationships within the CCP will clarify "assumptive comments" found in the CCP. Many respondents and groups would like a better explanation on the continued closure of many lakes within the Kenai Refuge, claiming that many lakes were originally closed to aircraft users for the purpose of increasing trumpeter swan populations. Respondents feel the general public was assured that these lakes would be re-opened once swan populations were restored. Many respondents request a justification of the continued closure now that swan populations have increased. A number of respondents request studies to be performed to assess impacts of float planes on swan populations and aquatic areas. Many respondents believe the analysis is arbitrary due to the lack of studies relating to all user groups. Many respondents disagree with comments in the DEIS without supportive evidence that assume ideas such as "an increased number of open lakes will attract more aviation users." Many respondents request accurate studies or better information to supports these statements.

Increasing aircraft landing on lakes within the Kenai Refuge is strongly suggested by several respondents. One group strongly opposes the closure on all but 45 lakes within a 1.3 million acre Refuge and states it is not adequately justified in the draft. In addition, this group suggests other alternatives that include additional airplane access be considered, such as Alternative D (which includes 14 additional lakes). Another group supports opening additional lakes as stated in Alternative D but has concerns such as determining restrictions such as the swan nesting season. One group suggests amending Alternative E by adopting Alternative B's provision because it is the only alternative that suggests an Environmental Assessment to determine effects of small aircraft float planes on Refuge resources, recreational opportunities, and wilderness values. One respondent explains that allowing aircraft landings on more lakes reduces the ecological footprint because minimal impacts are made on wildlife and vegetation.

One group strongly opposes increased aircraft access to the Chickaloon area or opening access to other lakes within the Refuge to help protect swan habitat.

Opening the Chickaloon area to expand small aircraft landing is supported by many respondents. In regard to enforcement, some respondents recommend defining a clear boundary for aircraft landing in the Chickaloon area, as opposed to allowing landing in any "un-vegetated areas". Some respondents are confused with the term "un-vegetated" and request a clarification be provided. One group is opposed to aircraft access expansion to the Chickaloon area and requests that access levels stay where they currently are because of impacts to waterfowl. Some respondents support re-establishing the Indian Creek air strip because of brush that makes it currently unusable.

Managing snow machines is another common response received under the transportation section. Many respondents urge a management direction to incorporate a zoning policy for snow machine use, as stated in Alternative D. This zoning policy would allow more flexibility to snow machine users and would be based on snow levels rather than a concrete time period.

Some groups are concerned about the interaction of wildlife and snow machines within Caribou Hills, and recommend conducting specific studies of snow machine impacts in the area. Some respondents believe that snow machine access is vital because it allows unique opportunities to access parts of the refuge that would otherwise be off-limits to many visitors. One respondent emphasizes the importance of snow machine use in the refuge for conducting inspections and maintenance on oil and gas pipelines. Some respondents feel that assumptions are made within the DEIS about snow machines and their impacts without valid evidence.

The use of pipeline roads is another common issue. One group does not support the continued use and maintenance of these roads after the pipeline project has finished, because the roads allow more access to wilderness areas and lead to resource damage. One respondent insists that these roads be left in place for non-motorized recreational purposes and allow the natural environment to restore these roads naturally. Some respondents are in favor of Alternative B to open the road system. They also state that long-term impacts will be made to recreation if these roads are closed and there isn't new trail development.

Vegetation and Fire

Diverse comments were received in relation to vegetation and fire. Several comments identify specific technical/editorial items to address and include citations. One organization supports the proposed fire management direction because "it provides sufficient discretion to use both prescribed and wildland fire to achieve land and resource management objectives." One comment requests public participation in the development of comprehensive step-down management plans for the Refuge, including exotic, injurious, and invasive species. One group believes the CCP contains misleading information in relationship to oil and gas activities and the spread of exotic flora.

Wildlife and Wildlife Habitat

Wildlife was another key issue from public comments. Many respondents comment on wildlife corridors, climate change impacts, aircraft access, and wildlife protection through management practices.

Including the Skilak Wildlife Travel Corridor in the final DEIS is a common suggestion. Respondents believe the Corridor provides significant conservation measures that ensure connectivity for wildlife. Many respondents suggest combining future developments and natural barriers make it difficult for wildlife to migrate between the northern and southern wildlife habitat sections of the refuge. These respondents strongly encourage that this corridor be included in the Preferred Alternative. One group expresses the importance of restricting any type of recreational activities or public facilities from this corridor. They suggest this corridor be for the sole purpose of wildlife connectivity.

One group suggests conserving corridors such as the Skilak Corridor because it allows wildlife to shift habitat during climate changes. This group recommends using proactive management techniques such as prioritizing the development of landscape and statistical models relating to climate change. This group also expresses the need to identify and measure the impacts of non-climatic stressors and to reduce and/or eliminate these stressors.

Most respondents agree that wildlife protection through management practices is necessary and if accomplished properly will support recreational opportunities as well. One respondent explains that, "the fish and the wilderness are valuable resources and all user groups should share equally in their protection." Another respondent feels that having a multiple-use balance within the refuge is important. One organization suggests including game habitats, populations, and hunting opportunity within the wildlife-oriented recreation goals. One group suggests including hunting as part of Refuge's priority objectives. This group explains that hunting and hiking are popular activities in the Refuge and therefore should be addressed more in the CCP. This organization also suggests that wildlife management activities will be reduced in the CCP and requests an assessment of how these changes will affect game population and hunting opportunities. They are also concerned that this will lead to a reduction of wildlife habitat that will affect the hunting on the Refuge.

One group suggests that current wildlife management proposals are inconsistent with State objectives, and State and federal protocols. This group further explains that unilateral intents exist within the DEIS and are inconsistent with the Master Memorandum of Understanding (MMOU). This group also identifies specific assumptions made in the DEIS that it feels are unsupported and/or artificial. In addition, this group provides a list of items that need to be clarified, and indicates it believes that some analysis uses outdated science that is inconsistent with recent information. This group requests additional wildlife and habitat studies to be performed, and emphasizes the importance of working with cooperating agencies in species managing/monitoring programs. Another group is concerned about assumptions that relate to impacts of oil and gas activities on wildlife. This group explains that while wildlife habitat damage can be measured in terms of road and pad sites, these measured impacts (when considered in proper context), are negligible.

Water Resources

A single comment was received in reference to water resources. The respondent believes that coupled with climate monitoring, understanding hydrologic conditions on the refuge is critical and should be a funding priority.

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Appendix A – Removed – not pertinent

Appendix B – Demographic Summary

Demographic coding allows managers to form an overall picture of who is submitting comments, where they live, their general affiliation with various organizations or government agencies, and the manner in which they respond. The database can be used to isolate specific combinations of information about public comment. For example, a report can include public comment only from people in Montana or a report can identify specific types of land users such as recreational groups, agricultural organizations, or businesses. Demographic coding allows managers to focus on specific areas of concern linked to respondent categories, geographic areas, and response types.

Although demographic information is captured and tracked, it is important to note that the consideration of public comment is not a vote-counting process. Every comment and suggestion has value, whether expressed by one or a thousand respondents. All input is considered, and the analysis team attempts to capture all relevant public concerns in the analysis process. For the Kenai National Wildlife Refuge Draft Revised Comprehensive Conservation Plan and EIS, 53 letters, representing 60 signatures were received and processed.

In the tables displayed below, please note that demographic figures are given for number of responses, respondents, and signatures. For the purposes of this analysis, the following definitions apply: “response” refers to a discrete piece of correspondence; “respondent” refers to each individual or organization to whom a mail identification number is assigned (e.g., a single response may represent several organizations without one primary author); and “signature” simply refers to each individual who adds his or her name to a response, endorsing the view of the primary respondent(s).

Geographic Representation

Geographic representation is tracked for each respondent during the course of content analysis. Letters and emails were received from 8 of the United States. There was 1 multiple respondent response (letter number 1) received. States of residence for each individual signature were tracked for multiple respondent responses.

Table B1 - Geographic Representation of Response by Country and State/Territory

Country	State	Number of Respondents	Number of Signatures
United States	Alaska	48	50
	District of Columbia	1	1
	Delaware	1	1
	Minnesota	1	1
	New Jersey	1	1
	New York	1	1
	Washington	2	2
	Wisconsin	1	1
	Anonymous/Unknown	2	2
Total		**58**	**60**

Organizational Affiliation

Responses were received from various organizations and unaffiliated individuals. Organization types were tracked for each letter and email received. There was 1 multiple respondent response with a total of 7 signatures received. The letter number is 1. The Organization Types and signatures are broken out in Table C2.

Table C2 - Number of Responses/Signatures by Organizational Affiliation

Organization Field	Organization Type	Number of Respondents	Number of Signatures
B	Business	1	1
F	Federal Agency/Elected Official	5	6
I	Individual	28	28
O	Oil, Natural Gas, Coal, or Pipeline Industry	3	3
P	Preservation/Conservation	10	11
R	Recreational (non-specific)	1	1
RC	Recreation/Conservation Organization	2	2
RN	Non-Motorized/Non-Mechanized Recreation	2	2
S	State Government Agency/Elected Official/Association	4	4
Y	Other or unidentified organization	2	2
Total		**58**	**60**

Response Type

Response types were tracked for each response received on the project. Responses were received in the form of Letters, Forms, Forms with extra comments (Form Plus), and Public Meeting Comment Forms.

Table C3 – Number of Responses/Signatures by Response Type

Response Type #	Response Type	Number of Responses	Number of Signatures
1	Letter	40	47
2	Form	6	6
3	Form Plus	1	1
7	Public Meeting Comment Form	6	6
Total		**53**	**60**

Appendix C – Organized Response Report

Organized response campaigns represent 11.3 percent of the total responses received (6 forms out of 53 responses) during the public comment period. All six of these respondents were residents of Alaska.

Form Responses

Forms are defined as five or more responses, received separately, but containing identical text. Once a form is identified, a "form master" is entered into the database with all of the content information. All responses with matching text are then linked to this master form within the database with a designated "form number." If a response does not contain all of the text presented in a given form, it is entered as an individual letter. Duplicate responses from four or fewer respondents are also entered as individual letters.

Forms are designated with a number for the purpose of tracking subsequent submissions. Form numbers are assigned as each "form master" is identified.

The following table presents the number of responses, and signatures associated with each form as well as brief content summaries. One Form was identified.

Table D1 – Forms

Number of Form	Number of Responses	Number of Signatures	Description of Form
1	6	6	The respondents ask for the inclusion of mushing with respect to traditional travel and training within the area. Because of the established use of dog teams in the area, the respondent's asks that they be added in writing to the 15-year plan. Would like dog team use included in the permanent use category. For safety, they would also like a parking area to be established.
Total:	**6**	**6**	

Appendix D – Commenting Individuals and Organizations

Letter #	Name	Organization Type	Organization
1	David Raskin	Preservation/Conservation	Friends of Alaska National Wildlife Refuges
1	Charles M. Clusen	Preservation/Conservation	Natural Resources Defense Council
1	Pam Miller	Preservation/Conservation	Northern Alaska Environmental Center
1	Wendy Loya PhD & Nicloe Whittington-Evans	Preservation/Conservation	The Wilderness Society
1	Eric Uhde	Preservation/Conservation	Alaska Center for the Environment
1	Cindy Shogan	Preservation/Conservation	Alaska Wilderness League
2	Allen E. Smith	Individual	
3	Tom Vania	State Government Agency	Alaska Dept of Fish & Game
4	Jack Sinclair	State Government Agency	Alaska Division of Parks & Outdoor Recreation
5	Richard A. Woodin	Individual	
6	Dave Earl	Individual	
7	Noah Kahn	Preservation/Conservation	Defenders of Wildlife
8	Jolie Pollet & Bill Diehl	Federal Agency	Bureau of Land Management
9	Frank L. Miller	Individual	
10	Sean Farley	Individual	
11	Jay Kent	Individual	
12	Tom Lemanski	Individual	
13	Steve Lewis	Individual	
14	Richard D. Reger	Business	Reger's Geologic Consulting
15	B. Sachau	Individual	
16	Sally Gibert	State Government Agency	State of Alaska, ANILCA Implementation Program
17	Ethan Schutt	Oil, Natural Gas, Coal, or Pipeline Industry	Cook Inlet Region, Inc.
18	John E. Cornely PhD	Preservation/Conservation	Trumpeter Swan Society
19	Stan Leaphart	State Government Agency	State of Alaska; Citizens Advisory Committee on Federal Areas
20	Jack Hession	Preservation/Conservation Organization	Sierra Club
21	Gerth Stillman	Recreation/Conservation Organization	Ruffed Grouse Society; Central Alaska Chapter
22	Dan Dessecker	Recreation/Conservation Organization	Ruffed Grouse Society
23	Jill Garnet	Non-Motorized/Non-Mechanized Recreation	Peninsula Sled Dog & Racing Association
24	Robert L. Baldwin	Preservation/Conservation	Friends of Kenai National Wildlife Refuge

25	John J. Lau	Oil, Natural Gas, Coal, or Pipeline Industry	ENSTAR Natural Gas Co.
26	Dale A. Haines	Oil, Natural Gas, Coal, or Pipeline Industry	UNION OIL Co. of California
27	Rod Arno	Non-Motorized/Non-Mechanized Recreation	Alaska Outdoor Council
28	Dee Hanson	Other Organization	Alaska Airmens Association
29	Tom George	Other Organization	Aircraft Owners and Pilots Association
30	Norbert Miller	Individual	
31	Clarence A. Petty	Individual	
32	Removed – Not public comments		
33	William M. Cox MD	Individual	
34	Dori Hollingsworth	Individual	
35	Laure Cramer	Individual	
36	Scott Haban	Individual	
37	Mitch Seavey	Individual	
38	Heather Dunbar	Individual	
39	Alan Barass	Recreational Organization	Tsalteshi Trails Association
40	James H. Richardson	Individual	
41	Ashley Irman	Individual	
42	Paul D. Forman MD	Individual	
43	James Browning	Individual	
44	Mike Kush	Individual	
45	Charles Fryer	Individual	
46	Thomas P. Lonnie	Federal Agency	USDI Bureau of Land Management Alaska
47	Christine Reichgott	Federal Agency	US Environmental Protection Agency, Region 10
48	Don Pohland	Individual	
49	Jolie Pollet	Federal Agency	USDI Bureau of Land Management Alaska State Office
50	Sara Hepner	Individual	
51	Jim Werner	Individual	
52	Sara Heper	Individual	
53	John Lockhart	Individual	

Appendix E – Letters and Comments

Letter 1

Respondent: Wendy Loya PH D & Nicole Whittington-Evans
Organization: Wilderness Society

Respondent: Eric Uhde
Organization: Alaska Center for the Environment

Respondent: Cindy Shogan
Organization: Alaska Wilderness League

Respondent: David Raskin
Organization: Friends of Alaska National Wildlife Refuges

Respondent: Charles M Clusen
Organization: Natural Resource Defense Council

Respondent: Pam Miller
Organization: Northern Environmental Center

Comment 1

We [The Wilderness Society, et. al.] recognize and commend the good work that has gone into identifying the purposes, values and research goals of the Refuge outlined by the U.S. Fish and Wildlife Service (the Service) in the Draft CCP. In general, we support the Service's goals and objectives for the Refuge, and the Service's preferred alternative.

Resolved: Other (see response to comment 7)

Comment 2

We [The Wilderness Society, et. al.] support the following visions and actions embodied within the USFWS

Preferred Alternative E:

Placing the least amount of acreage (54,500 acres – 2.7 %) of refuge into the "Intensive Management" category, and the most amount of acreage (514,550 acres – 25.9%) into the "Minimal Management" category.

Resolved: Comment acknowledged; does not provide new information

Comment 3

We [The Wilderness Society, et. al.] support the following visions and actions embodied within the USFWS

Preferred Alternative E:

Maintaining the current level of restrictions on airplane access to lakes located in designated Wilderness, and those restrictions outlined for the Chickaloon Flats area. We believe these are important measures in meeting waterfowl and other wildlife conservation and public access mandates within designated Wilderness.

Resolved: Comment acknowledged; does not provide new information

Comment 4

We [The Wilderness Society, et. al.] support the following visions and actions embodied within the USFWS

Preferred Alternative E:

Restricting helicopter air taxis in designated Wilderness. Helicopter air taxis are not appropriate or allowed in designated Wilderness areas.

Resolved: Comment acknowledged; does not provide new information

Comment 5

We [The Wilderness Society, et. al.] support the following visions and actions embodied within the USFWS

Preferred Alternative E:

Pursuing testing and remediation for contamination associated with past and present industrial uses on the refuge. This action will improve the environmental quality of the refuge and reduce clean-up costs in the future. We further believe that should the refuge retain industrial roads for administrative or recreational use within the Swanson River Unit or any other industrial unit, comprehensive testing be done to insure the safety of users.

Resolved: Comment acknowledged; does not provide new information

Comment 6

We [The Wilderness Society, et. al.] support the following visions and actions embodied within the USFWS Preferred Alternative E:

We fully support any expansion or formalized incorporation of "Research and Monitoring" activities to better understand the ecology of the refuge, to capture changes and impacts, and to meet the goals of the refuge. Climate data is critical for interpreting ecological data, and we encourage expanded monitoring within the permissible level of action or development allowed within management categories.

Resolved: Comment acknowledged; does not provide new information

Comment 7

Wilderness Reviews:

The Service has clarified that the CCP revision process is one where refuges will be evaluated and lands designated related to their resources and values. In a newsletter regarding the Kenai National Wildlife Refuge CCP revision process, for example, the agency indicated:

These plans designate areas within the Refuge according to their resources and values; specify programs for conserving fish and wildlife and maintaining other special values of the Refuge. ...

Both existing and potential future designated wilderness is a resource and a value of the refuges which must be addressed. The Service's laws and policies require that wilderness reviews be conducted as part of the CCP process. However, the Service has failed to complete wilderness reviews or make recommendations for future wilderness designation thus far in the CCP revision process for Kenai Refuge. For example, Section 304(g) (1) and (2) of the Alaska National Interest Lands Conservation Act (ANILCA) directs the Service to develop and periodically revise CCP's which must identify and describe the special values of the refuge, including wilderness values. Specifically, the Alaska National Interest Lands Conservation Act (ANILCA) Section 304(g) states:

(1) The Secretary shall prepare, and from time to time, revise, a comprehensive conservation plan (hereinafter in this subsection referred to as the 'plan') for each refuge.

(2) Before developing a plan for each refuge, the Secretary shall identify and describe –

(A) the populations and habitats of the fish and wildlife resources of the refuge;

(B) the special values of the refuge, as well as any other archeological, cultural, ecological, geological, historical, paleontological, scenic, or wilderness value of the refuge;"

Additionally, Section 1317(a) of ANILCA directs the Service to study all of the non-wilderness lands in Alaska refuges and recommend areas suitable for inclusion in the National Wilderness Preservation System. Section 1317(a) of ANILCA states:

Within five years from the date of enactment of this Act, the Secretary shall, in accordance with the provisions of section 3(d) of the Wilderness Act relating to public notice, public hearings and review by State and other agencies, review, as to their suitability or non-suitability for preservations as wilderness, all lands within units of the National Park System and units of the National Wildlife Refuge System in Alaska not designated as wilderness by this Act and report his findings to the President. While the Service completed a process to determine wilderness recommendations in the 1980's, the Secretary of the Interior never forwarded the recommendations to the President. Therefore, the Service still has not met the requirements of Section 1317 of ANILCA.

Additionally, the National Environmental Policy Act requires that an agency analyze a reasonable range of alternatives in every agency action, such as a planning process like the CCP Revision. Because all values and uses of the refuges must be considered in a broad planning effort such as a CCP revision, analysis of wilderness recommendations is included within the reasonable range of alternatives.

The Service's Refuge Planning Policy (65 Federal Register 33892, May 25, 2000), which "applies to all units of the National Wildlife Refuge System" (i.e., it applies to refuges in Alaska) (602 FW 1.2), also requires that a new wilderness review be conducted as one of the required elements of all CCP's. Specifically, the Service's planning policy directs the following:

- "Concurrent with the CCP process, we will conduct a wilderness review and incorporate a summary of the review into the CCP" (602 FW 3.4(C) (1) (c);

- "Identify and describe the following conditions and their trends for the planning unit and, as appropriate, for the planning area: … (xx) Existing special management areas, or the potential for such designations (e.g. wilderness, research natural areas, and wild and scenic rivers" (602 FW 3.4(C) (1) (e);

- "Develop a range of alternatives, or different approaches to planning unit management, that we could reasonably undertake … to help achieve the goals of the National Wilderness Preservation System" (602 FW 3.4(C) (4) (b);

- The "Checklist of Required Comprehensive Conservation Plan Elements" found in Exhibit 3-3 of the planning policy includes "Wilderness review." "Wilderness review" is defined in the policy as "[[t]]he process we use to determine if we should recommend Refuge System lands and waters to Congress for wilderness designation. The wilderness review process consists of three phases: inventory, study,

and recommendation. The inventory is a broad look at the refuge to identify lands and waters that meet the minimum criteria for wilderness. The study evaluates all values (ecological, recreational, cultural), resources (e.g. wildlife, water, vegetation, minerals, soils), and uses (management and public) within the Wilderness Study Area. The findings of the study determine whether we will recommend the area for designation as wilderness."

Additionally, "Fulfilling the Promise: The National Wildlife Refuge System", the Service's vision document, released in March 1999, guides administration of the Refuge System. That document directs in part that:

The Service should evaluate lands added to the System since the Service completed its wilderness reviews and recommend suitable areas for designation. In addition, the Service should take a fresh look at areas previously studied for suitability as wilderness that were not recommended. For example, while the Service determined, in 1985, that 52.7 million acres of refuge lands in Alaska qualified for designation as wilderness, only 3.4 million acres were recommended for such designation. On many refuges, circumstances and management may have changed since the recommendations were made (pg. 23). Thus, the legal requirements for including wilderness reviews and recommendations within CCP revision processes are clearly laid out, and TWS requests that the Service sufficiently review wilderness lands and make a range of wilderness recommendations within the Alternatives to be analyzed in the CCP revision process. Without completing a wilderness review and/or making recommendations for wilderness, we believe the Service is out of compliance with ANILCA, the National Environmental Policy Act (NEPA) and the agency's own policies and guidelines. The U.S. District Court ruled in 2001 (Sierra Club v. Lyons, No. J00-0009-CV (D. Alaska March 30, 2001)) in a similar situation that the Forest Service needed to complete a wilderness review and analyze wilderness recommendations for the Tongass Land Management Plan in order to satisfy requirements of NEPA. At this time we do not believe the Service has met the legal and regulatory requirements for refuge CCP planning.

We [The Wilderness Society, et. al.] believe planning for wilderness is especially critical in a changing climate, such as we are experiencing today. Wilderness, and other forms of wildland protection that support healthy, intact ecosystems, are our best tools for helping wildlands and the species that depend on them to adapt to climate change. With protection, ecosystem resiliency is maintained and species are provided with the time and space to adapt to climate change without the stress of other anthropogenic disturbances. Wilderness and other conservation protection strategies provide important functions critical towards ecosystem resiliency and species adaptation:

- Wilderness allows for change to occur. As Darwin describes in his 1859 publication The Origin of Species, organisms are constantly adapting to a changing environment. Wild ecosystems are constantly changing in response to such forces as fire and water; stasis is the exception. However, climate change is altering the environment to reflect conditions previously considered extreme or which are entirely out of the range that species have contended with. Increases in fire intensity and changes in the timing and intensity of storms will alter the intervals at which ecosystems can recover and provide habitat for wildlife. Wilderness provides species with large, unfragmented habitat for migration and refuge from areas that have burned, are experiencing drought or floods, or from the effects of other climate related disturbances.

- Wilderness allows species to adapt. Large, unfragmented and wild landscapes can provide the habitat that species need to adapt to climate change. Some components of our natural systems are changing at rates that are out of sync with the species that depend on them. For example, plants may be flowering earlier but their pollinators may be delayed in arriving to do their job, with detrimental consequences for both organisms. In a large protected wildland, there is greater chance that these two species will find the right conditions to re-synchronize their life cycles. Restoration of ecosystems that have been diminished in size and health will increase the area of wildlands that can provide habitat for species in peril.

- Wilderness protects diversity all scales. The increased health and diversity observed in the Yellowstone ecosystem when wolves were reintroduced is the way that wilderness operate everyday. Natural food webs grow from the bacteria in the soil that recycle the nutrients that support the plants that elk eat, and they, in turn, support the wolves, bear and humans that depend upon them. Only

when a complete food web is protected can we achieve the resiliency needed for most, if not all, species to adapt to climate change.

- Wilderness provides us with a healthy planet. Large ecosystems have shaped regional climates for millennia, as well as provided many other services that would cost us millions of dollars to replace. Clean air and water come from healthy undisturbed ecosystems; large, mature forests, grasslands and tundra store an abundance of carbon and are inherently resilient to fire; fish spawn in healthy, wild watersheds; waterfowl and songbirds feed, nest and rest in our wildlands; even natural forage for wild and domestic animals is abundantly produced on managed wildlands. Delivery of these services may become increasingly difficult for ecosystems facing unprecedented warming and altered precipitation. Wilderness provides protection against additional human impacts to these services. Wild ecosystems are inherently complex and variable. While scientific research is improving our understanding of them and improving predictions of how they will be impacted by climate change, we already know that by providing the above services, wildland protection and restoration of healthy ecosystems is the number one thing we can do right now towards helping the inhabitants of our planet adapt to climate change.

We believe the Service's decision not to review or recommend lands for wilderness recommendations is lacking and out of compliance with federal laws and agency regulations. We strongly urge the Service to complete wilderness reviews and recommendations in this comprehensive conservation planning process and request that this deficiency be rectified in the Final EIS and Revised CCP

Response

Section 5.17 of the U.S. Fish and Wildlife Revised Wilderness Stewardship Policy, issued on November 13, 2008, states that "we have completed wilderness reviews for refuges in Alaska in accordance with Section 1317 of ANILCA [Alaska National Interest Lands Conservation Act, 1980] (These were conducted as while developing the initial CCP in the 1980s). Additional wilderness reviews as described in the refuge planning policy (602 FW 1 and 3) are not required for refuges in Alaska...[and that] ANILCA does not require that we incorporate formal recommendations for wilderness designation in CCPs and CCP revisions. During preparation of CCPs for refuges in Alaska, we follow the provisions of section 304(g) of ANILCA, which requires us to identify and describe the special values of the refuge, including wilderness values." See section 3.5 in the final revised plan for a description of wilderness values. In addition, the wilderness recommendation (i.e., approximately 195,000 acres) from the supplemental environmental impact statement for the wilderness proposal of the Final Kenai Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review (USFWS 1988) will remain in effect unless withdrawn or until submitted to Congress.

Resolved: Comment acknowledged; does not provide new information

Comment 8

Wild and Scenic Rivers:

There are currently no designated Wild and Scenic Rivers within the Kenai National Wildlife Refuge. As is true with wilderness recommendations, the Service has opted not to include Wild and Scenic River recommendations in this CCP revision process. We [The Wilderness Society, et. al.] believe the Service is missing an important opportunity to recommend Wild and Scenic Rivers for the Refuge. We believe the Service must give consideration to potential national wild, scenic and recreational river areas. 16 U.S.C. Sec. 1276 (d) (1). The draft CCP identifies outstanding rivers and river segments, but the Service should do more, including evaluating and recommending whether these rivers should be designated as Wild and Scenic Rivers.

Response

After a thorough review of ANILCA Section 304(g) planning requirements and Refuge System planning policy, we determined that we would best meet ANILCA requirements by identifying the special values of the refuge without conducting a wild and scenic rivers review. Section 1.8 of the final

CCP provides the Service's rationale for not conducting wild and scenic river reviews. River values are described in Chapter 3.

Resolved: Other (SEE RESPONSE)

Comment 9

Wildlife Conservation Corridors Around Skilak Lake:

The Skilak Wildlife Recreation Area Plan includes a .5 mile-wide wildlife travel and conservation corridor on the north shore of Skilak Lake that restricts further development. This is a very significant conservation measure that provides connectivity between designated Wilderness east of the Kenai River canyon and to the west towards the 6 mile-wide Sterling development corridor. We [The Wilderness Society, et. al.] request that this important conservation corridor be recognized and incorporated into the Revised CCP, as it is not in this Revised CCP Draft EIS.

Response
We revised Figure 3-20 Special Designated Areas to include the Skilak Wildlife Recreation Area Wildlife Travel Corridor as depicted in the Revised Final Skilak Wildlife Recreation Area Management Plan (May 2007) as an administrative designation.

Resolved: Other (SEE RESPONSE)

Comment 10

We [The Wilderness Society, et. al.] request that the Service expand this no-development/wildlife

conservation corridor in the CCP to include and plan for a primarily undeveloped area on the west side of the Skilak Wildlife Recreation Area in order to ensure connectivity for wildlife between the north and south sides of the Kenai Refuge. We recommended this idea in our Skilak Wildlife Recreation Area Plan comments as well. Please see the following map entitled "0611 Skilak WRA Wildlife Corridor ACE Map" submitted with our Skilak Wildlife Recreation Area Plan comments.

This type of wildlife corridor will be key to maintaining population stability and longevity for species such as bear, moose and caribou, especially as the 6-mile-wide Sterling Highway development corridor becomes fully realized, and should the planned Cooper Landing bypass become reality. Given these two significant road corridor developments and the natural barrier presented by Skilak Lake, there is little land area left for population dispersal, seasonal migrations, and genetic flow between the northern and southern parts of the refuge. Including a "no-development" wildlife corridor, which would be approximately 3 miles wide, to ensure primarily unobstructed movement between the Skilak Lake outlet and the Sterling Highway development corridor should be part of the Skilak Wildlife Recreation Area (SWRA) planning effort, and we urge the Service to include such a corridor in its final preferred alternative.

Response
We are not proposing to amend the Skilak Wildlife Recreation Area step down management plan (2007) at this time; however, we agree with the value of identifying a wildlife movement corridor north of Skilak Lake and believe that this designation is consistent with the goals and objectives of the step down plan and the revised CCP. Revisions to the final revised Kenai NWR CCP have been made to accomplish this. (See response above and Figure 3-20.)

Resolved: Other (SEE RESPONSE)

Comment 11

We [The Wilderness Society, et. al.] would support the wildlife conservation corridor proposal put forth in the Kenai CCP revision comments submitted by Defenders of Wildlife, which recommends

designating wildlife movement corridors in the final CCP within the SWRA where visitor infrastructure, new trails, boat launches, hunting and firearms use is highly limited or prohibited. Like Defenders, we believe the CCP should incorporate such a wildlife corridor proposal, especially in the context of climate change and the need to facilitate species movements. Based on the current movements of brown bears and other species, Defenders recommends the following corridors (see figure below):

- The area extending from the western boundary of the refuge east to Marsh Lake, north to the Sterling Highway, and south to Skilak Lake.

- The north shore of Skilak Lake to facilitate wildlife movement east to west within the SWRA.

- A linear corridor extending roughly from the south shore of Egumen Lake, continuing to the south shore of Peterson Lake, continuing to the south shore of Kelly Lake, continuing to the south shore of Hikers Lake, continuing to the south shore of Hidden Lake, then following Hidden Creek to its confluence with Skilak Lake. [See Figure 2.6 Kenai National Wildlife Refuge Map]

Resolved: Other (SEE RESPONSE ABOVE)

Comment 12

Climate Change and Ecological Research

We [The Wilderness Society, et. al.] believe that maintaining healthy, wild ecosystems is critical towards helping all organisms, including humans, adapt to climate change. The Kenai NWR is an excellent example of such an ecosystem. Keeping this area wild and protected from adverse levels of anthropogenic stressors, include increasing wildlife harvest demands and oil and gas development, will promote resiliency and adaptation in the face of rapid environmental change.

Resolved: Comment acknowledged; does not provide new information

Comment 13

Having provided a number of specific concerns regarding climate change impacts on refuge resources and having identified important management objectives in our scoping comments, we [The Wilderness Society, et. al.] are pleased to see the CCP include assessment of climate change and its effects within Goals and Objectives outlined in Chapter 2 and the Biological Inventorying and Monitoring Plan outlines in Table 6.1.

Resolved: Comment acknowledged; does not provide new information

Comment 14

We [The Wilderness Society, et. al.] feel the following is especially critical [regarding assessment of climate change:] It is important to prioritize monitoring and evaluation of abiotic parameters, especially climate, in order to interpret biotic variables. We support the inclusion and funding of Objective 1.9 on Capacity Building within the RAWS network in the CCP. We encourage expanded monitoring within the permissible level of action or development allowed within management categories.

Resolved: Comment acknowledged; does not provide new information

Comment 15

We [The Wilderness Society, et. al.] feel the following is especially critical [regarding assessment of climate change]: Coupled with climate monitoring, an understanding of hydrologic conditions on the refuge is needed. Inclusion of these in Goal 5: Water Resources is an important component of the CCP and should be a funding priority.

Response
We believe the data obtained through implementation of Objective 1.25 in association with Objectives 5.1 and 5.5 will help us better understand the hydrologic conditions on the Refuge as a result of climate change.

Resolved: Comment acknowledged; does not provide new information

Comment 16

We [The Wilderness Society, et. al.] feel the following is especially critical [regarding assessment of climate change]: We strongly support Objective 1.1 which insures the continuation of long-term research and monitoring. These types of data are important for detecting change.

Resolved: Comment acknowledged; does not provide new information

Comment 17

We [The Wilderness Society, et. al.] feel the following is especially critical [regarding assessment of climate change]: Because climate change science is progressing at a rate nearly as rapid as the phenomena itself, it is important for refuge personnel to be aware of the potential impacts to and solutions appropriate for the refuge. We encourage the incorporation of training and education on climate change under Goal 6: Land Management Training in order to insure that refuge personnel are encouraged to stay abreast of the latest science and engage in research and solutions. Further, inclusion of opportunities for better understanding of climate change impacts on infrastructure and energy conservation under Goal 8: Facilities would also contribute to the sustainable operation and management of the refuge.

Response
We agree that climate change training opportunities are essential to the development of Service personnel if they are to be effective natural resource professionals. We believe Objectives 6.2.4 and 6.2.8 provide sufficient direction to fulfill those specific needs.

Resolved: Comment acknowledged; does not provide new information

Comment 18

We [The Wilderness Society, et. al.] feel the following ecological research objectives are important to sustainable management of the refuge:

An objective which is not explicitly stated but implied is the facilitation of data sharing. Data sharing between the refuge, partners and other interested parties is perhaps of equal importance as the actual data collection, and we suggest that the CCP identify this goal as a general Management Direction. Even though data sharing is implicit in the direction for some specific management directions (e.g. developing an interagency program to monitor…wolves, wolverines, bears…), we suggest that it be incorporated as a specific objective under an appropriate Goal in order to insure consideration of personnel and systems needed to contribute to data to broader science synthesis goals.

Response

We agree with the value of data sharing and to clarify this we have added objective 1.26 "Data Sharing" to the revised Kenai CCP to clarify this.

Resolved: Other (SEE RESPONSE)

Comment 19

We [The Wilderness Society, et. al.] feel the following ecological research objectives are important to sustainable management of the refuge:

Incorporating a ecological network or flow diagram to aid in elucidating the cause-and-and effect

relationships within the refuge's ecosystems and across the broader landscape of the Kenai Peninsula may help to insure appropriate prioritization of objectives, given time and funding limitations, and help insure that the ultimate choice of methods maximizes realization of the top objectives.

Response
We understand the comment to be recommending future research that could produce results that illustrate likely future conditions of important habitats based on projected changes (caused by management or other). We believe that we are addressing this in part by our current ALCES modeling efforts. We are also supportive of enhancing these efforts with willing partners to address broader ecological relationships outside Refuge boundaries as new opportunities arise. We believe the goals and objectives included in the revised Kenai NWR CCP support such opportunities.

Resolved: Other (SEE RESPONSE)

Comment 20

We [The Wilderness Society, et. al.] feel the following ecological research objectives are important to sustainable management of the refuge:

Use of Least Cost Path Analysis and other connectivity modeling tools can help the refuge assess implications of land management decision on refuge goals and resources. We encourage the refuge to include analyses in the Final CCP that demonstrate how chosen actions will preserve the connectivity of the refuge in the face of recreational, industrial and administrative demands, fire and insect ecology, the cumulative effects of climate change and other factors which threaten the integrity of wildland habitat. We provide an example of how Least Cost Path Analysis can be used to assess the impacts of roads on roadshy wildlife in an attached document by TWS Landscape Ecologist, Bo Wilmer.

Response
We appreciate the recommendation on the use of Least Cost Path Analysis and other connectivity modeling tools and will consider using them in the future to supplement other modeling efforts that we are currently using. No change to the revised Kenai NWR CCP will be necessary for us to use these or other appropriate management tools.

Resolved: Other (SEE RESPONSE)

Comment 21

Overall we [The Wilderness Society, et. al.] are very impressed with the comprehensive and ambitious science program put forth in the Kenai NWR Draft CCP. We believe that it contains elements necessary to promote naturally wild and sustainable habitat for wildlife and fish and educational and outreach goals for promoting greater ecological awareness.

Resolved: Comment acknowledged; does not provide new information

Comment 22

Oil and Gas units on the Refuge

We [The Wilderness Society, et. al.] strongly support the USFWS in pursuing testing and remediation for contamination associated with past and present industrial uses on the refuge. This action will improve the environmental quality of the refuge and reduce clean-up costs in the future. We further believe that should the refuge retain industrial roads for administrative or recreational use within the Swanson River Unit or any other industrial unit, comprehensive testing be done to insure the safety of users.

Resolved: Comment acknowledged; does not provide new information

Comment 23

We [The Wilderness Society, et. al.] have also compiled a database on contamination events on the Kenai, and may have found some differences from what is reported in the Draft CCP. According to our database, nearly 700 known contamination events have occurred on the Kenai NWR (Table 1, Figure 2), although the true number of events is likely to be considerably greater (Parson 2001), as stated in the draft CCP (p.3-19). Nearly two-thirds of the spills are spread across the Swanson River Field, with no area unaffected (Figure 1 and 2). Over 7 miles of the Swanson River flow through the field area, so contamination of the river is a concern given that many spills occur near the river and due to the presence of contaminated groundwater.

Table 1. List of known contaminant releases from oil and gas development activities on the Kenai NWR. Primary contaminants are spills directly associated with oil or gas extraction. Secondary contaminants are spills associated with operations on the oil and gas fields. Many additional spills are likely to have occurred and volumes for large spills are often unrecorded when they leak into the ground and are cannot be measured directly. [See Table 1, page 11 on original] Of the known spills, approximately half are attributed to release of what we consider primary contaminants, which are natural products associated with oil and gas extraction, including crude oil, natural gas condensates, produced water, drilling mud and other mixtures (Table 1). Crude oil is highly toxic to wildlife, birds, fish and humans causing organ failure if ingested or hypothermia if it gets on fur, feathers, gills or skin. The other contaminants, including the produced water, also pose a direct health hazard and destroy habitat. [See Map Figure 1. Location of known contaminant events on the two primary oil and gas fields within the Kenai NWR, the Swanson River Unit and the Beaver Creek Unit]. Records indicate that at least 200,000 gallons of primary contaminants covering over 500,000 square feet in area have been released to the environment. Data on size and volume are missing for several spills that could double this estimate. Descriptions of these uncharacterized events include "Considerable petroleum contamination of soil…extends to groundwater" and "Numerous spills at this site with contaminated soils…groundwater...[[and]] monitor wells have floating product" and multiple instances where the "Impact to human health is unknown" but where cleanup has not occurred. The other half of the spills on the Refuge are associated with "the cost of doing business", and these secondary contaminants include ethylene glycol, PCBs, Xylene, diesel fuel, and a variety of lubricants and mixtures of toxic substances (Table 1). PCBs are highly toxic, and when their release from a compressor plant explosion onto a gravel pad went undetected, an even larger area near the Swanson River became contaminated when that gravel was reused and spread out on the oil field roads. Ethylene glycol, commonly known as antifreeze, is highly toxic to humans and animals, with as little as 2 tablespoons being lethal to an adult human. On the Refuge, over 2,700 gallons of ethylene

glycol have been spilled, covering an area of almost 23,000 square feet with an average of over 7 spills per year since 1990. [See Figure 3. Relative size (area in square feet) of known contaminant events on the Kenai National Wildlife Refuge. Circles are not to landscape scale. Hatched area shows area of possible field expansion. See Documented Swanson River Unit Spills Map] Unreported or undiscovered contaminant releases are a significant concern. Discovery of unrecorded contamination releases often occurs when clean up and testing is done on a recent spill and unexpected contaminants are discovered in soils, gravel and groundwater. The lack of monitoring and systematic assessment of the oil and gas field areas allows for the spread of contaminants both intentionally and unintentionally in the case of undiscovered leaks. The fields, and contaminants, have transferred hands over time with no apparent requirement for transferring information on remaining contaminants or even locations of abandoned buried pipelines (Refuge staff, personal communication). For obvious reasons, there is no incentive for the current operator to sample and discover the extent of past releases and take responsibility for costly remediation. Thus, we support stringent regulations on testing and remediation for contamination associated with past and present industrial uses on the refuge. Alternative A identifies the safest and lowest impact management options for roads and facilities in nonoperational oil and gas units. While removal of roads may also cause significant impact and complete restoration may be difficult or impossible, we believe that leaving known and unknown sources of contamination poses an unacceptable risk to wildlife, fish, habitats and humans. Industrial roads and pipelines contribute to the fragmentation of wildlife habitat across the non-wilderness area in the northern half of the refuge. Fragmentation will become an even greater issue as additional refuge lands are developed and as non-refuge lands are further developed around the refuge. Removal and restoration of as much infrastructure as can be safely extracted is the only option which truly meets the goals of the refuge.

Response
One of the refuge's purposes is to provide, in a manner compatible with other refuge purposes, opportunities for fish and wildlife-oriented recreation. The Swanson River Unit is over 50 years old, and most of its infrastructure was developed in the 1960's. By retaining and maintaining most of the roads in the unit for public use and administrative purposes, other areas on the refuge would remain undeveloped. Some existing road footprints would be reduced to walking or biking trails while others would be retained for vehicle access to campgrounds or trailheads. Future discretionary selection of individual roads and facilities for removal, remediation, and restoration would be aimed at maximizing wildlife benefits while minimizing adverse impacts to recreation. We would require comprehensive testing for contaminants for any road and facility retained for public use or administrative purposes to insure the safety of the users. We would also require comprehensive testing of any restoration site to insure remediation measures were taken prior to
restoration. The overall effect of the preferred alternative after all remediation and restoration is completed, would be conversion of the Swanson River Unit from a roaded, semi-natural setting with industrial features, to a roaded, natural setting with developed camping facilities and buildings to provide opportunities for fish and wildlife-oriented recreation.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: See Section 2.1.4.3 Management of Existing Oil and Gas Units

Comment 24

Preferred Alternative / Mystery Creek:

The USFWS is proposing to allow vehicle use on the 11-mile access road and 38 –mile northern and southern portions of the pipeline corridor during the life of the project. This action would be similar to the current management direction outlined in Alternative A. However, the Preferred Alternative E would also allow public vehicle use on an additional 14 miles of the pipeline corridor (the southern portion). Thus short term impacts would be greater in the Preferred Alternative than they would if the current management direction continued due to an increase in area where vehicles are allowed. Ultimately, the USFWS's vision is to have, "more of the corridor... restored than is proposed under Alternative A," though this restoration, "would be left at the discretion of the Refuge manager." (p. 4-56) while the undersigned groups are not in full support of vehicle use on an additional 14 miles of the

pipeline corridor, we can support the ultimate vision of restoration in the Preferred Alternative E. We [The Wilderness Society, et. al.] do not support indefinite and/or ongoing vehicle use of these roads past the life of the project, and thus urge the USFWS to clearly state in the revised CCP that vehicle use would not continue beyond the life of the project and that the pipeline corridor will be restored. We believe it is best to clearly articulate and codify this type of vision and direction for the Refuge, rather than leave such a decision open to interpretation and the discretion of the Refuge Manager.

Response
The environmental consequences analysis conducted for management of the Mystery Creek Access Road and Pipeline Corridor under Alternative E: The Preferred Alternative has been revised to delete reference that "restoration efforts would be left at the discretion of the Refuge Manager."

Resolved: Analysis modified (SEE RESPONSE)

Comment 25

RS2477:

We [The Wilderness Society, et. al.] agree with the Service that the identification of RS 2477 rights-of-way by the State of Alaska does not automatically make them valid; rather, such claimed rights-of-way are not valid until they have been determined to be so through a legitimate process applying the proper legal standards. Under no circumstances may section line easements be legitimate RS 2477 rights-of-way. We appreciate the Service's attempt to disclose the States assertions regarding RS2477.

Resolved: Comment acknowledged; does not provide new information

Letter 2

Respondent: Allen E Smith

Comment 1

Though smaller in size than other more remote national wildlife refuges in Alaska, the Kenai NWR plays a prominent role in Alaska outdoor recreation, hunting, and fishing opportunities that is far greater than its size due to its rich diversity of wild land and wildlife resources and its easy road access to adjacent Anchorage, the largest population center in Alaska. As that demand grows, it becomes even more important for the USFWS to adopt management measures that protect the KNWR from being overrun by it and to limit the negative impacts of high use. While the current CCP for the most part did that since its adoption, use demands have outpaced it and the additional protections of Alternative E as the Preferred Alternative of the Revised CCP can build positively on that record. The proposed classification of up to 564,000 acres of a refuge lands (after the life of the Alaska Pipeline project) as Minimal Management is a welcome step that furthers maintaining an ecologically high quality refuge resource and visitor experience, and protects the wild integrity of these lands from development and over use. Restricting allowed airplane access to lakes to current plan levels also limits negative impacts on remote KNWR wildlife and recreation resources, and it is important to recognize that helicopter access to designated Wilderness Areas is not legal or desirable. The plans for restoration and remediation of KNWR areas impacted by oil and gas development are very encouraging as are plans for increased scientific monitoring and research. I commend USFWS for these proposed actions.

Response

We agree increased pressures and impacts to Refuge resources are likely in the future and that management actions proposed in the preferred alternative (final revised comprehensive conservation plan) will help minimize or mitigate anticipated impacts while providing reasonable access to the visiting public, and outstanding recreational opportunities.

Resolved: Other (SEE RESPONSE)

Comment 2

I strongly recommend the following important modification to Alternative E., the Preferred Alternative, to further strengthen the KNWR Revised CCP and its compatibility with prior related USFWS decisions:

Wilderness Reviews-Wilderness Reviews should be included in this Revised CCP/EIS decision. As required by Sec. 1317 of ANILCA, USFWS conducted Wilderness Reviews on the KNWR as part of the refuge's original current Final CCP/EIS/Wilderness Review adopted October 20, 1988. The fact that the U.S. Department of the Interior (USDI) failed to forward that Wilderness Review from the Secretary, USDI to the President to be forwarded on to Congress for legislative consideration, as also required by Sec 1317, does not now excuse USFWS and USDI from this unfulfilled legal requirement. The KNWR Revised CCP/EIS will amend that original current CCP/EIS that calls for such action, and does not structurally or substantively deal with the issue of Wilderness Reviews, a deficiency that violates both ANILCA and the National Environmental Policy Act (NEPA) and should be corrected.

Response
Section 5.17 of the U.S. Fish and Wildlife Revised Wilderness Stewardship Policy, issued on November 13, 2008, states that "we have completed wilderness reviews for refuges in Alaska in accordance with Section 1317 of ANILCA [Alaska National Interest Lands Conservation Act, 1980] [as part of our initial comprehensive conservation planning efforts undertaken in the 1980s]. Additional wilderness reviews as described in the refuge planning policy (602 FW 1 and 3) are not required for refuges in Alaska...[and that] ANILCA does not require that we incorporate formal recommendations for wilderness designation in CCPs and CCP revisions. During preparation of CCPs for refuges in Alaska, we follow the provisions of section 304(g) of ANILCA, which requires us to identify and describe the special values of the refuge, including wilderness values." See section 3.5 for a description of wilderness values for the Refuge. In addition, the wilderness recommendation (i.e., approximately 195,000 acres) from the supplemental environmental impact statement for the wilderness proposal of the Final Kenai Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review (USFWS 1988) will remain in effect unless withdrawn or submitted to Congress.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: See section 2.1.3 Alternatives Considered But Eliminated From Detailed Study

Comment 3

I strongly recommend the following important modification to Alternative E., the Preferred Alternative, to further strengthen the KNWR Revised CCP and its compatibility with prior related USFWS decisions:

Mystery Creek Road-

The Mystery Creek Road should not be improved pending its removal at the end of the life of the Alaska Pipeline project. Improvements in a road slated for removal will allow increased uses and expectations that would create obstacles to the eventual removal of the road. The increased use-access could negatively impact the adjacent Minimal Management lands and designated Wilderness Areas with incompatible uses and is incompatible with the goal of road removal as contemplated in the current management plan, Alternative A. The Mystery Creek Road and Alaska Pipeline project as currently managed already penetrate the heart of one of the wildest parts of the KNWR. Partly in recognition of the potential negative ecological impacts to the surrounding resources adjacent to that

corridor from further development in the corridor, USFWS gave up significant lands on its western boundary along Cook Inlet to the State of Alaska 40 years ago as an alternative transportation and facility corridor to Mystery Creek and slated the road for eventual removal in the current plan. No incremental road improvements or upgrades or increased access uses should be allowed to cause backing away from that goal to protect this vital wildlife area. USFWS has already found other proposed development in this corridor to be incompatible with KNWR purposes in its decision regarding the proposed Southern Intertie Project in July, 2002. Improving or upgrading the Mystery Creek Road should be viewed the same way.

Response
We agree substantial improvements to Mystery Creek Access Road could increase user traffic, have associated impacts, and create expectations for long-term use of the industrial right-of-way. We revised language in Alternative E: The Preferred Alternative, and the associated environmental impact analysis, to clarify that the access road would remain largely unimproved and in its current condition except for minimal maintenance projects to ensure public safety and environmental protection during the life of the pipeline project.

Resolved: Alternative modified or new alt developed (SEE RESPONSE)
Citation: 4.3.4 Mystery Creek Access Road and Pipeline Corridor

Comment 4

I strongly recommend the following important modification to Alternative E., the Preferred Alternative, to further strengthen the KNWR Revised CCP and its compatibility with prior related USFWS decisions:

Skilak Lake Wildlife Travel Corridor-

The wildlife travel corridor established for the Skilak WRA should be included in the KNWR Revised CCP/EIS. The USFWS identified the significant values of the North shore of Skilak Lake as a critically important wildlife travel corridor and established protection of that corridor in its January 2007 Environmental Assessment (EA) decision for the Skilak WRA. Under the Revised CCP, the North shore of Skilak Lake would have a mix of primitive wildlands (Minimal Management) and developed road areas (Intensive Management) that demark opposite ends of the land management spectrum, and these two land management classes could be in constant conflict with each other unless carefully managed to avoid those conflicts. Attention to such management issues rises to the level of the KNWR Revised CCP/EIS in importance and that decision should be incorporated into the Revised CCP/EIS to recognize that importance and give it another more permanent level of protection. It is such a critical wildlife protection need for the KNWR that it should be codified in this Revised CCP/EIS.

Response
We revised Figure 3-20 in the Revised Comprehensive Conservation Plan to include the Skilak Wildlife Recreation Area Wildlife Travel Corridor as identified in the Skilak Wildlife Recreation Area Final Revised Management Plan (May 2007).

Resolved: Other (SEE RESPONSE)

Comment 5

The Kenai is the national wildlife refuge that most Alaskans and most travelers to Alaska visit and experience, and it holds a special place in the hearts of those who go there to hunt, fish, hike, canoe, camp, ski, snowshoe, and just plain visit for its scenery. It is also under tremendous pressures that could cost the KNWR is wildness and wildlife without careful management.

Resolved: Comment acknowledged; does not provide new information

Letter 3

Respondent: Tom Vania
Organization: Alaska Department of Fish and Game

Comment 1

The one thing that did catch my eye was on page 7, under the section; "Non-guided Public Use on the Upper Kenai River", the description of "Middle Kenai River" may need some adjustment. People often refer to areas of the Kenai River as lower, middle, and upper, but the boundaries are not always the same. Therefore, I would recommend you use the areas as they are described in regulation under 5 AAC 57.106. Description of Kenai River Drainage Area Sections. Under this regulation, the Lower Section are waters from the mouth upstream to Skilak Lake, including Skilak Lake, but not including the waters of Skilak Lake within ½ mile radius of the Kenai River inlet. The Middle Section includes waters of Skilak Lake within ½ mile radius of the Kenai River inlet upstream to the Sterling Highway Bridge at the outlet of Kenai Lake. The Upper Section are waters upstream of the Sterling Highway Bridge at the outlet of Kenai Lake and all stream and lakes that flow into Kenai Lake.

Response
References to various sections of the Kenai River vary depending on user group and context, with river guides and long-term users generally following the designations as described in the Draft Revised Comprehensive Conservation Plan. We acknowledge that area names and/or descriptions may vary in other management plans and documents, and that it is important to clarify the scope of any proposed management action in specific areas of the Refuge within the Comprehensive Conservation Plan. To meet that goal, we have included a boundary description of the Upper Kenai River in Section 3.4.6.1: Fishing. A boundary description for the Middle Kenai River currently exists in the plan.

Resolved: Other (SEE RESPONSE)

Letter 4

Respondent: Jack Sinclair
Organization: Alaska Division of Park and Outdoor Recreation

Comment 1

The Alaska Division of Parks and Outdoor Recreation have reviewed the Draft Revised Comprehensive Conservation Plan and Environmental Impact Statement for the Kenai National Wildlife Refuge. We believe the Refuge's Preferred Alternative E represents sound planning and forethought to safeguard the Refuge's mission and for the provision of public use on the refuge.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Regarding Issue 4: How will the Refuge manage increasing public use to ensure resource and visitor experience protection? -Upper Kenai River (Russian River to Skilak Lake). Implement a program to restrict or redirect non-guided public use for the Upper Kenai River if more than 25% of the anglers surveyed (outside the confluence area) report difficulty in finding an uncrowded fishing spot.

Response
This alternative is not self-implementing. It requires two additional processes. First, a statistically valid sampling effort would need to be undertaken to determine what proportion of anglers are unable to find a place to reasonably fish. Once completed, and if the 25% threshold was exceeded, then a program to limit use would need to be designed through a public process. This could include only restricting use during the heaviest use periods (such as weekends during summer months). Any such program would require additional planning and public involvement before implementation.

Resolved: Other (SEE RESPONSE)

Comment 3

We [The Alaska Division of Parks and Outdoor Recreation] now have a better understanding of the effects of restricting or redirecting use from one popular to another in recreation planning. Our concern is that any effort to reduce perceived crowding on the upper river by redirecting users will no doubt create additional impacts in areas inside and perhaps outside the refuge that may be previously uncrowded. Realizing that this program to redirect or restrict would need a great deal of research and survey work, it would be equally important to consider what the effects of this program would be on other sport fishing areas in the region.

Response
We agree that restrictions in one area can cause increased use in other similar or near-by areas. Any program we undertake will include input from user groups and other State and Federal managers to ensure such impacts would be minimized to the degree possible while addressing the crowding concerns of the Upper Kenai River.

Resolved: Other (SEE RESPONSE)

Comment 4

The other issue which is missing but should be addressed within this same Issue (4) is pursuing the adoption of regulations that will coincide with the state's regulations banning the use of older two stroke engines on the Kenai River, including Skilak Lake. A great deal of research has shown that the continued use of two stroke outboard engines have a detrimental and lasting effect on water quality in regards to salmonid and trout rearing and the microorganisms that support them. Now that the state has been able to effect regulations on two stoke engine use that encompasses the Kenai River Special Management Area, it would be not only be the responsible thing for the Refuge to do in the best interest of the resource but also provide the public with concurrent and consistent regulations that address this.

Response
A variety of regulatory changes will be necessary to fully implement the Revised Comprehensive Conservation Plan. While this issue is not specifically mentioned in the plan's alternatives, other regulatory changes to generally address the plan's goals and objectives will also be entertained. The Refuge has a mandate to protect water quality and quantity, and limitations on 2-stroke engine use may logically be implemented to support reduced hydrocarbon contamination in waters on the Refuge. The Refuge will work with Alaska State Parks during the subsequent regulation process to evaluate whether regulations identical to Alaska State Park's can be included in the Refuge regulation package.

Resolved: Other (SEE RESPONSE)

Letter 5

Respondent: Richard A Woodin

Comment 1

I have reviewed the Draft Comprehensive Plan for the Kenai National Wildlife Refuge and am pleased to see the preferred alternative provides for continuation of most aviation uses in the Refuge. There is one additional lake I would like to see open - Emma Lake - near Tustemena Glacier. I suspect the cabin there gets little use, other than the public servants who fly there for administrative purposes. One of the greatest disappointments of my life was when the U S Forest Service closed all wilderness lakes in Washington State to seaplane operations. That is the main reason I am now an Alaskan. I am very thankful that attitude has not been adopted here.

I support the most liberal aircraft usage policy you can justify in your planning process. I am 78 years old and hiking or canoeing to the remote lakes is not an option for me. Thank you for your consideration.

Response
Emma Lake has been closed to public landing of aircraft for resource protection and public safety reasons for approximately 40 years. Original Kenai National Moose Range regulations were based on opening areas to public use, in the absence of which they remained closed (to such uses as snowmachine travel, aircraft landing, etc.) Emma Lake access was initially restricted to provide protection to dwindling Dall sheep populations. Later considerations looked at safe approaches for aircraft landings, disturbance to traditional users, and other factors. Changing the access rules to Emma Lake was not proposed by agencies or the public during the scoping of the revised CCP and was not analyzed as an alternative. The historic public use cabin there is one of two on the Refuge that is available for the public to use on a first-come-first-serve basis (no reservation or fee). It is primarily used by hunters accessing the benchlands via Tustumena Lake, and is quite popular in the fall each year. Three other public use cabins are available on Tustumena Lake and may be accessed via aircraft (and boat or snowmachine, depending on the time of year).

Resolved: Other (SEE RESPONSE)

Letter 6

Respondent: Dave Earl

Comment 1

I definitely support opening the Chickaloon Flats area to aircraft operations to the greatest extent possible.

Resolved: Comment acknowledged; does not provide new information

Letter 7

Respondent: Noah Kahn

Organization: Defenders of Wildlife

Comment 1

We [Defenders of Wildlife] are generally supportive of the current and proposed management direction of the Refuge.

Resolved: Comment acknowledged; does not provide new information

Comment 2

The National Wildlife Refuge System Improvement Act of 1997 ("Refuge Improvement Act") has been called "the most important statute Congress has passed for the Refuge System." Prior to its enactment, the Refuge System was the lone remaining system of federal public lands without an "organic" statute. Congress intended the Refuge Improvement Act to fill this void, by directing that the primary mission of the Refuge System is "to administer a national network of lands for the conservation . . . of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." The CCP process is the primary vehicle for ensuring that the Refuge System conservation mission is met. Under section 7 of the Improvement Act, FWS must issue a CCP for every refuge at least once every 15 years. Among many other things including evaluating existing or proposed public or economic uses for compatibility, the CCP must identify and describe the "significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants" within the Refuge and identify "the actions necessary to correct or mitigate such problems." Defenders believe that climate change is clearly a "significant problem" affecting plant communities, wildlife, habitat and variables such as rainfall and snowpack. Therefore, the impacts of climate change should be a central consideration in the development of refuge CCPs. As highlighted in Defenders' Refuges at Risk 2006, such consideration is especially critical for refuges that are particularly susceptible to a rapidly changing climate, including refuges along coastlines and in Alaska. Indeed, Congress in May 2006 specifically directed that FWS "should incorporate consideration of global warming and sea-level rise into the comprehensive conservation plans for coastal national wildlife refuges, and for other purposes." Alaska is at the front lines of climate change and its national wildlife refuges have the opportunity to play a leading role in not only assisting local wildlife navigate the perils of climate change, but also to create proactive monitoring and management strategies for other land managers to follow. Kenai NWR has already demonstrated its leadership in comprehensive research and monitoring to understand the complex environmental changes occurring on the refuge and Kenai Peninsula. Defenders is strongly supportive of the following inclusions in the refuge's revised CCP:

- Impacts of climate change: Defenders is pleased to see the detailed descriptions of the impacts of climate change on the refuge's resources including: the increases in air temperatures, the decreases in water availability, the melting of glaciers, the drying of refuge ponds, the spread of spruce bark beetles, the increase in wildfire, and the rise of tree-line. These effects and others have and will have profound affects on the refuge's biodiversity.

- Refuge vision statement: serving as an anchor for biodiversity protection in the face of climate and other environmental changes is exactly what Defenders believes the refuge system should strive for. This proactive vision will help guide refuge decision making over the next 15 years in the direction needed to achieve the refuge's purposes and refuge system mission.

- Research and Monitoring: The refuge's research agenda outlined in Goal 1 of the wildlife and habitat section of the CCP is vitally important. We commend the Service for leveraging partners and existing programs with universities and other agencies to accomplish the needed research on the refuge. For example, building on the U.S. Forest Service's Forest Inventory and Analysis program to add relevant biodiversity data will enable the Service to understand environmental changes on the refuge in a regional and national context. We also support comprehensive biological inventories of the

refuge for all tax (Objective 1.18). Particularly in light of a changing climate, it is impossible to detect changes in species composition, distribution, or abundance if the baseline is unknown. We also support the continuation and development of comprehensive monitoring programs, including participation in regional and national monitoring programs like the Breeding Bird Survey.

- Modeling: We strongly support the development of ecological models to "to explain how biotic and abiotic factors affect the distribution of species and communities at the landscape level." (Objective 3.7) Regional and refuge-level models are sorely needed to predict and understand the effects of climate and other environmental changes on the refuge's biological resources.

- The Effects of Roads: Defenders supports studying the effects of roads on wildlife movements (Objective 3.10) and facilitating wildlife movements in important wildlife crossing zones through the construction of over or under passes and other techniques.

We have the following recommendations for inclusion within the CCP related to climate change:

- Environmental Education and Interpretation: Defenders strongly supports the refuge's plans to increase and diversify its environmental education and interpretation programs. However, we recommend inclusion of programs specifically to educate refuge visitors and students about the impacts of climate change on refuge resources.

- Facilitation of Wildlife Movements: Defenders recommends more specific actions to ensure that wildlife movements, particularly in response to climate change, are taken. (See below for details).

- Addressing Tree-Line and Wetlands: Though the CCP describes the march of tree-line further of mountain slopes and the significant drying of ponds and wetlands and the associated impacts of wildlife, the CCP proposes no actions to address these issues.

[Footnote C]: We believe there is a typo-graphical error in Objective 1.1, where it says "Fire Inventory and Analysis Program" that should say "Forest Inventory and Analysis Program."

Response
We agree with the need for an emphasis on climate change. The Refuge has been working on both long term monitoring programs and studies to measure the effects of climate change. We are working with other Alaska refuges and Service leadership to develop policies to help guide managers on appropriate considerations, and potential management actions. Our primary legal mandate to conserve fish and wildlife and their habitats in their natural diversity will likely be more challenging given the effects of a changing climate. This guidance must include far reaching discussions on legal, ecological, and practical aspects of potentially incorporating significant new "hands on" management techniques in expansive areas that have been historically managed largely through preservation and monitoring. When appropriate policy is developed it will supplement refuge management decision-making regardless of where a refuge is in revising their
specific CCP. The error referencing Objective 1.1 has been corrected. Thank you.

Resolved: Other (SEE RESPONSE)

Comment 3

Kenai Peninsula Habitats and the Need for Wildlife Corridors;

In response to the climate and other environmental changes on the peninsula, many species will attempt to shift their ranges. It is important that the final CCP recognize the need to facilitate the movement of species by working to maintain or restore suitable habitat connectivity while minimizing or eliminating any dispersal barriers. With regard to the Skilak Wildlife Recreation Area (SWRA), which extends nearly the entire width of the narrowest point in the Refuge and is bounded by non-federal areas that may become unsuitable for north-south wildlife passage, Defenders recommends designating wildlife movement corridors in the final CCP within the SWRA where visitor infrastructure, new trails, boat launches, hunting and firearms use is highly limited or prohibited. Defenders recognizes that a similar Wildlife Travel Corridor was identified in the final SWRA plan in January

2007. We [Defenders of Wildlife] believe the CCP should also recognize and expand this important designation in its CCP, especially in the context of climate change and the need to facilitate species movements. Based on the current movements of brown bears and other species, we recommend the following corridors (see figure on last page):

- The area extending from the western boundary of the refuge east to Marsh Lake, north to the Sterling Highway, and south to Skilak Lake.

- The north shore of Skilak Lake to facilitate wildlife movement east to west within the SWRA.

- A linear corridor extending roughly from the south shore of Egumen Lake, continuing to the south shore of Peterson Lake, continuing to the south shore of Kelly Lake, continuing to the south shore of Hikers Lake, continuing to the south shore of Hidden Lake, then following Hidden Creek to its confluence with Skilak Lake.

While the draft CCP states the intention of developing models to evaluate how various factors affect species distribution (e.g., Objective 3.7), the final CCP should prioritize the development of landscape and statistical models in the context of climate change. Such models may in fact serve as the FWS's only available means of proactive management on Kenai NWR and other refuges. FWS should develop appropriately scaled models to predict habitat changes and shifts in species distribution and diversity.

Response
We have made changes to the revised Kenai NWR CCP to describe the wildlife movement corridor north of Skilak Lake designated in the Skilak Wildlife Recreation Area Management Plan. We have also added language to emphasize climate change planning and policy, monitoring, and management actions as priorities.

Resolved: Other (SEE RESPONSE)

Comment 4

Non-Climatic Stressors and Compatibility Policy;

Defenders [of Wildlife] believes that thorough consideration of the overall impact of climate change on wildlife and habitats should include the effects of non-climatic stressors. Extra consideration should be given to decreasing or eliminating these stressors, including powerboat use, snow machining, fishing, bear baiting, and trapping on the Refuge. The compatibility of these issues was evaluated in 2007. At that time, we commented on the draft compatibility determinations (CDs) and expressed our concerns about these and other issues. Given that these are heavily exercised public uses, we do not understand their effective exclusion from the draft CCP. A table of authorized public uses is presented in Appendix C; page C-46, but there is no evidence that the draft CCP considered the cumulative effect of these uses when developing CCP goals or objectives. Indeed, CCPs should consider the effects of various public uses when developing and assessing refuge goals and objectives. The FWS Policy Manual (603 FW 2) even suggests that the development of CDs prior to a CCP is out of turn, stating that a "refuge manager will usually complete compatibility determinations as part of the comprehensive conservation plan or step-down management plan process…"

Response
While we agree that climate change over time will change habitats and impact fish and wildlife, we also understand that such changes will benefit some species and harm others. We know little yet about likely outcomes of climate change on much of the Refuge's flora and fauna, especially as may or may not be influenced by outside stressors. Compatibility regulations and policies require our decisions to be based on best available information and sound professional judgment. To suggest that many traditional uses on Kenai National Wildlife Refuge should be found not compatible, and discontinued, because of what might happen due to future climate change is premature. Compatibility determinations for refuge uses at Kenai NWR were prepared during the CCP revision process, though they are not included in this plan and were finalized prior to completion of the revised CCP.

Many of the compatibility determinations had expired and revisions were completed to comply with legal requirements for updating the determinations. Since refuge managers have the authority to re-evaluate compatibility determinations at any time, comments or concerns related to compatibility issues are always welcome.

Resolved: Other (SEE RESPONSE)

Comment 5

Skilak Wildlife Recreation Area Management Plan;

While Defenders [of Wildlife] does appreciate the consideration and incorporation of our comments in the Skilak WRA Management Plan, the Skilak Plan was barely mentioned in the draft CCP. Even so, in preparing the Skilak Plan prior to the CCP, the FWS effectively prevented comprehensive analysis of this important area of the refuge within the larger refuge context. Billed as a step-down management plan, the Skilak Plan was tiered from the 1985 Kenai Refuge CCP. Although the Skilak Plan is now finalized and the FWS has made it clear that there are "no plans to revise it" (draft CCP at 6.2.10), we wish to reiterate that it makes little sense to update a step-down management plan based on goals developed in a CCP that is over 20 years old and is currently being revised. In fact, preparing the Skilak Plan prior to development of the current CCP may violate FWS policy.

According to FWS policy on Step-Down Management Planning (602 FW 4 of the FWS Manual), FWS will prepare step-down management plans to "provide strategies and implementation schedules for meeting goals and objectives identified in Comprehensive Conservation Plans (CCPs)." The policy further clarifies the relationship between step-down management plans and CCPs as follows:

A. Step-down management planning is the formulation of detailed plans for meeting goals and objectives identified in the CCP.

B. Step-down management plans describe the specific strategies and implementation schedules we are to follow, "stepping down" from general goals and objectives. The preparation of new step-down management plans or substantial changes to existing step-down management plans typically will require further compliance with NEPA and other policies, and an opportunity for public review. For public use plans or other step-down management plans dealing with proposed uses of the refuge, prepare and append compatibility determinations to the plans (emphasis added).

C. The CCP will identify which step-down management plans are necessary and provide a schedule for their completion. After completion of the CCP, modify existing step-down management plans as needed to accomplish stated objectives. Clearly, CCPs and their revisions are required to come before step-down management plans are prepared. Through the current revision of Kenai Refuge's CCP, the goals, objectives, and proposals for the management of the refuge may change, which would affect the management of the SWRA. It is important to develop the CCP first because it takes a comprehensive look at the entire planning area and determines how best to manage the SWRA in a refuge-wide and landscape level context. The FWS should not have first developed the Skilak Plan and incorporated it by reference into the CCP.

Response

Management of refuge resources and visitor experiences, and development of plans that provide direction for the management of those resources and experiences, is an ever evolving process (i.e., there is not a finite starting or ending point). We use adaptive management principles to maintain flexibility and maximize our ability to respond to unexpected resource concerns and public considerations. These principles served us well when in March 2005, the Board of Game adopted regulations that allowed the use of firearms to hunt small game and fur animals in the Skilak Wildlife Recreation Area; regulations that were in direct conflict with the management direction identified for the area in the Refuge's Comprehensive Conservation Plan and various step-down management plans. In an effort to fulfill the cooperative management goals of the Service and Alaska Department of Fish and Game, as identified in a 1982 Master Memorandum of Understanding, the Board delayed implementation of the authorization until July 2007, supporting the desire of the Service to prepare a management plan and associated environmental impact assessment for the area. The goal of the

management plan was to consolidate, update, and modify, where necessary, management direction provided in previous step-down management plans.

Resolved: Other (SEE RESPONSE)

Comment 6

Wilderness Reviews;

The FWS has clarified that the CCP revision process is one where refuges will be evaluated and lands designated related to their resources and values. In a newsletter regarding the Kenai Refuge CCP revision process, for example, the agency indicated:

These plans designate areas within the Refuge according to their resources and values; specify programs for conserving fish and wildlife and maintaining other special values of the Refuge…

Both existing and potential future designated wilderness is a resource and a value of the refuges which must be addressed. The FWS's laws and policies require that wilderness reviews be conducted as part of the CCP process. However, the FWS has failed to complete wilderness reviews or make recommendations for future wilderness designation thus far in the CCP revision process for Kenai Refuge.

For example, Section 304(g) (1) and (2) of the Alaska National Interest Lands Conservation Act (ANILCA) directs FWS to develop and periodically revise CCP's which must identify and describe the special values of the refuge, including wilderness values. Specifically, the Alaska National Interest Lands Conservation Act (ANILCA) Section 304(g) states:

(1) The Secretary shall prepare, and from time to time, revise, a comprehensive conservation plan (hereinafter in this subsection referred to as the 'plan') for each refuge.

(2) Before developing a plan for each refuge, the Secretary shall identify and describe –

(A) the populations and habitats of the fish and wildlife resources of the refuge;

(B) the special values of the refuge, as well as any other archeological, cultural, ecological, geological, historical, paleontological, scenic, or wilderness value of the refuge;"

Additionally, Section 1317(a) of ANILCA directs FWS to study all of the non-wilderness lands in Alaska refuges and recommend areas suitable for inclusion in the National Wilderness Preservation System.

Section 1317(a) of ANILCA states:

Within five years from the date of enactment of this Act, the Secretary shall, in accordance with the provisions of section 3(d) of the Wilderness Act relating to public notice, public hearings and review by State and other agencies, review, as to their suitability or nonsuitability for preservations as wilderness, all lands within units of the National Park System and units of the National Wildlife Refuge System in Alaska not designated as wilderness by this Act and report his findings to the President. While FWS completed a process to determine wilderness recommendations in the 1980's, the Secretary of the Interior never forwarded the recommendations to the President. Therefore, the Service still has not met the requirements of Section 1317 of ANILCA. Additionally, the National Environmental Policy Act requires that an agency analyze a reasonable range of alternatives in every agency action, such as a planning process like the CCP Revision. Because all values and uses of the refuges must be considered in a broad planning effort such as a CCP revision, analysis of wilderness recommendations is included within the reasonable range of alternatives. The FWS's Refuge Planning Policy (65 Federal Register 33892, May 25, 2000), which "applies to all units of the National Wildlife Refuge System" (i.e., it applies to refuges in Alaska) (602 FW 1.2), also requires that a new wilderness review be conducted as one of the required elements of all CCP's. Specifically, the Service's planning policy directs the following:

- "Concurrent with the CCP process, we will conduct a wilderness review and incorporate a summary of the review into the CCP" (602 FW 3.4(C)(1)(c);

- "Identify and describe the following conditions and their trends for the planning unit and, as appropriate, for the planning area: … (xx) Existing special management areas, or the potential for such designations (e.g. wilderness, research natural areas, and wild and scenic rivers" (602 FW 3.4(C)(1)(e);

- "Develop a range of alternatives, or different approaches to planning unit management, that we could reasonably undertake … to help achieve the goals of the National Wilderness Preservation System" (602 FW 3.4(C)(4)(b);

- The "Checklist of Required Comprehensive Conservation Plan Elements" found in Exhibit 3-3 of the planning policy includes "Wilderness review." "Wilderness review" is defined in the policy as "[[t]]he process we use to determine if we should recommend Refuge System lands and waters to Congress for wilderness designation. The wilderness review process consists of three phases: inventory, study, and recommendation. The inventory is a broad look at the refuge to identify lands and waters that meet the minimum criteria for wilderness. The study evaluates all values (ecological, recreational, cultural), resources (e.g. wildlife, water, vegetation, minerals, soils), and uses (management and public) within the Wilderness Study Area. The findings of the study determine whether we will recommend the area for designation as wilderness." Thus, the legal requirements for including wilderness reviews and recommendations within CCP revision processes are clearly laid out, and Defenders requests that FWS sufficiently review wilderness lands and make a range of wilderness recommendations within the alternatives to be analyzed in the CCP process. Without completing a wilderness review and/or making recommendations for wilderness, we [Defenders of Wildlife] believe FWS is out of compliance with ANILCA, the National Environmental Policy Act (NEPA) and the agency's own policies and guidelines. The U.S. District Court ruled in 2001 (Sierra Club v. Lyons, No. J00-0009-CV (D. Alaska March 30, 2001)) in a similar situation that the U.S. Forest Service needed to complete a wilderness review and analyze wilderness recommendations for the Tongass Land Management Plan in order to satisfy requirements of NEPA. At this time we do not believe FWS has met the legal and regulatory requirements for refuge CCP planning. We strongly urge the FWS to complete wilderness reviews and recommendations for inclusion in the final CCP.

In terms of wilderness management, we are generally supportive of the direction the CCP outlines. However, we recommend the FWS adopt Alternative B's proposal for airplane use in wilderness lakes. This is the only alternative that proposed studying the effects of airplane use on wildlife and the environment. We believe this is essential research to determine if this use is compatible with the refuge's purpose and refuge system mission.

Response
Section 5.17 of the U.S. Fish and Wildlife Revised Wilderness Stewardship Policy, issued on November 13, 2008, states that "we have completed wilderness reviews for refuges in Alaska in accordance with Section 1317 of ANILCA [Alaska National Interest Lands Conservation Act, 1980] [as part of our initial comprehensive conservation planning efforts undertaken in the 1980s]. Additional wilderness reviews as described in the refuge planning policy (602 FW 1 and 3) are not required for refuges in Alaska...[and that] ANILCA does not require that we incorporate formal recommendations for wilderness designation in CCPs and CCP revisions. During preparation of CCPs for refuges in Alaska, the Service follows the provisions of section 304(g) of ANILCA, which requires that we identify and describe the special values of the refuge, including wilderness values." See section 3.5 in the Final Revised Plan for a description of wilderness values. In addition, the wilderness recommendation (i.e., approximately 195,000 acres) from the supplemental environmental impact statement for the Wilderness Proposal of the Final Kenai Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review (USFWS 1988) will remain in effect unless withdrawn or until submitted to Congress.

Resolved: Other (SEE RESPONSE)

Comment 7

Understanding climate-driven changes in real-time will be essential to allow the FWS to adopt management strategies to conserve the wildlife resources the Refuge was established to protect. The FWS should incorporate adaptive management strategies based on research and monitoring into the CCP that will help alleviate the effects of climate change.

Response
We support adaptive management techniques for addressing many natural resource management issues and have added language to the revised Kenai NWR CCP to include adaptive management strategies where practical to address climate change issues.

Resolved: Other (SEE RESPONSE)

Letter 8

Respondent: Jolie Pollet & Bill Diehl
Organization: Bureau of Land Management

Comment 1

The BLM requests FWS to include a discussion of oil and gas operations in the CCP. By including such discussion, the BLM will be able to employ Energy Policy Act, Section 390, Categorical Exclusions, as appropriate. The BLM would also be able to comply with agency policy requirements regarding land use plan conformance. Further, the BLM requests you address measures to protect surface values related to oil and gas operations.

Response
We believe that we have adequately described oil and gas activities occurring within the Refuge boundaries for the purpose of the CCP. Measures to protect surface values related to oil and gas operations are addressed as project proposals are received.

Resolved: Other (SEE RESPONSE)

Comment 2

Page 2-6

2.1.4.3 Existing Oil and Gas Units

Industrial facilities will operate under current State and Federal regulations. Facility operators will prevent, to the maximum extent possible, releases of hazardous materials and substances, crude oil, and produced water. Each facility will have a current oil discharge prevention and contingency plan outlining procedures for accidental releases. Sampling, remediation, and restoration of contaminate d sites will be the responsibility of the company operating the facility and will occur in consultation with the Service and the Alaska Department of Environmental Conservation (ADEC). All sites no longer being used by industry will be sampled for contaminants to ensure proper disposal of material and to ensure that Refuge staff or visiting public are not exposed to contaminants if re-use is planned. You should add some sentences here explaining that ongoing/future actions related to oil and gas operations/development, including drilling, will be administered jointly by the USFWS and BLM for the Beaver Creek, Swanson River, and Birch Hill units. Explain how surface protection measures for USFWS surface will be applied to permits authorized by BLM. Explain how surface protection measures will be developed (for example, in this plan or as a Surface Plan of Operations, or some other way); or reference existing surface protection measures.

Response
We believe that we have adequately described oil and gas activities occurring within the Refuge boundaries for the purpose of the CCP. Measures to protect surface values related to oil and gas operations are addressed as project proposals are received.

Resolved: Other (SEE RESPONSE)

Comment 3

Check typo in the word contaminated, underline above. [Section 2-1-4-3]

Response
Correction made.

Resolved: Other (SEE RESPONSE)

Comment 4

Page 2-7, 2-8

2.1.4.10 Subsurface Entitlements to Minerals

Any new development where subsurface entitlements exist or in the Birch Hill Oil and Gas Unit would be designed and constructed to have the least negative environmental impact possible. Once exploration and/or production ceases, all industrial roads, pipelines, and other related facilities will be completely removed and the area restored. Sampling for contaminants, remediation, and restoration of the site to predevelopment conditions will be required.

Why aren't the Beaver Creek and Swanson River units mentioned here? I suggest you further address BLM's role in subsurface management of minerals, or reference 2.1.4.3 (edited as suggested above) where BLM's role is addressed.

Is this section in reference to CIRI? CIRI also has oil and gas entitlements in the refuge which are not part of a federal lease.

I suggest this section be more detailed about exploration and production activities related to all subsurface.

Response
Swanson River and Beaver Creek Units are covered under Section 2.1.4.3. Section 2.1.4.10 addresses CIRI subsurface ownership and any new development in the Birch Hill Unit. Any new exploration and production activities related to subsurface entitlements to minerals will be thoroughly analyzed during the NEPA process once a proposal is received.

Resolved: Other (SEE RESPONSE)

Comment 5

2-80

Swanson River Oil and Gas Unit

Industrial roads, pipelines, and facilities may be authorized in support of exploration, discovery, development, and production of oil and gas found within the unit by the current unit operator. Such operations would be subject to prior approval of the U.S. Fish and Wildlife Service (Service). An

annual Development and Operations Plan for each unit operator would be required for comment and approval by the Refuge manager.

This doesn't seem to cover the whole array of activities occurring in the Kenai NWR related to oil and gas.

Suggested rewrite:

Construction of industrial roads, pipelines, well pads, and other facilities may be authorized in support of exploration, discovery, development, and production of oil and gas found within the unit. Construction and other associated operations would be subject to prior approval of the U.S. Fish and Wildlife Service (Service); some actions may also require approval by the Bureau of Land Management (BLM). An annual Development and Operations Plan for each unit operator would be required for comment and approval by the Refuge manager. For those actions involving BLM subsurface mineral estate, the Service will approve a Surface Plan of Operations and will be involved in developing the Conditions of Approval for the permit that BLM authorizes. This kind of language should be consistent in the discussions for the 3 existing oil and gas units where BLM manages subsurface mineral estate. Also check for consistency in this topic of discussion among the alternatives. Is the Development and Operations Plan different from BLM's required Plan of Development from each operator that BLM permits? Depending on whether your Development and Operations Plan is the same as BLM's Plan of Operations, this section may need to be edited and our Plan of Operations may need to be addressed.

Response
We believe that we have adequately described oil and gas activities occurring within the Refuge boundaries for the purpose of the CCP. The Plan of Development and Operations is the same as BLMs required plan. Language in this section has been changed to reflect that the Plan of Development and Operations would be reviewed by USFWS for comment, and approved by the BLM authorized officer (AO).

Resolved: Other (SEE RESPONSE)

Comment 6

Resolved: Already addressed in planning documents (SEE CITATION)

Page 2-80

Birch Hill unit needs discussion for oil and gas.

Response
Facilities management for the Birch Hill unit was addressed in Section 2.1.4.10 requiring complete removal and restoration of the infrastructure and facilities to be removed.

Comment 7

Page 3-10

The Kenai Draft CCP – Chapter 3's discussion of Oil and Gas Occurrences and Potential isn't considered in Chapter 4. I suggest the CCP discuss decisions related to oil and gas leasing in Chapter 2, and use the data in Chapter 3 to discuss the impacts of those decisions in Chapter 4. The CCP seems to be lacking this connection.

Response
Discussions on oil and gas activities were adequately covered in Chapter 2 covering alternatives, goals and objectives and the impacts of these alternatives were thoroughly analyzed in Chapter 4.

Resolved: Other (SEE RESPONSE)

Comment 8

Page 3-27

The discussion involving future studies for contaminants in the affected environment section should be removed, or at least significantly streamlined. Alternately, a monitoring strategy (or contaminant study) could be part of the proposed action or could be considered mitigation for impacts and future studies could be discussed in those other sections.

Response
The section cited is part of a larger section in Chapter 3 entitled 3.2.8 Concerns regarding the Physical Environment. This section of the plan is required by ANILCA and should help the reader better understand the development of our Goals and Objectives. In this case, Objective 3.11 (page 2-127) states "within 2 years of funding, determine baseline levels of selected contaminants, specifically organochlorines, organophosphates, and heavy metals that may have originated from nonrenewable resource extraction, long-range atmospheric deposition, and/or past management practices."

Resolved: Other (SEE RESPONSE)

Comment 9

Page 3-159

Where is discussion of the Birch Hills Oil and Gas unit?

Response
The Birch Hill Unit was not eligible for consideration for wilderness designation because it is Native conveyed surface and therefore not entirely in Federal ownership.

Resolved: Other (SEE RESPONSE)

Comment 10

Page 4-21

Impacts from on-going oil and gas activities should be analyzed in Chapter 4 – Environmental Consequences. Chapter 2 should include more information about decisions regarding ongoing/future oil and gas activities in existing leases (see comment for page 2-6).

Response
See section 4.3.2 and 4.3.3 Alternative A (Current Management).

Resolved: Already addressed in planning documents (SEE CITATION)

Comment 11

Page 4-22, 4-23

On these pages, the Draft CCP acknowledges very general impacts from exploration, development and production, but there doesn't seem to be any decision in Chapter 2 related to exploration, development and production. The Draft CCP makes no mention of expected future exploration, development and production based on implementing any of the alternatives. I suggest that this be addressed in the CCP. BLM typically addresses future assumptions related to development through a "Reasonably Foreseeable Development" scenario and analyzes impacts based on this scenario.

Response
We believe that known impacts are adequately addressed. Future development on existing Federal leases that are in production would likely consist of directional drilling to a target reservoir from either an existing pad or an expansion of an existing pad. Little new infrastructure would need to be constructed. Impacts would be minimal. Impacts of future exploration, development and production

occurring off the existing Federal Lease Units would be analyzed through a separate NEPA process if project proposals are received.

Resolved: Other (SEE RESPONSE)

Comment 12

Page 4-29

The second paragraph under Alternative E: should it read that "Alternative E would have more adverse impacts on wildlife than Alternative A"?

Response
Correction made.

Resolved: Other (SEE RESPONSE)

Comment 13

Page 4-33

Conducting oil and gas exploration and development activities within the Swanson River Oil and Gas Unit during the life of the project would have negligible impacts on the recreation opportunity setting because such developments are expected to be limited given projected generation capabilities. This is the first time I have seen projections stated. Where does this assertion come from? The rationale for this assumption should be explained in the Affected Environment, or perhaps in the Analysis Assumptions preceding Chapter 4. Discussion of projections needs to be addressed in the CCP.

Response
This projection came from a 2006 Alaska Department of Natural Resources, Division of Oil and Gas Report which may be found at:
http://www.dog.dnr.state.ak.us/oil/products/publications/annual/2006_annual_report/Akoilgasdivisionrpt_2006.pdf. The report contains both historic and forecasted data for oil and natural gas production from 1958 through 2025.

Resolved: Other (SEE RESPONSE)

Comment 14

Page 4-35

The first paragraph under Alternative E: should it read that "Alternative E would have beneficial, long-term impacts of moderate intensity on recreation opportunities compared to Alternative A…"?

Response
Correction made.

Resolved: Other (SEE RESPONSE)

Comment 15

Page 4-41

After the life of the project, Alternative A would retain some roads and facilities for public use, but camping facilities would not be provided. As such, Alternative A would have beneficial, long-term impacts on wilderness values when and where such activities occur.

What such activities are being referred to? Wouldn't wilderness values benefit where roads, facilities and campgrounds would not occur?

Response
This has been clarified in the document.

Resolved: Other (SEE RESPONSE)

Comment 16

Page 4-42

After the life of the project, Alternative E would have similar beneficial, long-term impacts on wilderness values as those described under Alternative A except the unit would appear less natural as most roads and some existing facilities are retained for public use, and up to two developed campgrounds may be constructed. This doesn't seem to make sense. I couldn't find the beneficial impacts on wilderness values under Alternative A (see my comment 4-41 above). This needs to be re-checked and revised as appropriate.

Response
This has been clarified in the document.

Resolved: Other (SEE RESPONSE)

Comment 17

Page 4-43

Conducting oil and gas exploration and development activities within the Swanson River Oil and Gas Unit during the life of the project would have negligible impacts on the recreation opportunity setting because such developments are expected to be limited given projected generation capabilities. This is the first time I have seen projections stated. Where does this assertion come from? The rationale for this assumption should be explained in the Affected Environment, or perhaps in the Analysis Assumptions preceding Chapter 4. Discussion of projections needs to be addressed in the CCP. I also don't see a discussion of the Birch Hill unit.

Response
This projection came from a 2006 Alaska Department of Natural Resources, Division of Oil and Gas Report which may be found at:
http://www.dog.dnr.state.ak.us/oil/products/publications/annual/2006_annual_report/Akoilgasdivisionrpt_2006.pdf. The report contains both historic and forecasted data regarding oil and natural gas production from 1958 through 2025. The Birch Hill Unit has only one management direction and that is presented in Section 2.1.4.10

Resolved: Other (SEE RESPONSE)

Comment 18

Page 4-44

Why would impacts of Alternative E for Beaver Creek be similar to Alternative B for Swanson River? Is this a typo?

Response
Correction made.

Resolved: Other (SEE RESPONSE)

Comment 19

Page 4-170

The cumulative impacts section of Chapter 4 doesn't appear to address oil and gas exploration, development, and production in the refuge or surrounding areas. These activities should be addressed and considered in impact analysis in the CCP.

Response
Chapter 4 identifies, describes, and compares the consequences of implementing the five management alternatives proposed in Chapter 2. We believe that known impacts are adequately addressed. Future development on existing Federal leases that are in production would likely consist of directional drilling to a target reservoir from either an existing pad or an expansion of an exiting pad. Little new infrastructure would need to be constructed. Impacts would be minimal. Impacts of future exploration, development and production occurring off the existing Federal Lease Units would be analyzed through a separate NEPA process if project proposals are received.

Resolved: Other (SEE RESPONSE)

Comment 20

Page 7-1

Do we need to explore developing a MOU together to address oil and gas activities on the Swanson River, Beaver Creek and Birch Hill Oil and Gas Units? My limited exposure to these issues indicates that an MOU may be beneficial to both of our agencies.

Response
The agencies recently explored the development of a MOU and concluded that increased communications would resolve any concerns and a MOU was not necessary.

Resolved: Other (SEE RESPONSE)

Comment 21

[Issue 2: Facilities Program]

An annual Development and Operations Plan for each unit operator would be required for comment and approval by the Refuge Manager.

[Suggested Change]: Although the required annual Plans of Development and Operation are reviewed by the USFWS for comment, and approved by the BLM authorized officer (AO), it should be noted that the AO's approval of specific operations must be obtained prior to commencement of such operations.

Response
This has been clarified in the document.

Resolved: Other (SEE RESPONSE)

Comment 22

[Issue 2]: Page 2-80

Beaver Creek Oil and Gas Unit

An annual Development and Operations Plan for each unit operator would be required for comment and approval by the Refuge Manager. [Suggested Change]: Although the required annual Plans of Development and Operation are reviewed by the USFWS for comment, and approved by the BLM authorized officer (AO), it should be noted that the AO's approval of specific operations must be obtained prior to commencement of such operations.

Response
This has been clarified in the document.

Resolved: Other (SEE RESPONSE)

Comment 23

[Issue 2]: Page 2-142

Objective 8.3: Facilities

It is more financially feasible - [Suggested Change]: In addition to financial considerations: During the life of such oil and gas development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize environmental impacts.

Response
This "interim" reclamation would be addressed in a clean up plan.

Resolved: Other (SEE RESPONSE)

Comment 24

Page 3-2

In this agreement, which modified the CIRI "Terms and Conditions," CIRI agreed to relinquish, exchange, and convey title or interests in 13,000 acres to the United States, and the United States conveyed 9,600 acres of subsurface estate and 7,954 acres [Suggested Deletion, the word "or"] of coal, oil and gas to CIRI.

Response
Correction made

Resolved: Other (SEE RESPONSE)

Comment 25

Page 3-10

3.2.4 Oil and Gas Occurrences and Potential

The three oil and gas leases on the Refuge.

[Suggested Change]: There are three oil and gas units within the Refuge and 20 federal oil and gas leases.

Response
Clarification has been made.

Resolved: Other (SEE RESPONSE)

Comment 26

Page 3-10

3.2.4 Oil and Gas Occurrences and Potential

[Suggested Change]: Suggest adding "oil and gas unit" to the glossary: A unit is composed of a group of leases covering all or part of an accumulation of oil or gas. The lessees agree to operate the leases as a single entity, under approved plans of exploration and development.

Response
This has been added to the glossary.

Resolved: Other (SEE RESPONSE)

Comment 27

[On Page 3-10]

Marathon Oil Company and the subsurface owner, Cook Inlet Region, Inc. (CIRI), developed the Wolf Lake field and plan to develop the East Swanson River Satellite Project.

[Suggested Change]: Deleted "wells"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 28

Page 3-13

Currently, the Swanson River Oil and Gas Unit production is approximately 700 barrels of crude oil per day from an average of 20 producing oil wells, and 2,049 mcf of gas per day (one mcf equals 1,000 cubic feet) from an average of eight producing gas wells. [Suggested Change]: Deleted "thousand cubic feet"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 29

[On page 3-13]

As of July 2007, a cumulative 229,355,639 barrels of crude oil and 30,206,388 mcf of natural gas have been produced from this unit (AOGCC 2007).

[Suggested Change]: Deleted "(one mcf equals 1,000 cubic feet)"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 30

[On page 3-17]

Exploratory wells were drilled near Wolf Lake (ARCO/CIRI Wolf Lake 1 in 1983 and ARCO/CIRI Wolf Lake 2 in 1985)

[Suggested Change]: Deleted "Two e"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 31

[On page 3-17]

Exploratory wells were drilled near Wolf Lake (ARCO/CIRI Wolf Lake 1 in 1983 and ARCO/CIRI Wolf Lake 2 in 1985)

[Suggested Change]: Deleted (,)

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 32

[On page 3-17]

[Suggested Change]: Bufflehead #1 well is a wildcat well not associated with the Birch Hill Unit.

Response
Clarified in the document

Resolved: Other (SEE RESPONSE)

Comment 33

[On page 3-17]

Galena 1 (in 1991) and the Birch Hill Unit (Bufflehead well in 1995).

[Suggested Change]: Deleted "Gelena"

Response
Thank you. Corrected spelling of Galena.

Resolved: Other (SEE RESPONSE)

Comment 34

[On page 3-17]

Today, the 44,000 acre Skilak Wildlife Recreation Area is one of the most heavily used area, if not the most heavily used area, of the Refuge due to its proximity to population centers, easy access, and diversity of public use facilities provided in a natural setting abundant with wildlife.

[Suggested Change]: Deleted "close"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 35

Page 3-109

The discovery well at the Swanson River field (Swanson River Unit 1), which began producing on July 23, 1957, has had far-reaching effects in Alaska—starting a major economic boom and leading to statehood for the territory.

[Suggested Change]: Deleted "well"

Response
Kept original wording.

Resolved: Other (SEE RESPONSE)

Comment 36

Page 3-163

3.5.4.10 Tustumena Outlet Unit

About three-quarters of the unit is subject to oil and gas leasing.

[Question]: Is this referring to fee leasing (e.g., CIRI leases) and not Federal leasing? Does the compatibility determination preclude federal leasing within the refuge?

Response
Yes, this is referring to CIRI leases. The compatibility determination does preclude any new federal leasing where the subsurface is federally owned and not currently within a Federal Oil and Gas Unit.

Resolved: Other (SEE RESPONSE)

Comment 37

Page 4-188

4.6 Irreversible and Irretrievable Commitment of Resources

Alternatives A–E would also allow for oil and gas development and production in the Swanson River, Beaver Creek, and Birch Hill oil and gas units on the Refuge during the life of those projects.

[Suggested Change]: Deleted "Hills"

Response
Correction made.

Resolved: Other (SEE RESPONSE)

Comment 38

Page C-36

1.3.15.2 Mineral Exploration and Development

Oil and gas leasing or production development may be allowed only in areas of Kenai Refuge where current Federal leases are held, or where private subsurface ownership of oil, gas, or coal exists within the Refuge. [Question]: This statement needs clarification. Will Federal leasing be allowed in proximity to existing Federal leases?

Response
No. Oil and gas development may be allowed only within the existing Federal Units or where private subsurface ownership is held.

Resolved: Other (SEE RESPONSE)

Letter 9

Respondent: Frank L Miller

Comment 1

In general Plan E appears to be the better choice over the other plans, however my personal preference is to make minimal changes to the existing plan.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Concerning industrial sites: Hopefully industry will bear the cost of clean up of the site.

Response
The lease agreements with the oil and gas industry require responsible parties to clean up any contaminated sites, and to remove facilities and associated materials as required by the Refuge Manager. There is no requirement, however, for industry to look for contaminated sites. This issue is of primary concern given the long use of the area (now over five decades), changes in operators over time, knowledge of contaminants and their effects, and associated regulations.

Resolved: Other (SEE RESPONSE)

Comment 3

Existing roads should be left in place. My 60+ years in Alaska says Nature will eventually close these roads if motorized vehicles are restricted or prohibited. They make excellent ways for hikers and bicyclists to get back into what will become wilderness, and I do favor use of bicycles on trails/roads unless foot traffic is the predominate use and rather heavy.

Response
We agree that given enough time most roads will be re-vegetated naturally; however, industrial roads with large amounts of gravel compacted in place would not be re-vegetated naturally for generations.

It may be appropriate to leave some structures in place (e.g., buried pipes that are free of contaminants), though these decisions will be evaluated on a case-by-case basis. The preferred alternative in the Revised Comprehensive Conservation Plan provides a balanced response to this issue, proposing full restoration in the Beaver Creek Oil Field and partial restoration (with the retention of many of the roads) in the Swanson River Oil Field. Maximizing reclamation of wildlife habitat would be the goal of the first, and increasing public use opportunities while minimizing impacts to wildlife would be the goal of the second.

Resolved: Other (SEE RESPONSE)

Comment 4

The "Refuge" is for the people's use. There should be no question as to harvesting berries, mushrooms, or picking up a shed souvenir regardless of which plan is accepted.

Response
Current National Wildlife Refuge System regulations generally prohibit the removal of any natural object without a permit. Kenai Refuge is proposing exceptions to these general prohibitions to allow the public to remove edible plants (berries and mushrooms) for personal/non-commercial use, and to collect a reasonable number of naturally shed antlers for personal use.

Resolved: Other (SEE RESPONSE)

Comment 5

I am opposed to any plan that requires registering for use of the canoe trail system. This kind of requirement tends to get out of hand. It spreads to requiring registering for hiking/biking trails or whatever, soon with fees added, followed by uniformed personnel. On the very outset, the requirement of registering diminishes the outdoor experience.

Response
Registration for use of the canoe trails has been required for over 20 years. This plan will retain the current requirements.

Resolved: Other (SEE RESPONSE)

Comment 6

I am not a fan of developed sites, viewing or other kind. Granted these may have their place for those of us with less physical capabilities, but they should not penetrate very far into the hinterland. Nothing spoils a nice 3 - 5 mile hike than to come upon some man-made educational enhancement.

Resolved: Comment acknowledged; does not provide new information

Comment 7

Personnel and cost need to be kept at a minimum. I am concerned by statements that suggest a certain percentage of visitors will have contact with personnel. Generally, I feel the more contact, the more artificial the wilderness experience becomes. This tends to hold true with the amount of money being spent.

Resolved: Comment acknowledged; does not provide new information

Letter 10

Respondent: Sean Farley

Comment 1

Aircraft:

Alternative D should be accepted for access to Chickaloon flats, and for the maintenance of the old airstrip (Big Indian). However the additional restrictions on lake landings are not supported by information in the plan. Please provide the primary sources of research data and studies that clearly identify a proven link between past flight restrictions and the number of nesting swan pairs on the Refuge. This link is specified on page 3-93 of the plan, third paragraph from the top.

Response
On page 3-93 of the draft, the text cites data in the form of Figure 3-19 and work by Bailey and Fischback (1995). Figure 3-19 that is cited on page 3-93 was not the correct figure. It should be a graphic that shows changes in the Kenai trumpeter swan population over time; this has been corrected in the final plan (see Figure 19a). These data are cited in reference to the impact of aircraft on nesting swans. These findings should not be linked with Alternative D and access to Chickaloon Flats and the Big Indian airstrip. Nesting trumpeter swans are not a significant resource of concern under this issue. Rather, resource concerns in the context of Chickaloon Flats are focused on soil compaction, vegetation damage, disturbance to staging waterfowl and shorebirds, impacts to brown bears (and beluga whales that feed on Coho salmon), and to some extent, impacts on the visitor experience.

Resolved: Other (SEE RESPONSE)

Comment 2

This Plan appears to contradict past management practices with regard to swan numbers. In particular, on page 3-90 it is noted that the 1985 CCP set management goals for species, in particular swans. The second paragraph states, in part, "A management objective of 40 pairs of nesting trumpeter swans was established under the preferred alternative…" However the Refuge abandons that approach in the CCCP EIS. I refer you to section 5.1.2 in which it is stated:

"An alternative to identify specific management objectives for trumpeter swan populations was eliminated from further consideration because the primary purpose of the Refuge is to conserve fish and wildlife populations and their habitats in their natural diversity. Natural diversity implies allowing wildlife populations to vary naturally over time (i.e., not sustaining them at artificially high levels through management activities or allowing population declines due to management activities). Consequently, development of specific population objectives for trumpeter swans would be inconsistent with Refuge mandates. "The current CCP states that "An increase in 10 pairs over the existing 30 pairs seemed reasonable at the time given the estimated swan nesting territories lost prior to 1985 to human disturbance." Pp3-90. Finally, the current CCP states "aerial surveys indicate that as many as 50 pairs may be using the Refuge" pp3-93. It appears that because swan numbers have exceeded the goals established in 1985 the Refuge is searching for a means to continue restrictions. The CCP states "human disturbance on lakes outside the Refuge boundaries is hindering the establishment of new swan pairs" (3-93). The credible, scientifically valid evidence required by the planning process to support continued restrictions is not presented in this CCP. Please provide it, and please note the restrictions against aircraft use are specific as to their effect, therefore the evidence justifying those restrictions must be specific also. The population of Trumpeter swans in North America is not endangered and it is not clear why the refuge continues to act as if it in danger of extirpation.

Response

ANILCA is very specific about the primary purpose of the Kenai NWR; i.e., "to conserve fish and wildlife populations and their habitats in their natural diversity". Natural diversity implies allowing wildlife populations and their habitats to vary naturally over time. To meet our other refuge purposes, specifically "to provide in a manner compatible with these purposes, opportunities for fish and wildlife-oriented recreation" it is appropriate to develop specific management objectives and harvest restrictions to ensure that populations of game fish, wildlife and fur-bearing mammals are sustained on the Refuge. For all other fish, wildlife, habitats and natural disturbance processes (e.g., wildfire, spruce-bark beetles), it is generally in appropriate for the Refuge to artificially depress or inflate natural variation. In the 1985 CCP, the Refuge (and the State) was concerned about the long-term sustainability of trumpeter swan populations on the Refuge due to human disturbance. It seems very reasonable, in retrospect, that the Refuge articulated a specific management objective to increase breeding swan pairs. Now that this objective has been achieved and even surpassed, it's also very reasonable to sustain the management actions that were predicted to help this population become more robust locally. And, because of the current success of conserving trumpeter swans, it is no longer necessary at the present time to articulate specific population targets for them.

Resolved: Other (SEE RESPONSE)

Comment 3

Aircraft access to other areas of the Refuge:

Section 5.1.3 of the CCP EIS presents the rationale for continued closure of several airstrips to aircraft. In particular, it describes one strip (the Funny River Airstrip) as "The area has naturally revegetated and is largely not discernable to the casual observer as an airstrip." In fact, most of the strip is on rock and is clearly identifiable in 2008. This section also states this strip was not considered further because "the Funny River airstrip was not a constructed strip, but rather an upland landing area…" In Alaska airstrips come in many shapes and forms, and as a pilot I am not clear as to the difference between an airstrip and an upland landing area. Even Jakalof bay airstrip is identified by the FAA and the State of Alaska as an airstrip, yet the land is flooded at most high tides. If that can be considered as an airstrip, what makes this area of the Funny

River not an airstrip? If lack of use is the answer then the Refuge is applying a circular argument, and if the strip were opened tomorrow assuredly it would be used again.

Response
While the Refuge allows traditional access to many remote Refuge locations for recreational purposes, it is also mandated to conserve the fish, wildlife and their habitats in their natural diversity. Before passage of ANILCA most upland landing areas on the Refuge were closed due to resource impacts. The former landing area is upland habitat that is in the process being naturally restored. Alpine tundra may take several decades to become fully restored naturally, certainly longer than the number of years since the area was closed to aircraft landings.
The Refuge has continued to provide some fixed wing landing access at a constructed airstrip (at Big Indian Creek) and in designated landing areas (such as the non-constructed landing zones provided on the Chickaloon Flats) and has proposed a substantial increase to these opportunities in this planning process in a manner that we believe will cause minimal resource damage.

Resolved: Other (SEE RESPONSE)

Comment 4

This section of the EIS (5.1.3) states that the gas line strips, and by default, the Funny River strip, "…does not provide critical access to inaccessible areas." It stretches belief to accept this statement, as the only access to the Funny River airstrip area is now by foot, after either a 25+ mile trail, or 10+ miles after crossing a large glacial lake. Both of the gas line strips are only accessible by wheeled vehicle for a brief period during the fall, and one can only be accessed by driving through a salmon

spawning stream in violation of state regulations. Winter access is only accomplished if snow depth reaches pre-determined levels. Otherwise those areas can only be accessed by 10+ mile hikes.

Response
The general management objective is to provide access to any otherwise inaccessible areas, not specifically to the former Funny River air strip. In this case, the overall area to be accessed is the Tustumena Benchlands, accessible by the Funny River and Brown's Lake Horse Trails, several trails that originate from Tustumena Lake, several float-plane accessible lakes, and by snowmachine. The gas line air strips were constructed in support of building the Alaska Natural Gas Pipeline (around 1960) and were to be restored after construction of the pipeline. Because of their location they have become part of the pipeline right-of-way access road but are not situated close to fishing lakes, public use cabins, etc. except for the Big Indian strip which remains open for public aircraft access. The entire Mystery Creek corridor may be accessed year round by highway vehicles (generally early August to November), dog teams and snowmachines (generally December to April), and horse and foot travel (generally May to August). In addition, fixed wing aircraft may land at the Big Indian Airstrip and along the Chickaloon Flats; float planes may land on multiple designated lakes, on the estuary, and in the lower portion of Chickaloon River.

Resolved: Other (SEE RESPONSE)

Comment 5

The Refuge cites the concern for vandalism to gas line structures. If vandalism were a true concern, then access by snowmachine, sled team, and wheeled vehicles during the fall should be restricted as well. Otherwise the implication is that aircraft operators would commit acts of vandalism, but members of the public accessing the area by other means would not. Surely that is not what the refuge intends to imply?

Response
Vandalism was a concern voiced by the gas line right-of-way permit holder, but can be a concern elsewhere on public lands, especially in more remote areas. This concern applies to all forms of access including snowmachine, dog sleds, and wheeled vehicles, not just aircraft operators. The decision to allow some modes of access but not others does not reflect a prejudice or bias towards aircraft operators. Rather, it is one of several other social, biological, and physical factors that are being considered in Chapter 4. The natural gas pipeline and operational structures that are authorized under a right-of-way permit are the reason that the access road, airstrip, and cabin, etc. are there. Public use of this industrial right-of-way likely will be limited always in certain ways to protect the natural gas company interests and Refuge resources.

Resolved: Other (SEE RESPONSE)

Comment 6

Wildlife: Returning to section 5.1.2 of the CCP EIS, the following statement is confusing:

"…the primary purpose of the Refuge is to conserve fish and wildlife populations and their habitats in their natural diversity. Natural diversity implies allowing wildlife populations to vary naturally over time (i.e., not sustaining them at artificially high levels through management activities or allowing population declines due to management activities)."

Does this statement imply that the Refuge will not be performing management actions to support, enhance, sustain or otherwise influence wildlife populations? This statement appears to be crafted in order to justify changes from the 1985 CCP, rather than to provide insight into management strategies. Please provide the evidence that this approach is a Department of Interior accepted practice, and not simply a sentence constructed to justify whimsical actions of the refuge.

Response

We believe that the Refuge purposes mandated in ANILCA are clear, are supported in the 1997 Refuge Improvement Act (amending the National Wildlife Refuge System Administration Act of 1966), and are not significantly different than the conservation goals and objectives subscribed to in the 1985 CCP. Managing for natural diversity does not imply that no hands on management can be undertaken. It does mean that active management must be in to conserve natural diversity. For example, we may employ prescribed fire to increase acres burned on the Refuge that may be outside of the natural fire regime due largely to suppression efforts elsewhere (necessary to protect recreational cabins or communities). We would not use prescribed fire Refuge-wide with a sole goal of increasing moose populations at the expense of other Refuge resources. Consult R.L. Fischman, 2003, "The National Wildlife Refuges: Coordinating a Conservation System through Law", Island Press, Wash., D.C. for a good overview of our legal mandates. Please also see response to Comment #2 of this letter for other specific rationale.

Resolved: Other (SEE RESPONSE)

Comment 7

Citing sources and issues of plagiarism:

On page 3-70 the CCP references work by Culver (1932). The reference includes the use of specific quotations from his work, and it is clear to the reader which words were written by Culver and which were written by others. That is appropriate and the passage is clear to the reader.

Regrettably, this CCP contains several sections that were not written by the CCP team, yet the casual reader has no way to discern true authorship of neither the words nor the research. The rules of grammar and the use of the English language are very specific on this point, and when violated then acts of plagiarism are deemed to have occurred. I call your attention to specific sections of the CCP, particularly page 3-63, second paragraph; and page 3-64, first through third paragraphs. As the primary author of the IBBST document "A Conservation Assessment of the Kenai Peninsula Brown Bear" (2001) I recognized several passages lifted without direct attribution. Or at best, the passages are cited in such a poor manner that the reader is left assuming that the written test represents work by the CCP team. That is not the case, and sadly this calls into question the findings of the CCP as a whole. How much of the CCP actually reflects measured, considered, careful analyses of data? Or how much of it is simply sections bolted together from other sources, but parsed in a way to appear to come after careful consideration in order to justify policies existing before the CCP was written?

Please correct the citations listed above, as well as others that may exist. If graphs come from other sources, cite them clearly. If text from other sources is to be used explicitly, then clearly identify which words and ideas are crafted by the CCP team, and which ones come from others.

Response
The information in the referenced paragraphs is from the Interagency Brown Bear Study Team (IBBST) 2001 document. The Refuge is a member of the IBBST. In this section of the plan, the document was cited four times. Although the text was not copied verbatim (thus does not warrant quotes), we agree that the source of the information was not as clear as it should be. These four paragraphs were revised to better reflect their source.

Resolved: Other (SEE RESPONSE)

Letter 11

Respondent: Jay Kent

Comment 1

Issue # 1 - I Accept both preferred alternatives.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Issue # 2 - I would like to see this be more in tune with alternative "B". In fact open this road as a viable part of the Alaska Road System. This would connect Hope to Soldotna giving the public an alternative to the current mountainous highway of present.

Resolved: Comment acknowledged; does not provide new information

Comment 3

[Issue # 2:] I would like to see the Main entrance moved to the (South). I would also like to see an even larger sign erected at that entrance, maybe as a point of "interest or pull-off".

Resolved: Comment acknowledged; does not provide new information

Comment 4

[Issue # 3:] I completely agree with pull out a mile # 62.5. This should be done ASAP.

Resolved: Comment acknowledged; does not provide new information

Comment 5

Issue # 3 - I agree with both tree and personal collections.

Resolved: Comment acknowledged; does not provide new information

Comment 6

Issue # 4 - Upper Kenai

I no longer fish this portion of the river, due to the overcrowding and lack of respect for the natural river bank setting. Maybe metal walkways and restricting the numbers of humans in the confluence would be in order. Maybe closing this portion of the river is our only option. It may in time allow the banking to return to its natural setting. The Bear issue it self may be solved by closing this area. This would allow the bears a chance to un-train themselves due to the human influence in the area.

Response

We heard from many people that were concerned about increased crowding along the Upper and Middle Kenai River and, based on input from the public, we attempted to provide alternatives that addressed these issues. While we agree that closing the area to public use would eliminate crowding completely, and resolve other issues such as bear-human conflicts, our mandates include providing compatible wildlife-oriented recreation (such as fishing) and these areas are very important to many people that visit there each year. We may employ additional restrictions or limits consistent with alternatives considered in the draft revised Kenai NWR CCP but we did not develop an alternative to discontinue all human use, nor do we believe that this is necessary. Additionally there are efforts underway outside the refuge's comprehensive conservation planning process to address crowding and related issues in the area. Included are a State Parks initiated recreational use study, Stream

Watch volunteer program, Kenai Brown Bear Committee actions, and bank restoration done with partners on Refuge and Chugach National Forest lands. While we understand that the area may always be more crowded than some users may desire, we are hopeful that we can provide a good outdoor experience for many while sustaining fish and wildlife populations, important bank habitats, and visitor safety.

Resolved: Other (SEE RESPONSE)

Comment 7

[Issue # 4:] Middle Kenai

I accept the preferred alternative.

Response
No response needed.

Resolved: Comment acknowledged; does not provide new information

Comment 8

[Issue # 4:] Swansen River

I accept the preferred alternative.

Response
No response needed.

Resolved: Comment acknowledged; does not provide new information

Comment 9

Issue # 5 - Snow machines

I'm in favor of alternative "D" which would protect the Refuge more that plan A, B, or C. More studies should be ongoing, making sure the balance between impact and non-impact are being weighted and met.

Response
No response needed.

Resolved: Comment acknowledged; does not provide new information

Comment 10

[Issue 5]: Airplane

I would think that alternative "D" would be the best of the five different plans. The impact is minimal to and for wildlife and the natural setting. There is "NO" better way to access this country. In and out no footprint to speak of.

Response
No response needed.

Resolved: Comment acknowledged; does not provide new information

Letter 12

Respondent: Tom Lemanski

Comment 1

I feel the regulations on aircraft in the Kenai NWR are too restrictive as they stand now.

Aircraft access is a way of life here in Alaska, and although I agree that some areas should be off limits to any type of motorized vehicle, I think there should be more landing sites at least for small, relatively quiet, private aircraft. I fly a plane that is so quiet; most people don't even know when I fly by. Limiting the aircraft size or horsepower (noise) in certain areas is something I think should be considered, but I would like to see more landings sites, for aircraft on wheels or floats.

Response
No new aircraft restrictions (area closures) are proposed in the Revised Comprehensive Conservation Plan. Additional landing areas (open areas) on Chickaloon Flats are proposed.

Resolved: Other (SEE RESPONSE)

Letter 13

Respondent: Steve Lewis

Comment 1

I support expanding the number of lakes where float planes can land. This is especially important if growing swan numbers could temporarily close currently open lakes by their presence.

Float plane use of the Refuge has the absolute minimum impact of the habitat, no trails in to damage vegetation. Float plane use opens up areas that are not used by others and the more lakes open the higher the quality of the experience.

Please enter my comment/support for expanding the number of lakes open to float planes into the public hearing process.

Response
While some comments raised concerns about increasing aircraft use and disturbance, others promoted additional landing opportunities (and/or requested that additional lakes generally be opened to aircraft landings). The Refuge recognized arguments on both sides of this issue but found no compelling reason to manage lakes differently than from the way they have been managed for over 20 years. Therefore, the status quo was proposed over additional restrictions or liberalization of regulations on aircraft landings on Refuge lakes.

Resolved: Other (SEE RESPONSE)

Letter 14

Respondent: Richard D Reger
Organization: Reger's Geologic Consulting

Comment 1

I suggest a clarifying change for Objective 1.21 (page S-12), regarding the anticipated soil survey. The term soil survey is vague and ambiguous. The Natural Resources Conservation Service has the responsibility to conduct soil surveys for agricultural and forestry purposes. Their soil surveys are quite different from engineering – geology 'soil surveys' conducted by the United States Geological Survey and the Alaska Division of Geological and Geophysical Surveys.

Response
Objective 1.21 has been revised to clarify our intention.

Resolved: Factual correction made (SEE CITATION, RESPONSE)

Comment 2

If you intend to conduct only soil surveys for agricultural and forestry surveys, you should say so. If you have intended that the surficial and bedrock geology should be mapped, you should stipulate that geological surveys be conducted. I would recommend that both types of mapping be conducted because both types are used for different purposes and work well with computer-based geographic information systems.

Response
We agree different surveys are needed to meet specific project goals, though we believe identifying the details of those surveys would be better addressed in project specific or step-down management plans.

Resolved: Other (SEE RESPONSE)

Letter 15

Respondent: B Sachau

Comment 1

Please extend time and send me a paper copy so I can comment more fully.

Response
The commenter was provided a paper copy of the document. The comment period was not extended. The document was available for public review from May 8 through September 1, 2008 which provided adequate time for public review.

Resolved: Other (SEE RESPONSE)

Comment 2

I believe we need to protect wildlife, bird and vegetation in these sites from the greedy, venal, wacko people who mean to kill them for their own profits. It is clear there are many like that in this world. But the majority of Americans are not like that.

Resolved: Comment acknowledged; does not provide new information

Letter 16

Respondent: Sally Gilbert
Organization: State of Alaska ANILCA Implementation Program

Comment 1

The State [of Alaska] has the following serious concerns:

Portrayal of opportunities for oil and gas leasing is misleading and incomplete.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 2

The State [of Alaska] has the following serious concerns:

The Title XI provision in the Alaska National Interest Lands Conservation Act (ANILCA) for transportation and utility systems is incorrectly portrayed.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 3

The State [of Alaska] has the following serious concerns:

Retention of airplane closures on all but 45 lakes within the Kenai Wilderness is not adequately justified in light of the increasing trumpeter swan population.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 4

The State [of Alaska] has the following serious concerns:

Unilateral wildlife management proposals are inconsistent with State objectives and state/federal protocols.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 5

The State [of Alaska] supports:

Fire Management – We support the proposed management direction because it provides sufficient discretion to use both prescribed and wildland fire to achieve land and resource management objectives.

Resolved: Comment acknowledged; does not provide new information

Comment 6

The State [of Alaska] supports:

Chickaloon Flats – We support the Refuge's intent to increase safe and practical access for aircraft in the Chickaloon Flats area.

Resolved: Comment acknowledged; does not provide new information

Comment 7

The State [of Alaska] supports:

Sterling Highway Rest Stop – We support development of a formal rest stop at Milepost 62 of the Sterling Highway in cooperation with the Alaska Department of Transportation and Public Facilities.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 8

We [State of Alaska] understand that the Kenai Refuge has a number of unique circumstances that warrant refuge specific deviations from the regional Management Policies and Guidelines developed for all national wildlife refuges in Alaska. While many of these modifications are justified, or do not impact overall content, others lack the required justification, trigger state jurisdictional concerns, and/or are misleading or inaccurate. The State urges a more rigorous adherence to the regional guidelines to maintain their integrity.

Response
Appendix C, Management Direction, Policies, and Guidelines, is based on laws governing the National Wildlife Refuge System, and the regulations, policies, and other guidance, both national and regional, developed to implement these laws. As such, much of the direction is the same as for other Refuges in Alaska. Given the history of Kenai Refuge management, the amount and diversity of public uses occurring on the refuge, there is more direction unique to Kenai Refuge than in other plans (e.g., oil and gas development). Minor changes were made in some of the language to be consistent with other plans or where new information was available since the draft plan was completed. See responses to other comments for more details.

Resolved: Other (SEE RESPONSE)

Comment 9

The portrayal of opportunities for oil and gas leasing is misleading and incomplete. We [State of Alaska] recognize refuge-specific information provided on page C-36, Section 1.3.15.2 was included in an attempt to reflect current refuge-specific direction; however, essential direction contained in law, policy, and the regional guidelines is conspicuously absent. The missing information, based on ANILCA Section 1008 and Service policy (RW-2), summarizes the high standards that must still be met for this activity to occur on refuge lands. We urge reinstating the following text, without modification, within the Appendix:

Oil and gas leasing may be allowed only in Intensive management areas. Oil and gas leasing will not be authorized until completion of the following:

- An assessment of potential

- A national interest determination

- A refuge compatibility determination, where applicable

- A comprehensive conservation plan amendment

We are aware of the summary (page 3-17, 3.2.4.8) of refuge-specific information relative to a 1999 Compatibility Determination (CD), which found oil and gas exploration and development to be incompatible with the purposes of the Refuge. While we understand the rationale for including refuge-specific information, it should be presented within the complete context of ANILCA and Service policy. We understand the justification for withholding the regional direction may be based, in part, on an assumption that the first three bulleted criteria above have been satisfied.

- Assessment of Potential: A Bureau of Land Management (BLM) study of the Refuge in 2004, though intended for inclusion in the CCP, as mandated by Sections 1008 and 304(g) of ANILCA, was limited in scope to active oil and gas leases and not the resources of the Refuge as a whole. The limited scope may have resulted in an insufficient assessment of the Refuge's potential.

- National Interest Determination: The "national interest determination" referenced in the CD is comprised of excerpts from another document which appears to have been developed for an entirely different purpose. The original document, entitled "Energy Security: A Report to the President of the United States" (1987), describes the national interest for the entire nation, not specifically the Kenai Refuge, or even Alaska as a whole. Furthermore, conditions at the time were characterized by more primitive technologies, very low oil prices, and substantially different national production and consumption rates. It is very likely, were the Kenai Refuge specifically evaluated under current or relatively recent industry scenarios (which are vastly different from 1987); resulting conclusions would be quite different.

- Compatibility: One determination of incompatibility does not preclude future determinations or reassessments of use. Uses can be reassessed upon new information, or if technological advances and stipulations are considered to reestablish and/or ensure compatibility.

Secondly, even if the Refuge thinks these criteria have been satisfied, that does not constitute sufficient justification to ignore their existence. Regardless of the Service's views on these requirements, we again strongly urge the Refuge to reinstate the baseline background information, with references and justification, as appropriate, for current refuge management.

Response

Expansion of activities within the three federal leases is authorized subject to unit lease agreements and provisions of the Minerals Leasing Act. Oil and gas activities are also authorized on lands where Cook Inlet Region, Inc. owns subsurface minerals rights (over 200,000 acres). Oil and gas development is precluded under current law and policies in Congressionally designated wilderness areas (over half of the Refuge) and precluded in remaining areas as result of compatibility findings consistent with law and policy. Changes in laws, policies, and/or compatibility reviews could change the status of oil and gas activity eligibility in the future. We added a sentence in the plan staring, "In

1991, the refuge determined that any other oil and gas leasing on the refuge would be incompatible with refuge purposes."

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Appendix C, section 1.3.15.2

Comment 10

Transportation and Utility Systems in Minimal Management

The proposed direction (Appendix C Table on page C-59) that in Minimal management transportation and utility systems (TUS) are "not allowed subject to the provisions of ANILCA Title XI" is a substantive revision of the regional policies and guidelines. This language is inconsistent with the Alaska National Interest Lands Conservation Act (ANILCA). Specific language and guidelines developed for the entire Alaska Region appropriately clarify provisions in Title XI of ANILCA that provide for authorization of these facilities on all national wildlife refuge lands in Alaska. Any proposal for a TUS must follow the unique process defined in 43 CFR Part 36, without regard to the affected discretionary land management categories. An initial Minimal management designation cannot preclude consideration of a proposed TUS. For these reasons, we urge the direction provided for Minimal management revert to the following language mutually agreed to by the Regional Office and the State: "May be authorized; would require a plan amendment."

Response
The ANILCA provision is clarified in Appendix C, section 1.2.2 which states "If a transportation or utility system, as defined in section 1102 of the Alaska National Interest Lands Conservation Act (ANILCA), is proposed to cross an area in Minimal management, the authorization process would incorporate a corresponding Comprehensive Conservation Plan amendment to change the management category in the affected area from Minimal management to Moderate or Intensive management, as appropriate." With that in mind, Transportation and utility systems can be considered for development on lands designated as Minimal management but they can not be constructed on such lands. If development is approved, those lands would be re-categorized as something other than Minimal management. The language presented in Table C-1 has been carried forward from the Refuge's original comprehensive conservation plan and presents no change from current management.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Appendix C, section 1.2.2

Comment 11

Airplane Access to Lakes Located in Designated Wilderness

Retaining airplane closures on all but 45 lakes within 1.3 million acres of Wilderness (as proposed under the preferred alternative) is not adequately justified in the draft Plan. The full extent of the closures is no longer necessary. Throughout the plan revision process we have advocated for a reasonable, modest increase in airplane access opportunities, based primarily on the substantial recovery of trumpeter swans. We [State of Alaska] therefore appreciate the draft Plan includes alternatives that consider such additional airplane access. We strongly urge the Service select a final alternative that allows some additional access for aircraft subject to quantifiable, scientifically supported information. In this context, within the range of alternatives, the State favors Alternative D (fourteen additional lakes), although even Alternative C (four additional lakes) would provide welcome additional access opportunities without risk to trumpeter swan populations and other refuge resources and values. Given the increasing trumpeter swan population on the Refuge and throughout Alaska, the extent of the closures is no longer necessary to meet regional or rangewide goals for the Pacific Coast population of trumpeter swans. We are not advocating for a wholesale revocation of all

closures; rather we seek a limited number of specific openings to enhance recreational opportunities for the public. See our technical comments for further discussion concerning trumpeter swans.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed agency comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 12

Opening select additional lakes is also consistent with the closure regulations at 50 CFR 36.42, which requires "management considerations necessary to ensure that the activity or area is being managed in a manner compatible with the purposes" of the Refuge. Unique to the Kenai Refuge is the purpose to provide opportunities for fish and wildlife-oriented recreation. Reopening selected additional lakes will serve both the Refuge's recreation purpose and its conservation purpose, while retaining (even enhancing) opportunities for primitive recreation. Recreation includes hunting, one of the priority wildlife-dependent uses of the Refuge System. In light of the trumpeter swan recovery, opportunities for hunting are now unnecessarily restricted.

We [State of Alaska] understand the rationale for the original aircraft closures included incidental reference to protection of wilderness values, and the Refuge's interest in this objective appears to have increased over time. Opening a selected number of additional lakes remains consistent with this objective, since the vast majority of lakes in wilderness will remain closed under all alternatives. It is also consistent with ANILCA Section 1110(a), which authorizes aircraft use in designated wilderness. Furthermore, opening a select number of lakes increases the ability of the public to use and enjoy portions of the Wilderness Area that are otherwise very difficult to reach.

Reexamining current management and effects is also consistent with Adaptive Management as provided in the 620 FW 1, Habitat Management Practices. Section 1.14 B provides that the Service, "Use adaptive management to modify management strategies and prescriptions, as necessary, and to achieve habitat goals and objectives."

Response
Public interest in opening additional lakes to aircraft landing have been generally limited to seeking increased access opportunities overall, without regard to specific areas or uses. Public concerns that there is too much current aircraft activity, or aircraft-generated impacts, have also largely been general in nature. Predicted impacts are difficult to evaluate, especially not knowing what use levels may occur at what locations and what times. We do not believe that there is compelling evidence to suggest any regulatory changes were necessary, whether they be more restrictive to aircraft landing or more liberal. "No change" was the preferred alternative for general aircraft access. However, as indicated in the revised preferred alternative, we propose allowing access by special use permit during hunting season for hunters with drawing permits to use the area at some lakes.

Resolved: Other (SEE RESPONSE)

Comment 13

Early in this planning process the Alaska Department of Fish and Game (ADF&G) proposed the Refuge conduct studies to determine the effects of aircraft use on trumpeter swans to improve guidance for management of aircraft (see page 2-3, third issue). The Refuge eliminated this and other proposals from consideration as "impractical, unfeasible and too expensive to implement" (page 2-2). Given the emphasis on the lake closures, which have major impacts on public access, we again recommend initiating long term cooperative studies to discern why certain lakes and streams are or are not used by nesting swans. In addition, we are willing to cooperate with the Service Migratory Bird Management Office to find the necessary funding and conduct surveys. Better understanding of these relationships will help the Refuge fine-tune management actions and achieve an appropriate balance between resource protection and public use.

Response
We are open to the suggestion of considering studies to better understand trumpeter swan behavior and habitat selection. Some such work has been completed. Specific studies at Kenai NWR done in a comprehensive fashion (looking at different age classes of birds, timing, habitat types, types of disturbance, etc.) would be very extensive and expensive. Such studies could increase our knowledge of swans, and perhaps other wildlife. Results could suggest alternative management schemes, relaxation of some restrictions, or imposition of additional restrictions that may be warranted to better achieve Refuge purposes.

Resolved: Other (SEE RESPONSE)

Comment 14

While outside the scope of this planning process, we request reconsideration of 50 CFR 36.39(ii), which has resulted in an expanding closure as the population of trumpeter swans increases. This regulation currently prohibits the operation of aircraft on lakes (with some notable exceptions) with nesting or brooding trumpeter swans from May 1 to September 30. Based on data contained in the North American Trumpeter Swan Survey and in the swan data collected by the Refuge for the last 50 years, we [State of Alaska] believe that the increasing cost to the public in terms of lost recreational and hunting opportunities are not justified. Consistent with Refuge purposes and the priority wildlife-dependent recreational uses such as hunting and fishing, the Refuge can increase aircraft access opportunities while protecting trumpeter swan populations. We request a full evaluation of the need for this regulation during the next revision process to reassess the balance between the conservation of swans and public access and use.

Response
We will consider an evaluation of this issue in the next revision process as suggested.

Resolved: Other (SEE RESPONSE)

Comment 15

Wildlife Management

The State [of Alaska] has three primary concerns with wildlife management direction in the draft Plan. First, the Refuge proposes harvest levels for several species of wildlife that are out-of-step with ADF&G and Board of Game established harvest levels. This unilateral intent is not consistent with the Master Memorandum of Understanding (MMOU) signed by ADF&G and the Service. Second, the Service inappropriately portrays wolverine, red fox, and marten as being species in decline. This portrayal does not consider the regional ecosystem context, interspecies competition, or long-term changes in habitat. Finally, the draft Plan makes an effort to portray several species, such as marten and red fox, as either subspecies or exhibiting subspecies traits. Much of the supporting information cited in the draft Plan is anecdotal, outdated, and/or is not supported by more recent advances in genetic analysis. In fact, for species once considered subspecies on the Kenai – such as brown bear, black bear and wolverine – genetic testing demonstrates they are not subspecies, but part of regional populations. Thus the draft Plan seems to be relying on artificial or unsupported assumptions of "rare" populations or unique subspecies. We are concerned the Refuge staff's approach may be motivated by a desire to justify acting independently of the State's longstanding management practices and decision-making processes. Once again, this apparent strategy runs counter to the MMOU.

Response
We understand that the State may look at the status of species more broadly, within game management units, or perhaps regionally, while the Refuge must look at the status of species within their boundaries and strive not to lose less common species. To achieve this, different management strategies may be necessary to accomplish Refuge purposes. The Refuge has committed to using State regulatory processes where practical to achieve our goals.

We agree that some of the sub-species designations are based on limited or old information; however, we have used the best available information in making these statements. We have deleted references to the subspecies of marten. We remain concerned with the status of several species including red fox, marten, and wolverine, regardless of whether they are unique sub-species or not, and regardless of what may be causing low numbers.

Resolved: Other (SEE RESPONSE)

Comment 16

Under the MMOU, the Service recognizes ADF&G has the primary responsibility for managing fish and resident wildlife populations, while ADF&G recognizes the Service is responsible for management of Service lands, and the conservation of the fish and wildlife resources on these lands. These responsibilities have long been mutually respected throughout the Alaska region and the resulting Service/ADF&G relationship has worked well to conserve wildlife populations for the benefit of the public. To address disagreement, the MMOU avoids granting unilateral authority over all fish and wildlife to either signatory. The MMOU states the Service agrees to adopt refuge management plans that are in substantial agreement with ADF&G's management plans unless they are formally determined to be incompatible with Refuge purposes. Thus a process is available for the Service to propose alternative management direction to ADF&G and the Alaska Board of Game if the Service formally finds such action necessary. The draft Plan documents the need and process for cooperation and coordination with the State concerning the management of fish and wildlife; however, some of the actions noted above, and further illustrated in our technical comments, demonstrate a lack of follow-through on those assurances. We request review our technical comments and revision of the draft Plan to achieve better alignment with the intent of the MMOU, including working with ADF&G on ecosystem management across management boundaries.

Response
We cooperate with the State of Alaska in a variety of ways. The Master Memorandum of Understanding (MMOU) between the Service and the Alaska Department of Fish and Game is included in this plan in Appendix B. We work closely with the State of Alaska, especially the Alaska Department of Fish and Game. We are working with the Alaska Department of Fish and Game and others on ecosystem management throughout the Alaska Region. Given our differing mandates and agency missions, we will not always agree of every aspect of Refuge management. Please refer to our responses to specific comments for additional information.

Resolved: Other (SEE RESPONSE)

Comment 17

Non-guided Public Use on the Upper Kenai River

Since the draft Plan was released in May 2008, the Alaska Division of Parks and Outdoor

Recreation issued a Request for Proposals for a recreational use study to be conducted for the Kenai River Special Management Area (KRSMA). This new study aims to provide information for the entire river needed by resource agencies to move forward with management actions, especially since the information available to date was gathered over 15 years ago. In keeping with the multi-agency management approach contained in the May, 1997 Upper Kenai River Cooperative Management Plan; the December, 1997 Memorandum of Understanding; and the State's Kenai River Comprehensive Management Plan; we recommend the Service continue to work collaboratively with the State and the USDA Forest Service in the identification and resolution of Kenai River issues, including fishing opportunity on the Upper Kenai River. If fisheries issues arise through the subsequent public process, the Alaska Board of Fisheries would be an appropriate implementing entity, consistent with the MMOU between the Service and ADF&G. Seeking solutions to issues concerning crowding and fisheries is exceptionally complicated and potentially very controversial in the Cook Inlet Region. Investing the time and effort in a cooperative process will maximize best buy-in by the many affected stakeholders.

If the Refuge wishes to maintain the management objective (page 2-87) following public review of the CCP, we urge the Service to work with partner agencies, including the state, in the identification of issues and management actions that affect non-guided use of the Upper Kenai River, consistent with the commitment contained in the letter to Deputy Commissioner Ken Taylor for a public process with all interested agencies and stakeholders. Regardless of the timing and venue of such efforts, the following will be important considerations:

- What user types are currently on the river, and in what proportion?

- How will non-guided use restrictions affect these various use types?

- What users are likely to be displaced, and what would be the projected impacts of such displacement on the management and sustainability of other fish and fisheries in South

Central Alaska?

- How will subsistence fisheries be affected?

- How much of the issue is "crowding" and how much can be attributed to competition for resources?

Understanding this distinction is key to finding the right solutions.

Response
The most common issue raised in public scoping for the revised Kenai NWR CCP was crowding along the Kenai River. Many people voiced concern for this problem, but few recommended solutions were offered. We believe that the current recreational use study being undertaken by a State contractor may provide additional insight into possible future actions to reduce crowding. Like our preferred alternative, this study and any recommendations, are not "self-implementing". Both will require additional work with stakeholders and agencies to build a program that is manageable, equitable, and acceptable to the preponderance of users. The preferred alternative was gleaned from the 1997 Upper Kenai River Management Plan which had wide State, federal, and public participation. While it is dated, we chose to build upon an accepted action of that plan rather than starting completely anew. There will be ample opportunity to work out the details of surveying users and developing actions to address the crowding issue should the surveys indicate a need. We welcome a cooperative approach in accomplishing these tasks and recognize that any potential solution can affect more than just areas within the Refuge. We have clarified that it will be a public process to address non-guided use on the Upper Kenai River.

Resolved: Other (SEE RESPONSE)

Comment 18

Snowmachine Access

We [State of Alaska] encourage the final Plan include the option of zoning (see Alternatives C and D on page 2-107) to provide flexibility to open and close portions of the Refuge to snowmachine use instead of having to open and close the entire Refuge at the same time. We understand that such flexibility needs to be used judiciously to facilitate public understanding and enforcement; however, there will be times and places where different prescriptions are appropriate. Denali National Park has used this approach successfully for many years.

Response
The Refuge manager has opened portions of the Refuge that can be opened to snowmachine use (such as the Caribou Hills) at different times depending on conditions. No change is necessary to management plans or regulations.

Resolved: Other (SEE RESPONSE)

Comment 19

Within the Goals and Objectives, we also recommend including the study of snowmachine use impacts in the Caribou Hills, as recommended in the Compatibility Determination for Snowmachine Use. The study recommended in the CD is both more comprehensive and more specific than Objective 9.4 on page 2-146. We appreciate the CD commits to working with the State on the study design, and if necessary on implementation measures, and we request including these commitments in the Plan.

Response
The study discussed in the compatibility determination for snowmachine use is more specific, but not necessarily more comprehensive, that the study referenced in Objective 9.4. They are two studies, and we hope to accomplish both of them. We will work closely with the State of Alaska on the design of the studies.

Resolved: Other (SEE RESPONSE)

Comment 20

Research Natural Areas

We [State of Alaska] question the need to retain the Research Natural Area (RNA) units, especially the 830,000 - acre Andrew Simons unit located within designated Wilderness, where protections associated with RNAs appear to be redundant. No prescription in the Service's decades-old RNA policy provides as much protection as the Wilderness designation, and certain uses allowed by the policy would be prohibited by the Wilderness Act. In addition, some of the directives associated with RNAs are also inconsistent with ANILCA and the Refuge Improvement Act. For example, the RNA policy directs that certain public uses must be prohibited for interfering with the research aspects of the unit, while these uses are otherwise protected in Alaska Refuges by statute and cannot be administratively restricted. We question the remaining applicability and justification for these designations, particularly since the boundaries are unclear, the specific reasons for designation are not articulated, and to date, it appears these units have not been used for their designated RNA purposes. If the Service feels these RNAs still provide opportunities not already present or possible in these areas, we request the above issues be addressed in the Plan or, perhaps more appropriately, in a subsequent stepdown plan as required in the national policy ("Use of each natural area will be governed by a natural area management plan…" 8 RM 10.8H). At a minimum, we request all discussions of RNAs (including Appendix C) clarify how ANILCA provisions and other statutes affect this national policy guidance. We also request the Plan clarify why these designations are still considered necessary, provide maps, and describe the location and boundaries.

Response
We revised Objective 1.10 in Chapter 2 to include development of a Research Natural Areas management Plan. The Research Natural Area Plan will discuss related policy and law and identify goals and objectives to incorporate the designated areas on the Refuge into an integrated ecological monitoring and research program. We also included additional information about the Research Natural Area Plan in Chapter 6, section 6.3 Future Step-Down Plans.

Resolved: Other (SEE RESPONSE)

Comment 21

Post Oil and Gas Development Land Use Decisions

We [State of Alaska] appreciate consideration of increased recreational opportunities in the range of alternatives. However, because use of the oil and gas fields is likely to continue past the life of this planning document, and because of the broad nature of the CCP, we strongly recommend the Service instead conduct a subsequent step-down-plan(s) with full public review for units as they near the end of operations so that specific proposals and decisions are based on contemporary public use

and input, rather than those that are fifteen or more years past. Regardless of when such land use prescriptions are addressed, we request consideration of the following:

Swanson River Unit

- Retain part of the existing infrastructure to develop into an historical interpretative site.

- Facilitate public use opportunities such as the development of public use campgrounds and allowing bicycle use described in the preferred alternative.

Beaver Creek Unit

- Facilitate public use opportunities such as development of a campground, primitive camping areas and allowing bicycle use.

Mystery Creek Unit

- Support improving the access road to facilitate public access. Continue to allow public vehicle, pedestrian, horse, snowmachine and bicycle use.

- Public use registration required in Alternatives B and C was not analyzed for impacts to user groups in Chapter 4, Environmental Consequences. If the Refuge wishes to pursue this management action, the final EIS must include this analysis.

Response
Objective 2.16 identifies development of a restoration and recreation plan for oil and gas units on the Refuge within three years of the revised comprehensive conservation plan's completion. We will consider the input regarding public use opportunities in those areas consistent with the management direction in the revised comprehensive conservation plan.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: See Chapter 2, Section 2.2 Refuge Purposes, Goals, and Objectives

Comment 22

Allocation of Management Categories

We [State of Alaska] understand the value of eliminating the Traditional management category in favor of regional consistency in use of management categories among Alaska refuges. We are concerned, however, about some of the resulting conversions to Minimal management. While Minimal management is generally appropriate for areas away from or not anticipating the need for roads, facilities, or more elaborate infrastructure (such as in the vicinity of Tustumena Lake), Minimal management is less appropriate for areas with extensive existing infrastructure and higher public use levels, such as near Skilak Lake, adjacent to the Swanson Lake-Swan Creek Road area and possibly the Mystery Creek area. Such areas would be better managed under the Moderate management category, allowing the Refuge greater flexibility in the management of lands near developed areas when the need arises. This is particularly relevant to the Skilak Lake area where most of the lands are currently in the Intensive or Moderate land management category and such an action would complement rather than complicate future management of the overall area. Within the range of alternatives, this interest in greater management flexibility appears to be best represented by the allocation of management categories in Alternative B.

Response
We believe Minimal management will better meet the Refuge's conservation purposes than Moderate or Intensive management. Without specific plans to add infrastructure or provide for new uses of these areas, Minimal management was used as the default management category for previous Traditional management lands. Future plan revisions could re-zone areas of the Refuge to accommodate future projects. Proposals (such as new roads, etc.) would require separate NEPA compliance unless specifically proposed and evaluated in this revised plan. Additionally, all such

proposals need to comply with compatibility standards and other applicable laws, regulations, and policies.

Resolved: Other (SEE RESPONSE)

Comment 23

The lake closures within Wilderness were originally implemented in the mid-1980s almost exclusively to protect nesting and brooding trumpeter swans, which were less abundant on the Kenai Peninsula at that time. Since 1985, swan populations have increased on the Peninsula from 188 total swans with 46 in pairs in 1985 to 565 total swans with 141 in pairs in 2005 (The 2005 North American Trumpeter Swan Survey, USFWS). Notably, during this same time period, trumpeter swans increased throughout their entire range, including areas of Alaska without restrictions on aircraft landings, from approximately 9,400 to 23,000 swans. We [State of Alaska] recognize that swan populations can show reduced reproductive success in areas with high levels of human disturbance; however, we are aware of no data in the draft Plan or elsewhere that specifically attributes the population increases to the lake closures. Providing additional aircraft access on lakes with little historical use by swans would allow public uses that have negligible impacts and allow for some growth in swan use. For example, of the 239 lakes on the Peninsula used by trumpeter swans, less than 15% have been used for nesting in 10 or more of the last 50 years (since 1957). In addition, 86% of these lakes have recorded no breeding swans in at least 40 of the past 50 years. Given the minor increase in access that is advocated, and the unlikely potential to impact the range wide population of swans, an increase in landings is very reasonable. Consistent with our general wildlife-related comments, we are also concerned the Refuge seems to be characterizing trumpeter swans that reproduce on the Kenai Refuge as a unique population, not part of a range-wide population. We are not aware of any morphological, genetic, or behavior basis for such an assumption. The Service and the Pacific Flyway states do not recognize subpopulations for management purposes. Additionally, a recent broad scale genetics study of trumpeter swans in Alaska and the western states (Oyler-McCance, et al. 2006) indicates a high degree of homogeneity across Alaska and the Yukon with some indication of a historic genetic bottleneck for the entire population. Only slight differences were noted for swans on the Kenai Peninsula and Copper River Delta. The Kenai Refuge is not a unique ecosystem on the Peninsula with its own populations and goals.

Response

We do not believe that swans on Kenai NWR are a unique population deserving of special management attention. We do believe that swans on the Refuge are an important species protected by ANILCA and other Refuge System laws and policies. While we will never know what the swan population may have done on the Refuge without aircraft restrictions, we know that swans have fared well on the Refuge while the aircraft restrictions have been in place. We believe undisturbed Refuge habitats may become increasingly important over time to sustaining swan numbers overall as unprotected habitats elsewhere are developed. This could become especially important if waterbodies (both on and off the Refuge) continue to disappear due to warming and drying trends.

Resolved: Other (SEE RESPONSE)

Comment 24

We [State of Alaska] are also concerned about the validity of some of the assumptions about airplane use and corresponding impacts. For example, page 4-134 notes: "The anticipated increase in population growth and an aging population for Anchorage and the Kenai Peninsula over the life of the Plan would result in a corresponding increase in airplane ownership and recreational use within the Refuge." The document provides no substantial evidence for this statement. The growing cost of airplanes, insurance, and fuel may have an unrecognized damping influence on airplane use.

Response

We reviewed a variety of reports available from the FAA and spoke with Anchorage based FAA personnel familiar with the rates of aircraft ownership and number of pilots in Alaska for the last twenty years. We have updated our assumptions to be consistent with FAA projections. The number of pilots and aircraft ownership has been very stable over the last 20 years and nationally the number of private pilots is expected to decline and the number of recreational pilots is expected to increase in the next few years. The appropriate sections of Chapters 3 and 4 have been updated to include this new information.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: See Chapter 4, Section 4.2 Key Indicators and Assumptions

Comment 25

We [State of Alaska] are concerned about statements in Chapters 3 and 4 which appear to be speculative, anecdotal, and/or offered as fact without supporting documentation. Examples are provided below. Collectively, these statements refer to aircraft access in an unnecessarily negative context. We suggest removing or re-wording such statements to provide a more balanced assessment of both the positive and negative affects associated with airplane use.

Resolved: Comment acknowledged; does not provide new information

Comment 26

Page 3-52, 3.3.6.6 Exotic, Invasive and Injurious Flora: We [State of Alaska] recognize the potential to introduce aquatic invasive species via floatplanes; however, because there are no know problems to date, either in the Refuge, Lake Hood, or in other likely source lakes, we request some clarification about the actual likelihood and scale of expected impacts.

Response
The section referenced is found in section 3.3.6 Concerns Regarding Habitat. The text states that exotic aquatic flora "may become a potential problem in the future" and "that exotic aquatic flora have not yet been introduced to the Kenai Peninsula." Although we state "...transport of plant fragments...from urban population centers and those in more remote locations...is a likely mechanism of aquatic plant introduction" we do not have any way to estimate the "actual likelihood and scale of expected impacts."

Resolved: Comment acknowledged; does not provide new information

Comment 27

Page 3-93, Human Disturbance of Trumpeter Swans, second paragraph on page: Given the lack of evidence regarding the effect of aircraft closures on swan populations, we [State of Alaska] request revision of the last sentence: "Recent aerial surveys indicate that as many as 50 pairs may be using the Refuge, although this increase is not necessarily attributable to aircraft restrictions."

Response
See previous response.

Resolved: Other (SEE RESPONSE)

Comment 28

Page 3-93, Human Disturbance of Trumpeter Swans, third paragraph on page: It is difficult to evaluate the basis for the statement that trumpeter swan nesting pairs have not increased off the

Refuge. It may be that swans are utilizing all the available lakes off the Refuge and have been for some time, or that observations are not as readily documented. Human disturbance or associated domestic animals may also be a cause. As with the above comment, it remains speculative to assert any cause for increases or decreases without reliable studies.

Resolved: Comment acknowledged; does not provide new information

Comment 29

Page 3-121, 3.4.4.3, Airplane Landing Areas: This section claims the Refuge receives "a tremendous amount of airplane use," but admits that "precise estimates for total aircraft using the Refuge do not exist." No reliable data or estimates of use are provided to support the implication that aircraft use is "commonly accepted" to be increasing concurrently with the annual Kenai Peninsula population increase of 2.5%. The assertion seems to be based on the number of aircraft registered in Anchorage and its proximity to the Kenai Peninsula. We [State of Alaska] question basing management prescriptions on such unsupported assumptions and analysis.

Response
We agree that there is no precise available data on this subject, and made assumptions on which to base our analyses. We believe the assumptions are reasonable, but they are assumptions.

Resolved: Other (SEE RESPONSE)

Comment 30

Page 3-165, 3.5.5.2, first paragraph, last sentence: We [State of Alaska] request this sentence be revised as follows: "Small planes are an important means of access to remote portions of the Refuge, yet their use may also diminish opportunities for solitude." Such a revision would be consistent with the more balanced assumption about small airplanes presented on page 4-142, second bullet from the bottom of the page.

Response
We revised the referenced section of the plan to include the suggested language.

Resolved: Other (SEE RESPONSE)

Comment 31

Page 4-133, General Assumptions, first bullet: The reference to 580 lakes susceptible to aircraft use within the Refuge is only partially relevant to a discussion of air access in designated Wilderness by inappropriately providing a Refuge-wide context. Of more importance in the wilderness context are the number of these lakes within the 1.3 million-acre Wilderness (this information is not provided), and the fact that only forty-six of the Wilderness lakes are currently open to airplanes by regulation, subject to additional restrictions related to trumpeter swan nesting and brooding. The discussion of impacts should focus only on lakes within Wilderness, which may substantially alter some of the analysis and conclusions. This comment also applies to pages 4-140 thru 4-142.

Response
We have included additional information on numbers of lakes, their locations, and aircraft landing opportunities as suggested.

Resolved: Other (SEE RESPONSE)

Comment 32

Page 4-134, General Assumptions, second bullet on page: As previously noted, the assumption of increased air access is not substantiated in any manner. We [State of Alaska] request its removal unless substantiated, and the analysis revised as appropriate.

Response
See previous response (comment number 29).

Resolved: Comment acknowledged; does not provide new information

Comment 33

Page 4-135, Alternatives C and D: The language describes lakes that would be re-opened as "… pristine and free from the impacts" associated with airplane or human use. This implies that these lakes currently and historically received essentially no use. Managing for no public use to keep areas free from assumed impacts is unnecessarily restrictive and inconsistent with ANILCA Section 1110(a) and the Refuge Improvement Act. This approach to public use in Wilderness areas further demonstrates that the rationale for closures needs to be reevaluated.

Concerning the discussion in Alternative C regarding re-opening airplane access to the unnamed lake near Goat Lake, the analysis of potential impacts to the surrounding area appears substantially overstated. There is no evidence that the number of, or activities by, people using the entire 20-square mile area would generate the stated impacts. Under this alternative, we expect few additional people would visit the area and the majority of airplane access would most likely take place during August to November (goat hunting season). We [State of Alaska] also question the projection that the few additional people accessing the area by airplane would have "adverse, major impacts" to the vegetation within the entire 20-square mile area.

Site-specific impacts could range from minor to major at a local scale depending on intensity (as is shown to be the case in other alternatives (see page 4-109, 4.3.7.2), but widespread intense use cannot reasonably be expected here. (This comment also applies to Alternative D.)

Finally, the Alternative C discussion projects that areas would be "damaged by newly created dispersed campsites" in sensitive alpine habitat. Dispersed camping is generally seen as a positive influence on physical impacts in lightly-used habitat by spreading out use. We question there would be enough evidence of dispersed camping to assert even medium-term resource damage. Alternatively, the Refuge could designate and perhaps harden selected campsite(s) to provide for recreational use with minimal off-site impacts.

Response
We agree that impacts can be minimal to selected areas that are not open to general use. The Refuge is willing to work with the State in follow-up discussions of how this might be accomplished. An example might be a proposed regulatory change that keeps the general restrictions in place but evaluates authorization of limited access, such as for permit holders that have limited drawing goat hunting permits. The final revised Kenai Comprehensive Conservation Plan has been changed to provide this option, but does not require it. This will allow for the potential authorization of limited use of designated lakes that, if accepted, should not significantly impact Refuge resources, require a re-analysis of impacts, or require additional amendments to the plan.

Resolved: Other (SEE RESPONSE)

Comment 34

Pages 4-136 thru 4-140, Wildlife Consequences: The analysis throughout this section has several examples of the use of the word "would," which inappropriately implies a definitive impact, when "could" is probably more accurate or reasonable. For example, Alternative A states with certainty that

aquatic and terrestrial wildlife would show signs of disturbance from aircraft access. Also, if these projected signs of disturbance are mostly short-term displacement of an occasional individual animal, it may not merit recognition in this context.

Response
We have revisited the suggested text and have made changes as appropriate.

Resolved: Other (SEE RESPONSE)

Comment 35

Pages 4-140 thru 4-142, Recreation Consequences: Consistent with our comments for page 4-133, a more balanced analysis would equally assess the impacts of openings and closures on all user groups. The current analysis does not always do this. For example, the analysis indicates opening lakes to airplane access provides beneficial, long-term impacts for recreational airplane users and major adverse impacts to those who walk in. However, the analysis also indicates that a closure to airplanes would only cause negligible impacts to airplane users given that there are hundreds of other lakes open for airplane access in the Refuge. First, this ignores that, in actuality, there are only forty-six lakes open to airplane use in Wilderness. Second, using the same logic, it could be readily assumed that impacts to pedestrians would also be negligible, as they also have hundreds of other lakes available in the Refuge for their use. The discussion also assumes or implies all pedestrians have a very limited tolerance for airplanes in designated Wilderness and would have a very negative experience if they encountered an airplane. It is equally plausible that encountering an occasional airplane could have little or no negative impacts on their experience. It may even facilitate aspects of their wilderness experience. To fairly assess the impacts, the analysis needs to either acknowledge that only one perspective is being analyzed or present a more balanced approach with regard to impacted user groups.

Response
When conducting an environmental impact analysis, it is important to identify the type, intensity, duration, and scale of the impact occurring on the resource (in this case, Recreation Access and Recreation Opportunity Setting). We believe that "Adverse impacts of major intensity would be expected on recreation access at the site-specific scale as a result of closing Bird Lake to airplane access..." The duration of the impact is identified as "long-term" because implementation of the management action would require a refuge regulation. The remaining portion of the analysis "...however, at the local scale, impacts would be negligible because hundreds of other lakes on the Refuge would be open to airplane access" was incorrectly stated. The analysis has been revised to read "...however, at the refuge-wide scale, impacts would be negligible because hundreds of others lakes on the Refuge would be open to airplane access."

Resolved: Analysis modified (SEE RESPONSE)

Comment 36

Page 4-141, Alternative A, Recreation Consequences: As noted in our general comments, the assumptions concerning inevitable and automatic increases in airplane use because of increasing populations is not supported.

Response
See comments/responses 29 and 32.

Resolved: Comment acknowledged; does not provide new information

Comment 37

Page 4-158, Section 4.3.11.3, last bulleted assumption: While floatplanes are recognized as potential sources of invasive species, incidents have not, to our knowledge, been documented in Alaska. Similar to bulleted assumptions on pages 4-134 and 4-151, we [State of Alaska] request "will" be replaced with "may."

Response
The referenced statement is listed as an assumption; therefore "will" seems to be appropriately used.
Resolved: Other (SEE RESPONSE)

Comment 38

Page 2-119, Objective 2.8: For reasons explained in the revised rationale below, the Refuge may not be able to implement the objective as written. We [State of Alaska] request revision as follows:

Caribou populations will be maintained at or below two caribou per square kilometer over the next 10 years (2014). The 2003 Caribou Management Plan (maintaining the caribou population at or below two caribou per square kilometer) will be reviewed in cooperation with ADF&G and the Chugach National Forest and, if necessary, revised to meet new understandings of caribou dispersal and utilization of additional habitat throughout the peninsula.

Rational: Since the initial reintroduction of 15 caribou from the Nelchina herd to the Refuge in 1965, the caribou population has increased to more than 1,100 individuals in four herds. Recent observations of caribou on nunataks in the Harding Ice Field and in a large group near Exit Glacier suggest that caribou are continuing to disperse over the peninsula. The carrying capacity of available habitat on the peninsula is unknown. However, The 2003 Caribou Management Plan, developed by the Refuge, ADF&G, and the Chugach National Forest, specifically caps desired caribou population densities at 2 caribou per km2 to prevent degradation of alpine tundra. However, because of the continued dispersal of caribou to new areas, the partner agencies will review the data and revise the plan, if necessary.

Response
We see no significant difference in what was written to what has been proposed. We continue to desire to work cooperatively in managing Kenai Peninsula caribou and we welcome discussions directed at updating management plans and objectives any time new information is available.

Resolved: Other (SEE RESPONSE)

Comment 39

Page 2-120 and 2-121, Objective 2.11: ADF&G already has current monitoring programs for the management of these species implemented in cooperation with other agencies. These programs monitor population trends and health of wolves, wolverine, and brown and black bears on the Peninsula, including "statistically-rigorous survey designs" for wolverine as discussed in Golden, H.N., Christ, A.M. & Solomon, E.K. 2007: Spatiotemporal analysis of wolverine Gulogulo harvest in Alaska. – Wild. Biol. 13 (Suppl. 2): 68-75. ADF&G welcomes cooperative efforts by the Service and others in refining methods used to estimate wildlife populations.

Resolved: Comment acknowledged; does not provide new information

Comment 40

Page 2-120, Objective 2.9: Consistent with our major concerns about following MMOU protocols, the Service has not determined that ADF&G's management of Dall sheep and mountain goat is incompatible with Refuge purposes. We [State of Alaska] therefore request removal of the Refuge's specific population objective. We offer the following revision that respects the Service's interest in maintaining wildlife populations in their natural diversity within the context of ADF&G's current management. The Refuge will manage habitat and monitor Dall sheep and mountain goats in cooperation with ADF&G, Chugach National Forest, and Kenai Fjords National Park so that variations in population trends are adequately noted and to maintain their natural diversity while allowing for wildlife dependent opportunities, including a sustainable harvest (where allowed) through a regulated hunting program managed by the Alaska Board of Game. In addition, the Refuge will work cooperatively with partner agencies to ensure that a peninsula-wide survey is completed every three years.

Response
The specific population objectives for Dall sheep and mountain goats have been removed from Objective 2.9. The Refuge has proposed no regulatory changes to the hunting of sheep or goats. The MMOU also states that ADF&G will manage fish and resident wildlife populations in their natural species diversity on Service lands.

Resolved: Other (SEE RESPONSE)

Comment 41

Page 2-125, Objective 3.6: We [State of Alaska] request this objective and rationale clarify what are trusts, harvested, and indicator species. It may be more appropriate to divide this objective into two: one that focuses on trust species (waterfowl, endangered species) and another focusing on habitat management and monitoring fish and wildlife in cooperation with ADF&G, consistent with the MMOU. Note "indicator species" also occurs in Objective 3-12. The rationale also indicates that "…data from several surveys have neither been rigorously analyzed nor have standard protocols been established." We do not agree with this statement; although it is not completely clear what is meant by "rigorously analyzed" or "standard protocols." Is there a recognized standard in literature or Service policy direction that provides guidance or is this the professional opinion of staff?

Response
We have made changes to Objective 3.6 to clarify the categories of species that we reference. Service trust resources include fish, wildlife, and plants, and other natural or cultural resources on Service lands, and specific groups of fish or wildlife defined by statute or treaty, wherever they are found (i.e. migratory birds, threatened or endangered species, some marine mammals and anadromous fish). Service policies have set standards for survey and monitoring actions that the Refuge must follow. These include review of statistical rigor of projects. This review occurs as part of the Refuge's biological program reviews and/or through review of the Refuge's inventory and monitoring plan. Policy requires the plan preparation and review. Acceptability of the plan is based on regional review, including evaluation by a regional staff biometrician.

Resolved: Other (SEE RESPONSE)

Comment 42

Page 3-55, 3.3.7.2 Species of Special Concern: We [State of Alaska] request the Plan note what defines a species of special interest, how this was determined, and the criteria used to determine rare or threatened with extirpation. These labels may have far reaching effects, including possible threatened or endangered species listings; thus the use and purpose of these terms should be clearly defined.

Response
We have added text to the plan to suggest readers interested in the designations and what they mean contact ADF&G for more information.

Resolved: Other (SEE RESPONSE)

Comment 43

Page 3-55, Red Fox and Marten: Concerns regarding the status of these species were outlined in our April 15, 2007 comments on the Draft Compatibility Determinations. The discussion is also not consistent with the status of marten and red fox as presented in objective 2.14.

Response
Refuge staff identifying red fox and marten as species of special interest is consistent with Objective 2.14 which calls for special efforts to increase our knowledge about the status and trends of these species. Marten appear to be slightly expanding their known range on the Refuge whereas red fox appear to be all but gone from the Refuge, but we need to know more about both of these species.

Resolved: Other (SEE RESPONSE)

Comment 44

Page 3-55, Wolverine: The proper reference for wolverine here is Gulo gulo luscus. The bullet indicates declining harvest and population estimates. Only one population estimate has been conducted for wolverine on the Kenai Peninsula (Golden, et. al.). It is not possible to identify either an increasing or decreasing trend in a population using only one population estimate. Harvest of wolverine on the Kenai Peninsula has shown no decline for the last 45 years. Although wolverine harvest generally declined between 1996 and 2002, it rebounded to an annual average of 20.5 for 2003-2006. The total annual average harvest from 1984-2006 was 19.6 wolverine.

Response
We have changed the subspecies name as suggested. While we agree that only one study has a large area coverage and resulting population estimate, extrapolations from earlier work point to a possible decline, at least in some areas. Reported trapping harvest of wolverine on the Refuge has been low compared to other areas on the Kenai Peninsula; however, an average of 1.8 animals were reported taken between the 1997-1998 trapping season and 2006/2007 compared to 3.7 animals the previous 10 years (1987 – 1988 season to the 1996 - 1997 season). Some of the reduction in harvest could have resulted from changes in Refuge trapping regulations; however, we believe wolverines remain uncommon on the Refuge and warrant special management interest.

Resolved: Other (SEE RESPONSE)

Comment 45

Page 3-63, Brown Bear, first paragraph: We [State of Alaska] request this section note that there is not an official population estimate for brown bears on the Kenai Peninsula and any population estimate should be used with caution. The 2001 Conservation Assessment of the Kenai Peninsula Brown Bear specifically noted that "Data specific to the Kenai Peninsula brown bear population are limited and estimates of [[the finite rate of increase]] should be interpreted with caution." Del Frate 1999 noted that "We believe the population is stable or may be slightly increasing." Both Del Frate and the Conservation Assessment are dated and new data should be analyzed before any population estimates are provided. According to ADF&G, the brown bear population on the Kenai Peninsula is healthy and sustainable. (Personal communication with Jeff Selinger, August 2008). In addition, we request this section also address conservation concerns raised by the Service and the State at the

April-May 2007 Federal Subsistence Board meeting and in other interagency discussions about the status of bear populations in the face of recently

Authorized harvests by the federal Board.

Response
We will update this section with population data cited in 3.3.8.2. While we agree that Del Frate and the Conservation Assessment are dated, we are unaware of any new data to give an indication of the current status of Kenai Peninsula brown bears. Increasing DLPs could indicate an increase in the bear population or could a result of increasing bear-human conflicts due to approximately 1,000 new human residents being added to the Kenai Peninsula Borough every year, or both.

Resolved: Other (SEE RESPONSE)

Comment 46

Page 3-64, Section 3.3.7.3, Brown Bear: We [State of Alaska] request using the second full paragraph to conclude this section to provide a more accurate presentation of the findings of the Conservation Assessment. We also note, the current text is virtually identical to narrative in the Assessment (Section 3.1.6, Population Parameters, page 22) and we therefore request a quote.

Response
Quotes will be applied the text identified above. The current concluding paragraph is not inappropriate given the context.

Resolved: Other (SEE RESPONSE)

Comment 47

Page 3-69, Red Fox, first paragraph: See our general comments regarding red fox being "rare" on the refuge. ADF&G frequently receives reports of red fox in the Caribou Hills and up Fox Creek. We [State of Alaska] request this information be noted.

Response
Refuge biologists spend thousands of hours collectively in the field each year and none have ever seen a red fox on the Refuge, from the air or the ground. One red fox was harvested on the Refuge during a recent trapping season and tracks are occasionally seen, but all available evidence suggests red fox are extremely rare on the Refuge.

Resolved: Other (SEE RESPONSE)

Comment 48

Page 3-70, Wolverine, first paragraph, first sentence: The discussion that wolverine is uncommon is not consistent with recently conducted surveys or harvest data. See earlier referenced study concerning wolverine as well as Golden, et. al, 2007a. Golden shows that the wolverine population and their harvest are sustainable on the Peninsula, including on the Refuge. ADF&G is engaged in ongoing research to increase knowledge of these animals.

Response
The referenced statement is that the wolverine is uncommon on the Kenai Refuge (not the Kenai Peninsula). In general, the current estimate of wolverine densities in the Kenai Mountains is 3 per 1000 km2, one of the lowest densities in the literature. But more specifically, on the refuge, harvest has been consistently low, averaging 3 per year since 1984.

Resolved: Other (SEE RESPONSE)

Comment 49

Page 3-70, Wolverine, first paragraph, last sentence: ADF&G sealing records do not suggest what wolverine populations are doing on the Tustemena bench lands, in the Fox River valley, or elsewhere on the Kenai Peninsula, since the comparison of populations from the limited harvest data is not possible in this instance. For the period 1984-2005 harvests averaged one wolverine per year in GMU 15A, two per year in GMU 15B and four per year in GMU 15C. The total annual average harvest from 1984-2006 for the entire Kenai Peninsula was 19.6 wolverine.

Response
The data (Fig. 3-17) are from a map produced by ADF&G which shows that the Tustumena Benchlands and Fox River valley have mean harvests exceeding 0.6 wolverines per year. Elsewhere on the refuge, mean harvests are <0.6 wolverines per year.

Resolved: Other (SEE RESPONSE)

Comment 50

Page 3-70, Wolverine, fourth paragraph: The discussion of harvest in this paragraph needs further explanation and additional detail using the complete data set. While the data set does show harvests ranged from a reported high of 48 in 1971 to a low of six in 2003, it does not represent a steady and continuing decline as implied in the text. Harvests since 2003 have been higher than six. It would also be useful to note that harvest figures from 1961 to 1968 were from bounty records and sealing records were started in 1961. (From 1953 to 1968, a $15 bounty was provided to stimulate harvest.) Additionally, significant changes in trapping regulations and snowmachine use were implemented in 1986 that also changed historic trapping practices within the refuge and may have altered harvest of all furbearers, including wolverine.

Response
We agree that there is some ambiguity and have changed the sentence to read, "Wolverine harvest on the Kenai Peninsula had ranged from a high of 48 in 1971 to a low of 6 in 2003." Other concerns expressed in this comment are addressed in the last sentence of the cited paragraph on page 3-70, "It is unknown, however, if these changes in harvest effort reflect actual changes in wolverine populations or changes in trapper interest or effort."

Resolved: Other (SEE RESPONSE)

Comment 51

Page 3-73, Marten: The subspecies status for Kenai marten is based on a subjective assessment of six specimens collected over 100 years ago. The subspecies designation has likely persisted in literature since 1903 because there has been no study to properly assess them. A genetic based assessment would likely refute the subspecies designation, much as it has for wolverine (see previous discussion) and for brown and black bears on the Peninsula. The paragraph is not technically incorrect in its current discussion based on the established data but it would be helpful to acknowledge that there is room for a better understanding of the situation. If concerns about the taxonomy of marten exist we recommend the development of an objective to determine their status, particularly before any additional restrictive management actions are taken. Sampling specimens for such a study could be taken from marten brought to ADF&G for sealing.

Response
We concur that the only available information on the subspecies status of marten is dated and could change if modern methods were employed for analysis. Refuge concerns for the species are not

dependent upon it being a separate subspecies, but because it is poorly represented on much of the Refuge. We believe less common species often require additional management attention.

Resolved: Other (SEE RESPONSE)

Comment 52

Page 3-88, Status of Brown Bear Populations, first paragraph, last sentence and section conclusions: The conclusion in the first paragraph, which drives the entire discussion, does not accurately portray the conclusion reached in the Conservation Assessment. We request revision since the data presented appear to be almost entirely from the Assessment and differing conclusions cannot be otherwise substantiated. We [State of Alaska] request using the concluding paragraph from page 22, of Section 3.1.6, Population Parameters of the Assessment for the conclusion for this section. This section (as shown below) was used previously in Section 3.3.7.3 of the Plan, but it makes an appropriate conclusion here as well. It is difficult to characterize the health of the Kenai Peninsula brown bear population at this time. The calculated finite rate of population increase indicates neither an increase nor a decrease; whereas demographic information (survivorship data and the female age distribution) indicates the possibility that reproductive females have a low recruitment into the Kenai brown bear population. This is an area that warrants continued research and monitoring.

Response
Agreed. The last sentence will now read: The IBBST (2001) concluded that "it is difficult to characterize the health of the Kenai Peninsula brown bear population at this time. The calculated finite rate of population increase indicates neither an increase nor a decrease; whereas demographic information (survivorship data [specifically yearlings] and the female age distribution [specifically 2-6 year old age class]) indicates the possibility that reproductive females have a low recruitment".

Resolved: Other (SEE RESPONSE)

Comment 53

Page 3-141, Trapping: The reference to the ratio of local to non-local trappers in the second half of the second sentence is not relevant to management of trapping on the refuge. Without context or justification, this type of information is potentially misleading. We therefore request it be removed. The comparison of the trapping harvest from the previous 5 years with the 44 year average is also misleading without noting Refuge regulations significantly altered traditional trapping methods and access on the refuge, which affected harvest rates and participation. We [State of Alaska] request this important context be included in this section.

Response
The cited paragraph reads "the ratio of permits to local population has declined substantially."To clarify, this sentence will now reads, "the ratio of the number of trapping permits to the residential population on the Kenai Peninsula has declined substantially". The last sentence was modified to read, "Also, the reported harvest of most species during the last five years is only about half of the 44-year average, (Figure 3-32) suggesting reduced effort on the part of trappers."

Resolved: Other (SEE RESPONSE)

Comment 54

Page 3-93, first paragraph on page: “Lakes once used by nesting trumpeter swans but no longer within the current Refuge boundaries....” Whether or not these lakes are still within refuge boundaries is not necessarily relevant. We [State of Alaska] request clarifying whether they still serve as suitable habitat for trumpeter swans.

Response
The sentence will be clarified to read, "Several lakes (e.g., Sunken Island Lake, Donkey Lake, Elephant [Spirit] Lake) once used by nesting trumpeter swans when they were within refuge boundaries, are no longer used for nesting since boundary readjustments have placed them outside the refuge and development activities occurred adjacent to them such as logging (T. Bailey, personal communication)."

Resolved: Other (SEE RESPONSE)

Comment 55

Page 3-53, 3.3.6.7, last full paragraph on page, last two sentences: The last attempt at reintroducing caribou to the Caribou Hills in April 1986 consisted of a nominal number of caribou (16) originally from the Nelchina Herd. It has been shown that some of these caribou dispersed from the Caribou Hills some 20 miles to the north of the Fox River area soon after their reintroduction for unknown reasons. That winter (1985/86) the Refuge was never open to snowmachine use due to inadequate snow cover and was not open again until January 1987, presumably after the small number of animals had long since dispersed. Caribou from the release dispersed widely, with reports of individuals moving closer to human-settled areas of Homer and Ninilchik, and one case of a dispersal to Wolf Creek south of Hope. No attempts were made at the time by either ADF&G or the Service to determine why the caribou moved. Snowmachine influences as a cause for dispersal or avoidance are equally as likely as habitat, the lack of predictability associated with the small number of caribou released, or predators. The Kenai Lowlands Caribou Herd is currently located in a densely human populated area within the Kenai-Soldotna city limits, in the presence of intensive snowmachine use, roads, and automobiles. Caribou can also be found north of Anchorage near Eureka, another area with heavy snowmachine use. We [State of Alaska] therefore request the following revision to clarify that several factors need to be considered:

Also, while the Caribou Hills may have been important to caribou historically, animals that have been reintroduced to the Kenai Peninsula in the 1960's and 1980's, including an attempt directly into the Caribou Hills, have not successfully re-established populations in the Caribou Hills. While there is no direct evidence that caribou avoided the Caribou Hills because of snowmachine use, it could be a possible factor and should be investigated along with others such as available habitat, climate change issues and presence of predators.

Response
We agree with the comments regarding historical caribou re-introductions. We question whether the Lowland Caribou Herd makes a good comparison to the caribou utilizing the Tustumena Benchlands (that would be most likely to re-populate the Caribou Hills). While the Lowland herd spends considerable time near the Kenai-Soldotna city limits, it seems to choose to winter in more timbered areas away from town. These wintering areas also receive far less snowmachine activity than the areas close to town. The Lowland Herd is not faring well possible causes include collisions with vehicles, predation, possible poaching, and perhaps other factors.

Resolved: Other (SEE RESPONSE)

Comment 56

Page 3-73, Marten, last paragraph on page: Please provide a citation to support "trapping records from the late 1890's indicate that marten may have been more widespread and numerous than they are now." ADF&G is not aware of a source that supports marten ever being abundant on the western side of the Kenai. We [State of Alaska] appreciate the Refuge's thorough discussion concerning marten on the Kenai Peninsula and specifically the Refuge itself, but we retain significant concerns about inferences within this document that assert marten on the Kenai Peninsula are a distinct subspecies. As noted above, this assertion is based on six specimens collected 105 years ago as

reported in Elliot (1903). While Elliot may have complied to the standard of the day, it is very unlikely that the designation of marten as a distinct subspecies would hold up under 21st Century evaluation, including genetic/DNA evaluation. Other species

such as brown and black bear and wolverine were once thought to be separate subspecies distinct to the Kenai Peninsula but their evaluation using modern techniques has refuted that designation. It is likely that such a review of marten would provide the same results. Our primary concern is that there may be attempts to manage marten on the Refuge as a distinct subspecies rather than as a species present on the entire Peninsula and limited on the Refuge due to issues such as habitat or climate.

Response
Agreed. The sentence about abundance in 1890s was deleted. However, we are comfortable with the taxonomic designation of the Kenai subspecies (see Clark et. al 1987) until such time that the scientific literature indicates otherwise. We find comparisons with other, larger species such as wolverines and bears not useful given the disparity in home range/territory sizes between marten and these species.

Resolved: Other (SEE RESPONSE)

Comment 57

Page 4-66: Chapter Four's discussions of consequences to wildlife sometimes confuse impacts to individual animals with wildlife populations as a whole. This is only appropriate when the cumulative effects of impacts to multiple individual animals reaches a level where broader affects may be detected at a regional or refuge-wide population scale. General statements about wildlife impacts should be tied to population-level effects. See the following page-specific comments for examples of this problem:

- Page 4-66, Mystery Creek Unit, Public Use During the Life of the Project, third sentence

- Pages 4-96 to 4-98, Ski Hill Road, Wildlife Consequences

- Pages 4-136 to 4-140, Airplane Access, Wildlife Consequences

- Pages 4-163 and 4-164, Snowmachine Use, Alternative A, Wildlife Consequences

Response
While we agree with the general comment about cumulative effects, clearly the total of impacts to individual animals will be cumulative. For example, in 4-66, the third sentence cited refers to vehicle-wildlife collisions. We already have a great deal of certainty that the average annual loss of 250 moose (mostly cows and calves) is impacting the moose population on the Kenai Peninsula, certainly along the Sterling Highway in 15A. We believe it is reasonable to assume that additional loss due to more vehicle traffic in this subunit is additive not compensatory.

Resolved: Other (SEE RESPONSE)

Comment 58

Page 4-163, "Wildlife presence" Indicator: We [State of Alaska] request the final Plan specify which species or types of animals are under consideration as indicators, or the inclusion of selection criteria. More importantly, we request the final Plan commit to working cooperatively with state wildlife managers on evaluating and selecting the actual indicator species.

Response
In implementing the snowmachine study we will work collaboratively with the State and other stakeholders on study design including indicators.

Resolved: Other (SEE RESPONSE)

Comment 59

Page 2-114, Objective 1.17: A stock assessment program to estimate sustainable yield for the lake trout fishery at Hidden Lake is also a priority for ADF&G and will likely occur within the next five years. The Service would be a welcome cooperator on this research project. The current data concerning this population of lake trout suggest that it was over exploited for several years. Regulatory changes were implemented by the Alaska Board of Fisheries in the 1990s and again in 2008 to reduce harvest. The current bag and possession limit is one fish. Additionally, this section should address recent authorizations for harvest by the Federal Subsistence Board that may cause renewed conservation issues for lake trout management.

Response
There has been no reported harvest of lake trout in Hidden Lake by Federally permitted subsistence users to date and it seems unlikely that this will ever become a popular subsistence fishery. Unless this happens there will be no additional conservation concern and any further analysis at this time seems unwarranted.

Resolved: Other (SEE RESPONSE)

Comment 60

Page 2-116, Objective 1.22: Marine derived nutrients can be used to measure historic salmon production mainly from salmon producing drainages that contain lakes. The value of this objective would be enhanced if marine derived nutrient analysis would incorporate methods to estimate salmon productivity as well as terrestrial input.

Response
Agreed. Salmon productivity will be considered when study proposals are prepared.

Resolved: Other (SEE RESPONSE)

Comment 61

Page 2-116, Objective 1.23: We [State of Alaska] request the objective be revised as follows to reflect that the research portion is already underway by ADF&G with the welcome cooperation of the Service. This includes an ongoing genetics stock identification project. Strategies for early-run Kenai Chinook salmon management already exist in Chapter 57 of the Alaska Administrative Code and are reviewed and/or modified during each Alaska Board of Fisheries Upper Cook Inlet meeting. Objective 1.23: Biological Inventories: Within four years of funding, work with ADF&G in their ongoing study (genetics stock identification) to assess populations of early-run Chinook salmon in the Kenai River. Additionally, we request removal of the 5th sentence in the rationale. The harvest of early-run Chinook takes place in the mainstream Kenai River after July 1, which is why the slot-limit of early-run Chinook above the Soldotna Bridge extends through July 15. As written, this sentence incorrectly implies that any harvest of early run Chinook is problematic.

Response
We have amended the objective to qualify that some or all of the tasks for early-run Chinook salmon studies may be underway or completed. We welcome coordination on ongoing and future studies. We believe that the 5th statement is accurate without change. We also understand that the relatively new slot limit regulation is designed to increase escapement of certain sizes/age classes of fish, not to protect the early run as a whole.

Resolved: Other (SEE RESPONSE)

Comment 62

Page 3-102, 3.3.8.11, third paragraph: All stream crossings and culverts located in anadromous streams, including their installation, construction and maintenance, must be permitted by ADF&G's Habitat Division. Please note this requirement in the plan, where appropriate, possibly either in this section or in Chapter 6, Implementation and Monitoring, 5.2 (page 6-27).

Response
We have added mention of ADF&G's review and permit function for activities involving anadromous fish streams at the end of 3.3.8.11.

Resolved: Other (SEE RESPONSE)

Comment 63

Page 3-135, Section 3.4.6.1, Fishing, first paragraph: We [State of Alaska] request this discussion include more recent user information showing the actual long term trend of use (measured in angler days) on both the Kenai River and the Kenai Peninsula. Use does appear to have increased from 1981 through 1995 on both the Kenai River and the Kenai Peninsula as discussed. However 1995 seems to have been a peak year of use for both areas referenced (about 377,000 for Kenai River and 1,043,000 for the Kenai Peninsula). Since 1995 use on the Kenai River and Kenai Peninsula has remained relatively the same or decreased (388,000 in 2005 and 329,000 in 2006 on the Kenai River and 813,000 in 2005 and 732,000 in 2006 for the Kenai Peninsula). (Data presented here is from the Statewide Harvest Survey, available from ADF&G). Without this additional information the discussion implies a dramatically increasing use trend, which may not be the case. Further discussion and analysis of the issue is necessary. In addition to angler days, the discussion needs to address harvests and uses authorized in 2007 for federal subsistence fishing of sensitive lake trout, rainbow trout, and steelhead stocks in the Kenai and Kasilof rivers.

Response
We have reviewed Section 3.4.6.1 and believe it to be accurate. Refuge boat and angler trend information (Figure 3 - 26) is based on actual observations of boats and anglers on the Refuge. Reported success of resident fish species harvested by federal subsistence users has been so small (<1% of estimated total harvest) that it does not require special attention at this time.

Resolved: Other (SEE RESPONSE)

Comment 64

Page 3-123, 3.4.4.4, first paragraph on page: We [State of Alaska] request this brief history of snowmachine openings and closures mention the ANILCA 1110(a) snowmobile authorization and include the following sentence derived from the final Kenai Snowmobile CD: "The definition of "traditional activities" under Section 1110(a) of ANILCA has not been defined for the Kenai Refuge." (From top of page 4 in CD.)

Response
Additional information has been added to the section.

Resolved: Other (SEE RESPONSE)

Comment 65

Page 3-123, last paragraph on page: The anecdotal information in this paragraph is misleading, especially the statement that "Conservatively, 10,000 to 15,000 miles of snowmobile tracks may be laid on a single winter day." First, there will be a few days (e.g., a sunny Saturday following a recent

snowfall) when many miles of new trail will be created (much of it over old trail); but simply multiplying a theoretical maximum by another theoretical maximum exaggerates the projected cumulative use compared to what actually occurs on a sustained daily basis. Second, the numbers provided in this paragraph imply that most miles of snowmachine travel are over untracked snow – which is often not accurate. Some users, especially families with small children, hunters and trappers make round trips and tend to stick to common trails. Families may be limited by factors including riding ability, machine limitations (i.e., short track), or the ability to maneuver with multiple persons on one machine. Hunters and trappers may be interested in facilitated access for a specific purpose (i.e. checking traps or access to known hunting areas). Many set a track early and continue to use the same trail throughout the season. Other than recognizing a general increase in snowmachine use (as discussed in the next paragraph), we [State of Alaska] urge deletion of the specific reference to the 1994 manager's report.

Response
Our observation of the primary use of snowmachines in alpine areas of the Caribou Hills is that it is not limited to trails. No changes were made to the document.

Resolved: Other (SEE RESPONSE)

Comment 66

Page 3-127, second paragraph on page: We [State of Alaska] request the units of measurement in the text match the study data. Figure 3-25 on page 3-127 refers to "detections" or passes, while the text sometimes refers to "snow machines." Since many, if not most, snowmachine trips are round trip, using these data to imply actual numbers of snow machines at given time is inappropriate.

Response
Wildlife do not distinguish between a snowmachine that is making a one way trip or returning on a round trip. A snowmachine passing a sensor is just a snowmachine passing a sensor at that point in time. We did not imply that the number of detections represents the absolute number of snowmachines on those trails; it is the detection rate at a point in time.

Resolved: Other (SEE RESPONSE)

Comment 67

Page 4-161, 4.3.12.1, Biological Environment, Alternative A (Vegetation): The first sentence states this alternative "…would have adverse, medium to long-term impacts…." First, we [State of Alaska] recommend inclusion of the modifier site-specific for this summary statement. A reference to site-specific impacts occurs later in the paragraph but it is unclear if this only applies to areas with inadequate snow cover. Second, we request changing "would" to "could" since there is little more than anecdotal information about snowmachine impacts on the Refuge. These comments also apply to corresponding discussions in the other alternatives. We also recommend a caveat (perhaps a new fourth sentence) that in light of the lack of Refuge-specific impact data, this analysis is based on general Refuge observations and studies in other areas.

Response
The text does not quantify the amount of expected damage, which would require empirical data; it makes logical cause and effect statements such as running over an exposed tree will result in damage and/or mortality.

Resolved: Other (SEE RESPONSE)

Comment 68

Page 4-162, last sentence in first partial paragraph: We [State of Alaska] request a more relevant statement consistent with the context, such as: "Impacts resulting from such dispersed activity would be less intense, but more widespread, than repeated use along existing trails."

Response
The requested change was made.

Resolved: Other (SEE RESPONSE)

Comment 69

Page 4-162, Alternative B (Vegetation): The variations among the alternatives are not adequately explained in this analysis. Impacts of snowmachine use across the board are labeled as "similar" and acknowledged differences are not adequately addressed. For example, it is inaccurate to say that Alternative B would have similar impacts as Alternative A, especially since the rest of the sentence discusses studies and potential management actions that would presumably reduce these impacts. Impacts would indeed be similar while studies were underway, but the situation could change substantially, perhaps leading to fewer long-term impacts. Since both Alternative B and the Preferred Alternative (E) rely on these studies and subsequent management actions as distinguishing features, these components of the proposal need greater recognition in the context of this chapter, even though they are admittedly speculative and theoretical. (Alternative D, by contrast, does a better job of summarizing the distinguishing features of this alternative.) To assist in revising this discussion of Vegetation for Alternatives B and E, the following suggested language is one way to address our concern: "Until studies are completed and appropriate management actions taken, the impacts would be similar to Alternative A; however; long-term impacts are likely to be reduced as a result of mitigation measures implemented following the studies." This comment also applies to page 4-164, Alternative B (Wildlife); page 4-165, Alternative E (Wildlife); page 4-166, Alternative B (Recreation); page 4-168, Alternative E (Recreation); and page 4-169, Alternative B; and page 4-170, Alternative E (Wilderness Values).

Response
We have reviewed the environmental consequences statements for alternatives described for snowmachine access and have found them accurate. We state that the impacts would be similar under both alternatives A and B although studies could lead to different management actions that could affect the duration, intensity, and scale of identified impacts. This is not a given, however, and the opposite could be equally true.

Resolved: Other (SEE RESPONSE)

Comment 70

Page 4-163, Alternative A (Wildlife): As with the Vegetation analysis, we are concerned about use of the word "would" in the first summary sentence. We [State of Alaska] do not see evidence at this time that indicates wildlife populations are threatened by snowmachine use. We acknowledge that increased use could, over time, have adverse impacts; but this is sufficiently speculative that using a definitive word such as "would" is inappropriate in this context. The paragraph also sometimes confuses impacts on individual animals with population impacts in general. For example, the fourth sentence would be more accurate if phrased "At the site-specific scale, impacts could be major on individual animals when and where snowmachine-wildlife encounters occur." General statements about wildlife impacts should be tied to population-level effects. Certainly not all such encounters have negative consequences, nor are encounters defined. In the next sentence, we recommend simply deleting the word "would" to indicate these are examples of impacts, not that encounters always result in these impacts. In the following sentence regarding small mammals, we request

changing "would" to "could" to avoid implying that passage of snow machines always results in their mortality.

We also question the prominent billing of "intentional harassment" as an impact topic. As written the discussion implies such harassment is commonplace, which is unnecessarily inflammatory. Such occurrences are incidental at best and are illegal under both federal and state regulations, and therefore a law enforcement issue. We recommend rephrasing as follows: "…impacts would result from unintentional disturbance due to snowmachine use or occasionally from illegal intentional harassment." In addition, the impacts noted in the last sentence at the bottom of the page are also not substantiated by source data in Affected Environment; therefore, we request changing "would" to "could" or deleting the sentence.

Response
We agree that "could" may be a more appropriate description of impacts were it not for the assumptions made immediately prior to the projected environmental consequences of Alternative A, and the fact that this analysis is for projected impacts. Given the assumptions and format, however, we believe the word "would" is appropriately used.

Resolved: Other (SEE RESPONSE)

Comment 71

Page 4-164, Alternative A (Wildlife): The last sentence under Alternative A communicates a bias in favor of primitive (non-motorized) means of access. We [State of Alaska] found relatively few references to possible impacts of non-motorized activities on wildlife, even though skiers and dog mushers, for example, can also disturb wildlife. While non-motorized disturbances may not reach a level of population impacts, the absence of discussion compared to the detailed accounting of possible impacts from motorized forms of access that are also of less-than-population-scale affects.

Resolved: Comment acknowledged; does not provide new information

Comment 72

Page 4-164, Snowmachine Use, last paragraph of Alternative A (Wildlife): This section notes: "…beneficial, long-term impacts on wildlife would be expected due to management prescriptions that do not allow snowmachine use…" Drawing this type of generalized conclusion is premature before recommended studies are initiated.

Response
There are numerous studies related to negative impacts of snowmachines to plants, wildlife, and the release of environmental pollutants. We are unaware of any studies that conclude that snowmachine activities are beneficial to wildlife, though we are aware of a few examples where this could be the case. In total, however, we believe it is reasonable to conclude from the published literature that wildlife overall would benefit from management that precludes snowmachine use. However, this alone is not reason to preclude snowmachine use. We believe it important for new studies to look at thresholds for wildlife tolerance of impacts and ways to mitigate impacts, rather on trying to determine if such impacts exist.

Resolved: Other (SEE RESPONSE)

Comment 73

Page 4-166, 4.3.12.2, Human Environment, Alternative A: Generally, this impact analysis regarding recreation appears to be oriented primarily around the negative impacts that snow machines have on non-motorized visitors, implying an assumption that snowmachine visitors have less value than non-motorized visitors. This section does not address that snow machines provide beneficial recreational access to portions of the Refuge that would otherwise be inaccessible for many Refuge visitors. For example, Alternative A on page 4-166 says "major impacts would be expected at the refuge-wide scale when inadequate snow conditions exist and snowmachine use is not allowed." Does this mean major adverse impacts to snowmachine travelers who can't get to favored riding areas, or major beneficial impacts to non-motorized travelers, some of whom prefer to avoid snow machines? The subsequent sentence, which also inappropriately combines wilderness values with recreation, illustrated the Refuge is orienting the analysis only from the perspective of the non-motorized visitor. Also, there is no recognition in this analysis that at least some snowmachine users value wilderness attributes in the same way as those accessing the Refuge by airplane (see first assumption on pages 4-142 and 4-158).

Use of "recreation opportunity settings" is also confusing. They are broadly defined on page 4-165 and elsewhere in Chapter 4, but how they apply in the context of the impact analysis is not clear. If recreation opportunity settings are used to measure and document how the Plan provides for a diversity of recreational experiences, this is not explicit. Also, if 63% of the Refuge is open to snowmachine use only with adequate snow cover, this means at least 37% of the Refuge is closed at any given point in time, providing ample opportunity for those seeking non-motorized winter recreation.

Resolved: Comment acknowledged; does not provide new information

Comment 74

Page 4-166, Alternative A, second paragraph, last sentence: The TRAFX study apparently referenced here is used inappropriately in this context. These data were gathered on groomed trails off-Refuge and cannot be presumed to apply to trails on Refuge lands. It is also inappropriate to take site-specific trailhead data (even if it were on the Refuge) and extrapolate that to an entire "popular use area (e.g. Caribou Hills)." The current assertion does not recognize that snowmachine use obviously disperses as it moves farther into the Refuge.

Response
The sentence refers to an "established snowmachine trail" and does not extrapolate to other areas.

Resolved: Other (SEE RESPONSE)

Comment 75

Page 4-167, Alternative C, second paragraph, third sentence: We [State of Alaska] request the following revision: "When snowmachine use is allowed, visitors at popular use areas (e.g., Caribou Hills) may encounter other snowmachine users…throughout the day." To imply that all such users would always have these encounters is clearly not true, especially over such a broad area and across an entire season.

Response
It is already uncommon not to see other users, and virtually impossible not to see evidence of other users, (unless you are the first to enter the area after a recent snowfall) while riding a snowmachine in the Caribou Hills for a day.

Resolved: Other (SEE RESPONSE)

Comment 76

Page 2-33, Mystery Creek Road and Pipeline Corridor: This section states that bicycles will be allowed 2 months longer than vehicles, which is not currently allowed under 50 CFR 36.39. We [State of Alaska] would conceptually support a revision of this regulation during the implementation phase.

Resolved: Comment acknowledged; does not provide new information

Comment 77

Page 2-33, Ski Hill Road: The Refuge cannot implement much of the intended management direction unless and until the Refuge acquires jurisdiction over the road. To address this comment, we [State of Alaska] suggest revising the first sentence of the Ski Hill Road management direction as follows: "The Refuge would assume management and maintenance of the Ski Hill Road upon transfer from the State to the Service." This comment also applies to Alternative C (page 2-50), Alternative D (page 2-67) and Alternative E (page 2-85). Correspondingly, for page 2-101 on Table 2-12, we recommend starting the summary descriptions of Alternatives C & D with "Management and maintenance conducted by the Service."

Response
The Service owns most of the land where Ski Hill Road exists and has granted a perpetual easement to the State for its operation and maintenance of the road as a State highway. Much of the annual maintenance of the road (plowing and grading) is done by the Refuge, though we are unable to obtain funds to cover these expenses as long as the State has maintenance responsibilities. We have identified public safety concerns with the road and have asked the State to consider relinquishment of the easement so that the Service could request funds for modifications and maintenance. The preferred alternative includes how the Refuge proposes to address the public safety concern. The Refuge cannot implement the preferred alternative alone, but it could accomplish it by the State returning the easement to the Service, or by special State action that allows the Service to do the proposed work, or have the State conduct the work. We understand that legislative action may be necessary for options other than easement relinquishment.

Resolved: Other (SEE RESPONSE)

Comment 78

Page 2-86, Trail Maintenance and Planning: We [State of Alaska] suggest noting that Refuge decisions about new trails will be consistent with the intent of the Kenai Peninsula Brown Bear Conservation Strategy (see page 12, Hiking Trails and Trail Management). Finally, we request clarification that the assessment will include public involvement. See also our comment for page 2-101.

Response
We agree.

Resolved: Other (SEE RESPONSE)

Comment 79

Page 2-88, Airplane Access to Chickaloon Flats: We [State of Alaska] support the Refuge's intent to increase safe and practical access for aircraft in the Chickaloon Flats area. Current designated landing areas are inadequate and poorly sited to provide for safe and reasonable access desired by the flying public to support outdoor recreational activities. We will be interested in reviewing public comments from those familiar with the area regarding any additional information concerning landing areas and the mapped boundary. If the proposed landing areas do not provide the desired access for aircraft and/or if additional adjustments prove necessary in the future, we recommend that they be

further discussed during the proposed update of the Chickaloon Flats Management Agreement. We also suggest the Plan clarify the term "unvegetated" and define it to mean generally free of vegetation except for occasional grasses or sedges. Clarification of the intended enforcement standard may also help users who need to make judgment calls from the air. Depending on the intent, the term "generally unvegetated" may be more realistic.

Response
We understand the concern over sparse vegetation in the proposed new landing areas. Any new regulation will describe a physical area or zone and will not be dependent upon the areas within that zone being completely void of vegetation.

Resolved: Other (SEE RESPONSE)

Comment 80

Page 2-97, Use of Fire as a Management Tool: On this issue, we [State of Alaska] support selection of the preferred alternative on the basis that it provides sufficient discretion to use both prescribed and wildland fire to achieve management objectives. Regarding wildland fire, the Alaska Wildland Fire Coordinating Group is updating the Alaska Interagency Wildland Fire Management Plan (AIWFMP) to similarly reflect more recent policy, increase management flexibility, and provide better implementation direction. We also appreciate recognition of the roles of climate change and deliberate alteration of natural processes through means such as fire suppression in influencing wildlife distribution, including both range expansions and reductions (pages 3-49 and 3-50). Such long-term and often unpredictable changes raise questions about selective application of Service policy emphasizing present and historic levels of diversity. We appreciate that the Refuge recognizes this dilemma and find the discussion particularly enlightened. We also support the intent to manage forest fuels to facilitate protection of adjacent private lands and refuge structures. These measures provide more latitude to manage wildland fires to meet land and resource objectives while minimizing concerns about public safety and property loss.

Resolved: Comment acknowledged; does not provide new information

Comment 81

Page 2-101, Trail Maintenance and Planning: We [State of Alaska] trust the preferred alternative intends to consider the construction of new trails in the needs assessment referenced under Alternative A. If so – and we support such an intent – we request the final preferred alternative clarify this by adding the first sentence from Alternative A. This comment also applies to page 2-86.

Response
We agree and have made this change to the preferred alternative.

Resolved: Alternative modified or new alt developed (SEE RESPONSE)

Comment 82

Page 2-105, Middle Kenai River: We [State of Alaska] understand the intent to work with stakeholders concerning management of the Middle Kenai River. Many of the issues are similar to those of the Upper Kenai River, including concerns for crowding, habitat impacts, and levels of guided use. As the Refuge develops this planning process we request consideration of the specific impacts that may occur with displacement of anglers to other areas of South Central, including the Kenai Peninsula, and for the sustainability of affected fish and fisheries resources. We also request that, consistent with the intent of the MMOU, the process utilize the State's regulatory system to the greatest extent possible and to coordinate efforts with KRSMA where applicable.

Resolved: Comment acknowledged; does not provide new information

Comment 83

Page 2-109, 2.2.1 Refuge Purpose (i): Because the State and other agencies have management authorities that may affect the Refuge, we request this section include the following paragraph, which is from the Kanuti CCP, page 2-19, fifth paragraph:

Cooperation with State and Federal agencies and other organizations is a critical component to successfully meeting most of the objectives listed below. This cooperation can take a variety of forms, ranging from reviewing and revising study plans and reports to cooperating on data collection and report completion.

Response
We strongly agree with the general statement and have added the first recommended sentence immediately following the goal statement.

Resolved: Other (SEE RESPONSE)

Comment 84

Page 2-109, Objective 1.1: We [State of Alaska] recommend reviewing the current sampling plots to ensure that they are providing useable data. It is possible that the Swanson River site may be impacted by legal hunting and may not be providing representative results.

Response
Legal hunting has and continues to be an acceptable variable within Refuge monitoring and research programs.

Resolved: Other (SEE RESPONSE)

Comment 85

Page 2-114, Objective 1.18: In addition to the Long-Term Ecological Monitoring Program (LTEMP) process, we [State of Alaska] encourage the Refuge to utilize already existing data sets. Generally, fish distributions are less or more diverse than can be detected through the described LTEMP strategy. Extensive data relative to the presence of anadromous fish is readily available in the State of Alaska Anadromous Fish Catalog.

Response
LTEMP is better suited to monitor some species than others. The Refuge is developing a relational data base that includes valid information on Refuge resources that can be used with as much site-specific detail that is available. LTEMP information is just one set of data to be included in this data base.

Resolved: Other (SEE RESPONSE)

Comment 86

Page 2-113, Objective 1.12: Please update the rationale for this objective based on more recent information. The Upper Kenai River is no longer a catch and release fishery for rainbow trout. Since 2005, a very conservative harvest opportunity of one fish per day at less than 16 inches is allowed. The current levels of harvest (fish caught and retained) are low relative to abundance, but the most recent catch (fish caught but released) estimates exceed 100,000. Changes in fisheries and data

acquired in recent studies by the federal subsistence program should also be reflected, as well as harvests on sensitive stocks authorized by the federal subsistence program. The last population assessment was conducted by ADF&G in 2001 and current information is desired to gauge the effects of the new conservative harvest regulations. Conducting such a project, as outlined in the objective, is a priority of ADF&G and will likely occur within the next five years. As on other fishery-related research projects, ADF&G would welcome the cooperation of the Service. We [State of Alaska] request the rationale recognize the study will likely be a cooperative effort led by ADF&G.

Response
We have updated the rationale. Fishing regulations have changed for this area since the draft revised CCP goals and objectives were initially drafted.

Resolved: Other (SEE RESPONSE)

Comment 87

Page 2-117, Objective 2.2: We [State of Alaska] appreciate the reference to "cooperative" efforts, though we are unsure what "unilateral" means in this context. If understood correctly, we suggest that "unilateral" be changed to "independent" for tone purposes.

Response
We have changed the word as requested.

Resolved: Other (SEE RESPONSE)

Comment 88

We [State of Alaska] suggest providing more meaningful targets for long term guidance, for example – restoring100 feet of river bank per year. We also request expanding this objective to cooperatively address management of human waste, particularly from the Russian River to Jim's Landing, where human waste and associated impacts (i.e., toilet paper) are common. There are no waste facilities to address the extensive amount of use at this popular fishing area. We recognize it is more difficult to install a waste facility in designated Wilderness and in the presence of archaeological sites; however, the state departments of Natural Resources and Environmental Conservation would like to work cooperatively with the Refuge to address the issue.

Response
While we wish to continue and expand our efforts to address riverbank degradation issues when and where they occur, we do not currently have significant areas in need of restoration actions. We welcome cooperation and advice from ADNR and ADEC to address human waste issues. We changed the objective to indicate it includes addressing human waste.

Resolved: Other (SEE RESPONSE)

Comment 89

Page 2-117, Objective 2.1, Rationale: ANILCA 303(4) (b) states "The purposes, for which the Kenai National Wildlife Refuge is established and shall be managed, include…" We [State of Alaska] therefore recommend this revision: "The Refuge's purposes include…".

Response
In reading the ANILCA purposes in full context it is clear that an established hierarchy is directed. It is accurate to identify the Refuge purpose to conserve fish and wildlife populations in their natural diversity as a primary purpose. Since the established purpose to fulfill the international treaty obligations of the United States with respect to fish and wildlife and habitats, is also given without

qualification, it too is considered a primary purpose and we have changed the text to read "A Refuge primary purpose ...".

Resolved: Other (SEE RESPONSE)

Comment 90

Page 2-123, Objectives 3.1: For scientific clarity, we recommend the following revision:

"Continue and expand research on abnormal wood frogs to understand the potential cause(s) of their abnormalities" It may not be realistic to assume an exact cause will be identified.

Response
The requested change has been made.

Resolved: Other (SEE RESPONSE)

Comment 91

Page 2-124, Objective 3.2: We [State of Alaska] recommend a similar revision: "Continue and expand research on bill anomalies found in local bird populations to understand the potential cause(s) of their abnormalities.

Response
The requested change has been made.

Resolved: Other (SEE RESPONSE)

Comment 92

Page 2-124, Objective 3.4, and last sentence of Rationale: While we do not question the basic intent of this objective, "ensuring" that ecological integrity "is not compromised" may be unrealistic. We [State of Alaska] recommend an alternative such as "protecting the ecological integrity."

Response
The requested change was made.

Resolved: Other (SEE RESPONSE)

Comment 93

Page 2-137, Objective 6.2.7: Because of the differing responsibilities of the land and wildlife management agencies in the area and the potential for this objective to result in land use changes, we [State of Alaska] recommend the Refuge invite the participation of other interested agencies.

Response
We agree.

Resolved: Other (SEE RESPONSE)

Comment 94

Page 2-140, Objective 7.8: Inclusion of the term "wilderness safety topics" seems to imply that the only safety to be discussed would be that of safety in designated Wilderness; it may be more appropriate to accommodate all aspects of off-road safety, such as "backcountry safety."

Response
The recommended change has been made.

Resolved: Other (SEE RESPONSE)

Comment 95

Page 2-149, Table 2-13, Habitat Management (Mechanical Treatment): The restrictions referenced in the "Comments" column are not explained in the previous column. We [State of Alaska] suggest the column for the action alternatives note that modifications will no longer be made to facilitate increases in target wildlife populations (assuming that is the potential restriction).

Response
The language change from the status quo (old Kenai CCP) to the new regional template language states that the activities "may be allowed" in Intensive and Moderate management Areas vs. "is permitted". This change means that modifications to habitats may be allowed to facilitate increases in target wildlife populations and for other reasons. Any habitat modifications must meet refuge purposes, goals and objectives of this plan, and other Service legal and policy requirements.

Resolved: Other (SEE RESPONSE)

Comment 96

Page 2-157, Table 2-13, Helicopter Air Taxis: We [State of Alaska] request adding the word "generally" before" not allowed" to account for possible mandated exceptions (such as search and rescue) as described in more detail in 1.3.11.3 on page C-28.

Response
We may authorize helicopter operations (but not general air taxis operations) in Wilderness under certain circumstances, including search and rescue activities.

Resolved: Other (SEE RESPONSE)

Comment 97

Page 3-4, second full sentence, top of the page: The acreage listed for state-selected lands as well as Figure 3.1 may be incorrect. In particular, approximately 3,400 of the state-selected acres noted on the map were rejected. Also additional state selections in the Refuge are not highlighted (e.g., S006N011W). We [State of Alaska] understand that changes in land status occur frequently; however, we recommend including the most current information in the final Plan.

Response
We have used the most current data available and indicated how we calculate acreage.

Resolved: Other (SEE RESPONSE)

Comment 98

Page 3-145 through 3-146, 3.4.6.6 Subsistence: We [State of Alaska] request modification of the third sentence to recognize the State also provides a subsistence harvest: "The Federal subsistence program began in 1990 and since has evolved to provide opportunities for subsistence use of fish and wildlife on Federal public lands in Alaska for qualified rural residents in addition to the State's provisions for subsistence on all lands except designated non-subsistence use areas." The discussions on federal subsistence permits and harvests of fish also needs to be updated since the 2008 fisheries data already available shows significant increases in both participation and harvests of sensitive fish stocks.

Response
We have updated this section to include 2008 harvest data. We have clarified some language about the Federal Subsistence Management Program.

Resolved: Other (SEE RESPONSE)

Comment 99

Page 3-157, Opportunities for Primitive Recreation, second sentence: This unit is not in designated Wilderness nor closed by regulation to all motorized access. We [State of Alaska] recommend rephrasing a portion of this sentence as follows: "…various forms of motorized access to this unit are either not authorized or limited by terrain."

Response
We have made the change requested.

Resolved: Other (SEE RESPONSE)

Comment 100

Page 3-97 thru 3-99, 3.3.8.8: Chronic wasting disease, West Nile Virus, and Hantavirus appear unlikely to seriously threaten the Refuge, therefore this level of detail is unnecessary and misleading. We [State of Alaska] recommend confining the section to the opening paragraph on page 3-97, which provides an effective and contextually-appropriate summary for the Kenai region.

Response
We believe it appropriate to briefly discuss what is known about some of the serious wildlife diseases that are important elsewhere, and could, under the right circumstances travel to Southcentral Alaska and the Refuge. We do not predict how likely such diseases may arise in the foreseeable future, but understand that they are not outside the realm of possibility.

Resolved: Other (SEE RESPONSE)

Comment 101

Chapter Four, General Comment: We [State of Alaska] are concerned about overuse of "would" when "could" is often more appropriate. Much of the analysis is, by definition, speculative to varying degrees. "Would" conveys a highly definitive conclusion and should therefore be used more judiciously in projecting outcomes. Perhaps some internal criteria could be developed for more appropriate usage of would and could. We have itemized some more notable examples (e.g., on pages 4-161 and 4-163) but we suggest a more comprehensive reevaluation throughout the chapter, especially since some of these discussions may be used in subsequent NEPA documents in the future.

Resolved: Comment acknowledged; does not provide new information

Comment 102

Pages 4-21 to 4-43, Swanson River Oil and Gas Unit: For Swanson River Oil and Gas Units, analysis of activities during the life of the project need to be limited to management strategies within the jurisdiction of the Service and actions proposed in the alternatives. For example, instead of focusing on impacts of existing projects and infrastructure, the discussion on exploration, development and production needs to focus on refuge management of these activities, such as leasing and annual project reviews. By comparison, the discussions that address restoration efforts during the life of the project are a good example of management actions within the scope of the plan that are appropriately addressed. This comment also applies to the discussion of the Swanson River Unit on pages 4-43 to 4-51, and corresponding discussions of Beaver Creek.

Response
Under the National Environmental Policy Act regulations, we are required to consider cumulative effects of reasonably foreseeable actions, not only the effects of our actions. A discussion of the full range of impacts is important to understanding potential future remediation requirements and current and future management options.

Resolved: Other (SEE RESPONSE)

Comment 103

Page 4-34, Alternative B, second paragraph: Please recognize there will be major adverse long-term impacts to overall recreation access from removal and restoration of all roads and no trail development. Even though primitive recreation will benefit, there are more opportunities for that type of recreation Refuge-wide than other types. This also applies to page 4-34, Alternative C, second paragraph; page 4-49, Beaver Creek, Alternative C; and page 4-49, Beaver Creek, Alternative B.

Response
We spoke to moderate impacts at a local scale and major at a site-specific scale (referencing removal and restoration of facilities). Additionally, since the internal oil field roads and facilities are closed to vehicular access for recreational use currently, the impact to recreational users if the roads were removed is only moderately greater than the status quo.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Chapter 4, Restoration Activities During and After the Life of the Project, Alternative B

Comment 104

Pages 4-71 through 4-75, Alternatives B, C and E: We [State of Alaska] request the analyses for impacts to recreation need to address the addition of a registration requirement, as on page 4-83, Alternative C, Public Use During the Life of the Project, first paragraph, last sentence (wilderness values).

Response
We have added the same statement to Alternative B (and E) as used for C.

Resolved: Other (SEE RESPONSE)

Comment 105

Page 4-72, Alternative B, Public Use During the Life of the Project, last sentence of top carryover paragraph: This assessment makes or implies unconfirmed assumptions. Please clarify that:

- not all horseback, pedestrian or bicycle users avoid areas with limited motorized use;

- bicycles do not always disturb horseback and pedestrian users;

- an increase in public vehicular use of 1 month and 14 miles will not necessarily result in a substantial displacement of non-motorized users.

Response
We predicted a substantial change in proportion and total number of users, but recognize this does not apply to all users.

Resolved: Other (SEE RESPONSE)

Comment 106

Page 6-3, 6.2.10 Skilak Wildlife Recreation Area Management Plan: This section states there are no plans to revise the Skilak plan at this time. Yet at the 2007 Board of Game meeting that implemented the Skilak area youth firearm hunt, the Service committed to considering cooperative evaluation of the youth hunt and the Board's opening additional hunting opportunities, either through an expanded youth hunt or with additional adult firearm use – if requested by the public during the review of this draft Plan. We [State of Alaska] therefore request referencing the intent to work cooperatively with ADF&G to evaluate last year's youth hunt and consider working with the Board of Game in providing additional hunting opportunity, consistent with the Refuge Improvement Act's direction to provide priority wildlife-dependent recreation.

Response
Many changes to the hunting program within the Skilak Wildlife Recreation Area would likely require amendments to the Skilak Wildlife Recreation Area Revised Final Management Plan (Skilak Plan) which was completed in May 2007. The Skilak plan was completed with the input from ADF&G and revised once before finalized to accommodate Board of Game actions. We will evaluate future requests from ADF&G or the Board of Game regarding revisions to the Skilak plan but prefer to not to revisit this plan until it has been in place for awhile.

Resolved: Other (SEE RESPONSE)

Comment 107

Appendix C-14, 1.3.6.4, first paragraph, first sentence; and, last paragraph, second to last sentence: Two substantive words were deleted from this language, which was carefully crafted by the Regional Office to be mutually acceptable to both the Service and the State. We urge these words be reinserted into the final Plan, as shown. 1st sentence: Where the United States holds title to submerged lands beneath waters within the Kenai National Wildlife Refuge (Refuge), the Service has jurisdiction over certain activities on the water. 2nd to last sentence: Where waterbodies are non-navigable within these ANILCA additions, the Service has management authority over most activities on water where adjacent uplands are federally owned (Refuge lands.) The Service does not have absolute jurisdiction on all activities on water bodies within the refuge as implied, even where submerged lands are federally owned. For example, even when the bed of the waterbody is not state-owned, regulations under ADF&G and the Department of Environmental Conservation still apply.

Response
State rules and regulations apply everywhere on the Refuge unless they conflict with Federal law or regulations. The jurisdiction over waters within Kenai National Wildlife Refuge is shared similar to

lands; however, the Refuge claims ownership over the lands and waters within it boundaries and ultimately has preemptory authority over State rules that would conflict with Refuge purposes. The third and fourth paragraphs of this section have been revised in response to these comments; though we were unable to make all the changes the State requested on the advice of the Regional Solicitor's Office.

Resolved: Other (SEE RESPONSE)

Comment 108

Appendix C-46 through C-59, first footnote: We [State of Alaska] do not object to the intent of this footnote, but we do object to the wording. The original footnote from the Regional Management Direction was carefully crafted and eventually accepted by both the State and the Service as "subject to a minimum requirements analysis." The substantive modification to this wording in the Kenai Plan ("All activities in designated Wilderness will be subject to a minimum requirements analysis") is misleading, at best. For example, use of "All activities" may lead readers to incorrectly believe that literally all activities need a minimum requirements analysis, including public activities. Furthermore, there is no Refuge-specific rationale for this language modification. We urge that the final Plan revert to the original, mutually acceptable wording.

Response
The footnote only applies to those activities requiring a minimum requirements analysis and has been changed to say, "subject to minimum requirements analysis."

Resolved: Other (SEE RESPONSE)

Comment 109

Appendix D, Draft Proposed Regulations: We [State of Alaska] appreciate presentation of possible regulations to illustrate how some of the proposed management direction will ultimately be implemented. With one exception, below, we will wait to comment on the specifics when actual proposed regulations are available. In the meantime, we request that Chapter 6: Implementation and Monitoring explain that regulations are part of the implementation effort and will undergo a formal public review separate from and subsequent to completion of the Plan. We also suggest removing the preliminary draft regulations from the final Plan unless they are at least updated to reflect the final decisions in the Plan. If not updated, then we request that they not appear in the final Plan to avoid confusion.

Response
We have added a discussion about regulation development and have removed Appendix D from the final plan. A separate regulation process will follow and there will be ample opportunity for public review and comment.

Resolved: Other (SEE RESPONSE)

Comment 110

Appendix D, (xiii) Natural Resource Collection: We [State of Alaska] appreciate the intent of this regulation; however, amending 50 CFR 36 to allow these uses by regulation is unnecessary, except for limits on antler collection. Recreational activities on wildlife refuges in Alaska are authorized as long as they are compatible with refuge purposes, according to both the Refuge Improvement Act and 50 CFR 36.31. In August of 1994, the Refuge made a compatibility determination regarding the personal collection of natural resources, including berry picking, finding it compatible. Other refuges, such as Kanuti, Innoko, Izembek, Togiak, Koyukuk/Nowitna, and Kodiak, have also approved this use

subject to a compatibility determination alone (and, in some cases, inclusion in their CCP). We recommend the Refuge adhere to this same approach, using approval through the compatibility determination process, which would maintain a statewide consistency for authorizing compatible public use. As noted above, the only facet of this regulation that may be interpreted as requiring an amendment to 50 CFR 36 is the stipulation that only "eight naturally-shed moose or caribou antlers" are allowed annually per person, because this is a regulation that limits a compatible public use. No additional action is needed because edible plant collection is unlimited under 50 CFR 36.31(a), and determined to be compatible subject to public notice pursuant to 50 CFR 25.31. Therefore, the Refuge may be unnecessarily developing a regulation where none is needed and setting an inappropriate precedent that other refuges may feel compelled to follow. If the Service believes that a regulation is preferable, then we recommend a regional rule to avoid casting doubt on the compatibility approach used by other refuges. We also request that the rule clarify the general applicability of 50 CFR 36.31(a) to avoid expansion of this regulatory approach to other compatible recreational uses on Alaska refuges.

Response
A general regulation is necessary to authorize the removal of natural objects from Refuges unless specific permits are issued. Many types of "removal" are already authorized; however, the collection activities referenced in the draft Kenai revised CCP require regulatory authorization to be legal. This is recognized as a statewide issue (all Alaska refuges) and will be addressed accordingly. We are unaware of any similar issues that require attention at this time.

Resolved: Other (SEE RESPONSE)

Comment 111

Appendix E 1.3, Claimed RS 2477 Rights-of-Way: Please update this appendix to be consistent with the revised regional Management Policies and Guidelines.

Response
The requested change was made.

Resolved: Other (SEE RESPONSE)

Letter 17

Respondent: Ethan Schutt
Organization: Cook Inlet Region Inc

Comment 1

CIRI [Cook Inlet Region, Inc] agrees with the U.S. Fish and Wildlife Service that Preferred Alternative E provides the most reasonable balance of requirements for dismantlement, restoration and reclamation of oil and gas activities in the Refuge, but only subject to the comments set forth in this letter.

Resolved: Comment acknowledged; does not provide new information

Comment 2

CIRI [Cook Inlet Region, Inc] is one of the twelve Alaska-based regional corporations established by Congress under the terms of the Alaska Native Claims Settlement Act of 1971 ("ANCSA"). The company, which is headquartered in Anchorage, Alaska, is owned by approximately 7,500 Alaska Native Shareholders and holds significant surface and subsurface land resources throughout the Cook Inlet area. Particularly relevant to these comments, CIRI owns 186,380 acres of the subsurface within the Plan area (see Plan at sec. 3.2.4.8). Consequently, CIRI's interests are directly affected by surface use restrictions that impact CIRI's subsurface development rights.

Resolved: Comment acknowledged; does not provide new information

Comment 3

Globally, as a significant issue of importance to CIRI [Cook Inlet Region, Inc] shareholders and other Alaska Natives, CIRI approves of the Plan alternative that provides access to the harvest of berries, mushrooms, other edible plants and harvest of some naturally shed antlers. CIRI certainly supports and agrees with this change from the current management plan (Alternative A), which does not provide any personal harvest opportunities.

Resolved: Comment acknowledged; does not provide new information

Comment 4

CIRI's [Cook Inlet Region, Inc] primary concern pertain to the Draft Plan's insufficient acknowledgement of the existence of Oil and Gas (O and G) exploration and production rights and interests within the Refuge, including the importance of these activities to state and local economies. While CIRI recognizes the importance of effective management and utilization of resources within the Cook Inlet area, and hopes to work with the Refuge Manager in the future implementation of the Plan, as the owner of significant subsurface estate acreage, CIRI seeks to ensure that any refuge plan accommodates CIRI's vested rights to access and manage it subsurface estate for mineral development. The plan does acknowledge the rights of private subsurface owners throughout the Plan, and CIRI [Cook Inlet Region, Inc] particularly appreciates the Plan's recognition of the importance of the Refuge establishing partnerships with other individuals and entities to assist in meeting its management goals. Indeed, the Plan identifies CIRI as one of many potential partners.

Response
We agree that the plan acknowledges the rights of private subsurface owners and identifies CIRI as a potential partner. We have added an additional statement to the final revised Kenai comprehensive conservation plan that hopefully provides additional clarity on this issue.

Resolved: Other (SEE RESPONSE)

Comment 5

Chapter 2: Alternatives, Goals and Objectives

- Objective 8.3: Facilities (Page 2-142), states that cleanup is to be planned and executed to "the satisfaction of ADEC, BLM, industry and the Refuge." CIRI [Cook Inlet Region, Inc] requests that "subsurface owner" be added to this list.

Response
These are contaminant and clean-up issues which exist on the Federal oil and gas leases within the Refuge where FWS manages the surface and BLM manages the subsurface. CIRI was conveyed some of the subsurface coal, oil, and gas in leases which occur both inside and outside the unit

boundaries of these areas. Clean-up standards for these leases are under the jurisdiction of the agencies named in the objective.

Resolved: Other (SEE RESPONSE)

Comment 6

- 2.1.4 Management Directions Common to All Alternatives, offers the management direction that will be implemented regardless of the Alternative chosen. That section gives reasonable directions under 2.1.4.3 Existing Oil and Gas Units, in requiring industrial facilities to operate pursuant to existing state and federal law. However, 2.1.4.10, Subsurface Entitlements to Minerals, states "Once exploration and/or production ceases, all industrial roads, pipelines, and other related facilities will be completely removed and the area restored." This is problematic to CIRI [Cook Inlet Region, Inc], as there is no requirement for the Refuge Manager to obtain concurrence from subsurface owners as to when "exploration and/or production ceases," since the end of once discreet project does not necessarily end "exploration and/or production." CIRI request that sec. 2.1.4.10 be amended to require the concurrence of subsurface estate owners as to when "exploration and/or production ceases."

Response
"Once exploration and/or production ceases" is on a case-by-case basis, such as the Swanson River Satellites Natural Gas Exploration and Development Project, and not referring to CIRIs overall coal, oil and gas subsurface rights to explore and produce. Regulations under 43 CFR 36.10 require that adequate and feasible access be granted to the owners of valid inholdings for economic and other purposes, subject to reasonable regulation to protect the natural and other values of the refuge. FWS must add terms and conditions to a Title XI Right-of-Way permit under 43 CFR 36.9 that include requirements for restoration, revegetation, and curtailment of erosion of the surface the land. Under Terms and Conditions for Land Consolidation and Management in The Cook Inlet Area, December 10, 1975, it states that "any surface damage caused by the exercise of the rights' herein must be repaired or reclaimed by CIRI, its successors and assigns, as rapidly as practicable without unreasonable interference with the rights of extraction".

Resolved: Other (SEE RESPONSE)

Comment 7

- Chapter [3] appropriately recognizes that exploration and development of the privately owned subsurface minerals within the Refuge are not subject to a Compatibility Determination (Section 3.2.4.8). The chapter also contains a thorough review of reasonably foreseeable subsurface mineral extraction activities, their impacts, and related activities within the Refuge.

Resolved: Comment acknowledged; does not provide new information

Comment 8

- 3.4.3.1 Economy, uses dated information (study used was dated 2004 with most data ending in 2003). Additionally, CIRI [Cook Inlet Region, Inc] agrees with the discussion explaining the declining production, but requests that the section elaborate more fully on ongoing efforts to reinvigorate flagging exploration and production efforts, which could and should reverse the cited trends.

Response
The Refuge used the most up-to-date data at the time of writing. Current predictions still indicate declining production and though industry has been able to tap into a few new production areas, the supply is not keeping up with demand.

Resolved: Other (SEE RESPONSE)

Comment 9

- 3.4.3.1 Employment and Income, recognizes O&G as the "largest source of high-paying jobs in the Borough," but states "Barring significant new investments in production and the current system of again infrastructure, oil and gas income may continue to decline." CIRI [Cook Inlet Region, Inc] believes the Plan and its implementation should facilitate CIRI's exploration and development plans for its O&G interests within the Refuge which could contribute to the reversal of that decline.

Response
The Service has helped facilitate all exploration requests received in recent years (with non-objection from CIRI) and recognizes CIRI's subsurface rights for coal, oil, and gas development within the Refuge boundaries. While industry has not yet fully taken advantage of what is available, it has collected substantial geophysical information and has been able to survey its areas of primary interest in every case. These contemporary seismic surveys, combined with decades of historical work, have covered most portions of the Refuge where petroleum resources are believed to exist. In many cases there has been repeat coverage over areas of special interest. If exploration and development requests are receive from industry, we will continue to work with CIRI and industry to balance development interests with the purposes of the Refuge.

Resolved: Other (SEE RESPONSE)

Comment 10

- 3.4.3.2 Economic Significance of Kenai Refuge within the Kenai Peninsula Borough Economy, does not include O&G activity in the Plan's review of its future economic value while a recently completed study of O&G impacts on the State and Regional economies, available on the AOGA website, shows a much more significant current impact from O&G activity on the Kenai Peninsula Borough (KPB) economy for 2007, with 14.9% of the jobs and 23.6% of the payroll within the KPB attributable to O&G activities.

Response
This section (and referenced report) evaluates the benefits of having the Kenai Refuge within the Kenai Peninsula Borough, that is, its value to recreation, hunting, fishing, outdoor activities, and benefits to commercial operations such as for fisheries, guiding, and wildlife viewing. Oil and gas activities would most likely occur within the borough whether the Refuge was here or not.

Resolved: Other (SEE RESPONSE)

Comment 11

- Chapter [4] provides the general assumption that the life of existing O&G units within the Refuge will extend beyond the life of this Plan and CIRI concurs with this assumption.

Resolved: Comment acknowledged; does not provide new information

Comment 12

- 4.6 Irreversible and irretrievable Commitment of Resources, states "Alternatives A-E would also allow for oil and gas development and production in the Swanson River, Beaver Creek, and Birch Hills oil and gas units on the Refuge during the life of those projects. No additional irreversible commitment of resources is associated with implementation of any of the alternatives proposed in this

Plan." We [Cook Inlet Region, Inc] believe this statement is not correct since the Plan recognizes the right of private owners of mineral interests within the Refuge to explore for, develop and produce the minerals owned outside those existing units.

Response
We agree both with our statement and the comment. There are no additional recognized significant impacts associated with the alternatives in the revised Kenai NWR comprehensive conservation plan, but this does not suggest other activities not covered in this plan may not have future significant impacts on Refuge resources. Cook Inlet Region, Inc. has subsurface rights of access to explore, develop, and transport petroleum resources from a large area of the Refuge. This is acknowledged in the revised plan, but not explored in the alternatives. Any general proposed action would be speculative and would fall outside the complete jurisdiction of the Refuge since these are privately held rights. Refuge involvement in such future development actions would come in protecting the property interests of the United States, and in permitting mitigation measures to lessen surface disturbance where practicable, but not to the degree that the proposed development could be denied, or made uneconomical due to Refuge stipulations. Future NEPA compliance on proposed oil and gas activities to develop Cook Inlet Region, Inc. owned resources may be required, but only when a specific activity is proposed. These types of issues, however, fall outside the scope of the current plan.

Resolved: Other (SEE RESPONSE)

Comment 13

Chapter 7: Consultation and Coordination with Others

- CIRI [Cook Inlet Region, Inc] requests that this chapter mandate that the Refuge Manager obtain concurrence from subsurface owners within the Refuge before actions are taken that could affect access to or development of their mineral interests.

Response
See Appendix C, Section 1.2.5.1, 1.2.5.2, 1.3.6.2, and 1.3.6.3

Resolved: Already addressed in planning documents (SEE CITATION)

Comment 14

Appendix C: Management Direction, Policies and Guidelines

- This Appendix consistently mentions that at the end of O&G exploration, development, or production projects the associated roads and facilities will be removed to varying degrees as determined by the Refuge Manager, consistent with the Plan. For existing units, the Plan recognizes that such facilities are "assets" of the producer, but no recognition is given to the subsurface owner when in fact those same facilities are assets to the subsurface owner. Until the entire area of subsurface in private ownership is fully explored, developed and produced (and ultimately condemned) for minerals, the Refuge Manager should be required to seek the concurrence of the subsurface owners before requiring or implementing actions such as the removal of roads, pads, pipelines, etc., that may be valuable to future exploration and/or production efforts. While CIRI [Cook Inlet Region, Inc] concurs that ultimately the Refuge should be returned as much as possible to its natural state following the end of all O&G activities, it does not want the end of one production program or exploration project to arbitrarily rule the condemnation of all O&G prospectively in its privately owned subsurface with the subsequent taking of its potentially valuable assets.

Response
Though CIRI has coal, oil, and gas interests within the Unitized areas, due to having interests in leases which occur both inside and outside unit boundaries, they have no physical assets on the surface areas. Industry and BLM will determine when a subsurface well is no longer functional or feasible to retain. Industry owns the assets through either paying for their development or buying

them from the previous unit operator. CIRI will be consulted on management actions as described in Appendix C, Section 1.2.5.1, 1.2.5.2, 1.3.6.2, and 1.3.6.3

Resolved: Other (SEE RESPONSE)

Comment 15

CIRI [Cook Inlet Region, Inc] has attempted to conduct a thorough review of the Plan and believes the "Preferred Alternative E" that has been selected appears to provide the most reasonable balance of requirements for dismantlement, restoration and reclamation of oil and gas activities, subject to the revisions we have requested in this letter. We agree with the changes to the personal collection of natural resources (subsistence activities) and support that change as outlined in Alternative E, which presents a reasonable balance focused on the unique and special local needs of those desiring to use the Refuge for personal values and goals as well as the private landowners who desire the ability to develop their subsurface resources.

Resolved: Comment acknowledged; does not provide new information

Comment 16

We believe we are an important stakeholder, particularly with CIRI's [Cook Inlet Region, Inc] current subsurface ownership and potential for additional subsurface acreage to be conveyed within the Refuge.

Resolved: Comment acknowledged; does not provide new information

Letter 18

Respondent: John E Cornley Ph D
Organization: Trumpeter Swan Society

Comment 1

Kenai National Wildlife Refuge provides very important habitat for nesting Trumpeter Swans of the Pacific Coast Population. Therefore, it is very important to us [The Trumpeter Swan Society] that the Kenai NWR CCP addressed swan habitat protection and management.

Resolved: Comment acknowledged; does not provide new information

Comment 2

We [The Trumpeter Swan Society] found a few serious deficiencies in the draft document. The decision to combine the CCP and EIS always results in cumbersome plan. Having separate documents would greatly facilitate the implementation of the CCP once it is completed.

Objectives: Very few of the stated objectives are true, measurable objectives. They are mostly sub-goals that require additional planning and step-down plans to implement successfully.

Objective 4.1: International Treaties. There is no mention of the Pacific Flyway Council or the Pacific Flyway Management Plans. The Pacific Flyway Plan for the Pacific Coast Population of Trumpeter Swans has a number of goals and objectives of relevance to Kenai NWR and one specific task that includes the Kenai NWR staff. Region 7 is a very important partner in the Pacific Flyway. The Flyway partners include Russia, Canada, FWS, and Provincial and State resources agencies.

Response
Our planning policy requires that draft and final plans and environmental impact statements be published as integrated documents. After the Alaska Regional Director signs the record of decision for the final environmental impact statement approving the revised plan, we will publish a "stand-alone" revised plan. This final document will contain the management direction, including the refuge vision, goals, and objectives, and relevant background and supporting information. We estimate it will be less than one-third the size of the final environmental impact statement.
Although a number of the objectives identified in the plan are qualitative in nature and/or broad in scope, the planning team used the Service's Writing Refuge Goals and Objectives Handbook as a reference and feel the majority of the objectives follow the SMART rule-of-thumb (i.e., Specific, Measureable, Achievable, Realistic, and Time-fixed). We reviewed the Pacific Flyway Management Plan for relevant information pertaining to Trumpeter Swans and incorporated information as appropriate in revised international treaty objectives.

Resolved: Other (SEE RESPONSE)

Comment 3

With the exceptions noted below, TTSS [The Trumpeter Swan Society] supports the Preferred Alternative. TTSS [The Trumpeter Swan Society] does not support increased in aircraft access to either Chickaloon Flats or Wilderness. The current access is adequate. Any increase would be detrimental to Trumpeter Swans. In addition, we believe increased access would actually result in a reduction in the quality of waterfowl.

Response
We agree that increased airplane access on some lakes in designated wilderness could adversely impact trumpeter swans. Because of this, we selected status quo management of this activity in designated wilderness. Increased aircraft access to non-vegetated portions of Chickaloon Flats, however, should have negligible impacts to swans so we were able to provide additional access at that locale.

Resolved: Other (SEE RESPONSE)

Comment 4

With the exceptions noted below, TTSS [The Trumpeter Swan Society] supports the Preferred Alternative. TTSS [The Trumpeter Swan Society] does not support improvements on Mystery Creek access road. Improvements would result in increased pressure to maintain the road indefinitely or to improve it even more to the serious detriment to refuge resources.

Response
Alternative E: The Preferred Alternative states "Maintenance...would be conducted...to continue to provide for a backcountry experience. Road improvements would be limited to those necessary for public safety and environmental protection." We envision only adequate maintenance to ensure safe and reasonable use during the life of the pipeline project.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: 4.3.4 Mystery Creek Access Road and Pipeline Corridor

Letter 19

Respondent: Stan Leaphart
Organization: State of Alaska Citizens Advisory Committee on Federal Areas

Comment 1

Aircraft Access in Wilderness

Alternative E, the Preferred Alternative, proposes to maintain the current management action and existing regulatory structure that allows aircraft access to 46 lakes located within designated wilderness. Alternative C would allow aircraft access to an additional 4 lakes and Alternative D would allow aircraft access to an additional 13 lakes within designated wilderness. All alternatives would continue the seasonal prohibition on aircraft access from May 1 to September 30 (September 10 on 2 lakes) on any lake on the refuge where nesting trumpeter swans and/or their broods are present. The aircraft regulations for the Kenai NWR at 50 CFR [section] 36.39(i) (1) were originally promulgated in 1986 primarily to protect nesting and brooding trumpeter swans. At that time it was estimated that only about 30 pair of swans nested on the refuge. The 1985 CCP preferred alternative had established a management objective of 40 pairs of nesting swans on the refuge. The restrictions were an effort to achieve that management objective. The draft revised CCPIEIS (pg. 3-93) states that recent surveys indicate that as many as 50 pairs may be using the refuge. Page 2-3 states that the number of breeding pairs has increased from less than 40 to more than 60 pairs since 1985. Whether the current number of pairs is 50 or 60, clearly the 1985 management objective for swans has been surpassed. While it is obvious that trumpeter swan numbers have increased significantly statewide over the last 20 years, we [Citizens' Advisory Commission] are confused by the following statement in the draft CCP (pg. 3-93): "Evidence suggests that human disturbance on lakes outside the Refuge boundaries is hindering the establishment of new swan pairs. Although the number of nesting trumpeter swans has increased since 1957, the year of the first swan survey, and since the 1985 Plan (approximately 30 pairs), the number of nesting pairs has only increased on lakes within the Refuge (despite decreased habitat availability) and not on lakes outside Refuge boundaries-where it has remained essentially the same. This disparity in population trends inside and outside Refuge administrative boundaries is remarkable given loss of suitable habitat within the Refuge due to land exchanges and climate change". This statement appears to be inconsistent with census data in the Alaska Trumpeter Swan Status Report - 2005 (Conant, et .al. Waterfowl Management, U.S. Fish and Wildlife Service, April 2007). Tables 1 and 2 in that report shows that the 1985 census for the Kenai (Unit 4) was 46 pairs of swans. If the 1985 CCP was correct in stating there were 30 pairs of swans on the refuge, it can be inferred that the remaining 16 pairs were outside refuge boundaries. The 2005 census for the Kenai unit shows 141 pairs. If the d raft CCPIEIS is correct and some 50 to 60 pairs of swans now nest on the refuge, it can be inferred that the remaining 81 to 91 pairs in the Kenai census unit would be outside refuge boundaries. This apparent discrepancy needs to be clarified. It should also be pointed out that during each 5 year census for the Kenai unit; approximately 1500 square miles of habitat both within and outside of the refuge have been surveyed, including those lakes excluded from the refuge due to the land exchange. Even though it is unlikely that every observed pair in a given year represents a successful breeding pair it is apparent that the swan populations in the Kenai census unit, both inside and outside the refuge has increased more than fourfold since 1985.

Response

The year 2005 was indeed a banner year for trumpeter swan productivity throughout Alaska. During the statewide survey productivity survey on the Kenai during 16-22 Aug, the reviewer correctly states that 282 swans were observed as pairs. Of these 141 pairs, 52 were with broods (36%). In mid- to late-August, pairs with broods are the only pairs that we can say with certainty originated from the survey area. Many unsuccessful breeders have already started to move towards early staging areas

for migration southward. A better indicator of actual nesting pairs on the Kenai is based on the early June surveys. In 2005, we recorded 72 pairs on the Kenai during our 1-3 June survey, of which 52 successfully produced broods. The vast majority of these breeding pairs were observed during the June survey within refuge boundaries.

Resolved: Other (SEE RESPONSE)

Comment 2

Our [Citizens' Advisory Commission] review of the information presented in the EIS on the potential environmental consequences of opening additional lakes to aircraft access indicates a somewhat increased but acceptable level of impacts. Opening additional wilderness lakes would be consistent with the statutory purpose of providing opportunities for fish and wildlife oriented recreation, but would not be incompatible with other refuge purposes. We encourage the FWS to modify the preferred alternative to allow an increase in the number of wilderness lakes open to aircraft access.

Response
The Refuge purpose to provide for fish and wildlife oriented recreation opportunities is an important mandate in which the Refuge works hard to achieve - providing a variety of experiences to over one million visitors each year. All of the Refuge purposes are important, but they are given some relative priority to include: first - conserve fish and wildlife populations and habitats in their natural diversity; also, to fulfill international treaty obligations with respect to fish and wildlife and their habitats; to ensure to the maximum extent practicable and in a manner consistent with the first purpose, water quality and quantity; to provide opportunities for scientific research, interpretation, environmental education, and land management training (when consistent with the first two purposes); and to provide in manner compatible with all of the other purposes, opportunities for fish and wildlife-oriented recreation. Implementing all of these purposes requires some balance. The general interest voiced by some aircraft users in the planning process was to maximize landing opportunities without specific requests regarding where or why. We understand this desire, but we do not believe there is substantial reason to manage differently (to impose additional restrictions or relax existing regulations) over current management; therefore we chose the status quo alternative on this issue.

Resolved: Other (SEE RESPONSE)

Comment 3

We [Citizens' Advisory Commission] also encourage the FWS to reconsider its rejection of the earlier proposal to conduct studies on the impacts of aircraft access on swans.

Resolved: Comment acknowledged; does not provide new information

Comment 4

Aircraft Access to Chickaloon Plats

The Commission supports the decision to expand the area in the Chickaloon Flats that would be open to wheeled aircraft access and to allow floatplane access to 6.5 miles of the Chickaloon River. We [Citizen's Advisory Commission] also support continued use of the Big Indian Creek airstrip, but suggest that the preferred alternative be modified to provide regular maintenance for this airstrip. Should the FWS decide not to provide maintenance, volunteer maintenance should be allowed to continue.

Response

We continue to support a larger and better defined area for wheeled aircraft access to the Chickaloon Flats. We also have revised our proposed action to allow for maintenance of the Big Indian Airstrip from time-to time.

Resolved: Other (SEE RESPONSE)

Comment 5

General Aircraft Use and Access

Two sections of the draft revised CCPIEIS, Sec. 3.4.4.3 Airplane Landing Areas and Sec. 4.3.10 Airplane Access to Lakes in Designated Wilderness, contain statements and predictions regarding aircraft use on the Kenai NWR that are not supported by any documentation or references in the document. Further, these statements do not appear to be an accurate portrayal of current use and future predicted aircraft use in this region. The Commission is particularly concerned that the draft CCPEIS contains no supporting documentation for the statement "Although precise estimates for total aircraft using the refuge do not exist, it is commonly accepted that such use is steadily increasing as the resident population on the Kenai Peninsula expands at the rate of approximately 2.5 percent per year" (Sec. 3.4.4.3, page 3-121). "Commonly accepted" and anecdotal information should not be used as the basis for management decisions affecting refuge resources as well as thousands of refuge visitors each year. Additionally, the discussion in this same section attempts to draw a correlation between operations and use levels at the Lake Hood Seaplane Base and a "tremendous amount of airplane use" on the Kenai NWR. In fact, according to the General Aviation Master Plan for Lake Hood Seaplane Base and Anchorage International Airport (ASCG Incorporated of Alaska, 2006), at page 2-5, "Over the last 15 years [[1989 to 2003]], Lake Hood operations have declined by about 2.4 percent per year."

Although the Lake Hood Master Plan (page 2-1 8) goes on to predict a modest increase in the number of operations at Lake Hood of between 0.7 percent and 1.3 percent per year between 2003 and 2023, it also points out (page 2-9) that "Between 1989 and 2003 the number of active pilots per capita [[nationally]] decreased by about 2.5 percent per year-the total number of active pilots in Alaska decreased by 1.2 percent per year while the population in Anchorage grew by about 1.3 percent per year." Finally, the Lake Hood Master Plan (page 2-11) goes on to predict that for Anchorage, due to a number of factors and trends, "the number of active pilots per capita is expected to decrease by about 0.3 percent per year over the forecast period." The prediction is in sharp contrast to the assumption in Sec. 4.3.10 of the CCPEIS that the "anticipated increase in population growth and an aging population for Anchorage and the Kenai would result in a corresponding increase in airplane ownership.

Response
We agree that general comments regarding aircraft use are based on informal observations; however, over time, we believe that use levels for many types of recreation and access are increasing as the general population of south central Alaska increases. This has been true in somewhat of a predictable pattern since the Refuge was established in 1941 and we have no reason to believe that use levels (whether it be snowmachine use, boating, hiking, or aircraft use, etc.) will become less important in the future. Where we don't have precise data on use we must use sound professional judgment. We have no reason to believe that during the life of the CCP (15+ years) that aircraft use of the Refuge will do anything but increase. Of course we might be wrong, but we have no reason to project anything but an increase in use at this time.

Resolved: Other (SEE RESPONSE)

Comment 6

Given the importance of aircraft access to refuge visitors and the potential for impacts, both positive and negative, to refuge resources, the Commission urges the FWS to conduct the necessary studies

or surveys to determine the current level of aircraft use on the refuge. These studies should also take an objective look at current trends and patterns in aircraft use for the region and make realistic projections for future aircraft use on the Kenai NWR.

Response
We agree that this could be a desirable study and establish a current baseline of use; however, we have no resources to devote to such a study at this time.

Resolved: Other (SEE RESPONSE)

Comment 7

The Commission suggests modification of the preferred alternative to adopt the management direction in Alternative D. This alternative would give the refuge manager more flexibility in managing snow-machine use by allowing opening of the refuge based on a determination of adequate snow cover, but without the December 1 to April 30 timeframe.

Response
The dates that form the potential window for allowing snowmachine use on portions of the Refuge (December 1 to April 30) have worked reasonably well for many years. It is relatively rare to find acceptable conditions prior to December 1 and there is substantial risk that when such conditions may occur that they will change again (reducing snow cover) prior to a sustained snow packs. The requested change would add administrative difficulties, could prove more difficult for the public to follow (if we imposed multiple opening and closure actions to address changing conditions) and could increase risk to the public if we were not careful to fully evaluate areas (increased potential of dangerous conditions to cross water bodies and potential collision with partially exposed obstacles). On the closing end, the acceptable date was extended from the end of March to the end of April during the last regulatory adjustment (mid 1980s). This has provided ample opportunity to take advantage of any late snow accumulation for most of the open areas on the Refuge.

Resolved: Other (SEE RESPONSE)

Comment 8

The creation of zones within designated use areas that could be opened or closed depending on local snow conditions, rather than opening or closing the entire refuge would give even greater management flexibility in responding to public use demands.

Response
Current regulations do not limit opening portions of the Refuge to snowmachine use apart from other areas, as long as the times are between December 1 and April 30, and the areas are areas that are otherwise available to be opened. The Refuge has opened the Caribou Hills portion earlier (twice), and many larger lakes (once) in the past 15 years. No changes to the CCP or regulations are necessary in order to continue using this management discretion.

Resolved: Other (SEE RESPONSE)

Comment 9

The Commission [Citizens' Advisory Commission] strongly supports the proposal to conduct studies with stakeholders as a means to evaluate the effects of snow-machine use on refuge resources and to form the basis of future management decisions.

Resolved: Comment acknowledged; does not provide new information

Comment 10

Public Use - Middle Kenai River

The preferred alternative would allow non-guided public use on the Middle Kenai River to continue without restrictions on the number of users until a Limits of Acceptable Change (LAC) planning process is completed with stakeholders, including the State of Alaska. While the LAC process has been used in Alaska (Upper Kenai River Cooperative Plan and Gulkana Wild and Scenic River are two examples) it is not widely known to the general public. It would be beneficial to include an appendix in the final CCP that outlines the key elements of the LAC process and how various organizations, interest groups and the general public can participate in the process.

Response
We have not created a new appendix to describe the LAC process; however, we have added descriptive information about the process so that readers will be able to understand better how it would work.

Resolved: Other (SEE RESPONSE)

Comment 11

The statement (pg. 2-105) that special use permits for sport fishing guides "would be limited to the number of existing permittees, and existing permittees would be 'grandfathered in'" needs clarification. Could new permits be issued if an existing permittee relinquished a permit, so long as the overall number remained the same? Does the number of existing permits form the baseline for the LAC process, or will the final overall number be determined as part of that process? Are the current permittees "grandfathered" in just until the process is completed? If the final number of permits is set through the LAC process and is lower than the current number, will the refuge implement a competitive selection process? We [Citizens' Advisory Commission] realize that these are questions that cannot be answered at this time, but they should be part of a discussion and explanation of the LAC process included in the final CCP/EIS.

Response
The number of permits issued would be capped so that no greater number would be issued. The LAC process was proposed to address general public use and crowding, not administration of commercial use (guided sport fishing permits) although this element could be added to the LAC planning process. Grandfathering in the existing permittees is part of the preferred alternative; however, this would require an amendment to current regulations. New permits could be issued up to the capped number, but a desire may be to reduce the number over time. Such a decision would be made in a separate public process (likely as we propose a regulatory change to allow existing permittees some reasonable grace period (grandfathering) before they would need to compete for future permits once theirs expires. This element of the revised Kenai CCP is not "self implementing". Additional public involvement and regulatory action would be required to implement any of the changes beyond instituting a cap.

Resolved: Other (SEE RESPONSE)

Comment 12

Draft Proposed Regulations

Inclusion of the existing and draft proposed regulations for the Kenai NWR in Appendix D, along with a brief explanation of the regulatory process is appreciated.

Resolved: Comment acknowledged; does not provide new information

Comment 13

It is our experience that the public is not always aware that an implementation of a management plan usually requires additional steps beyond releasing the final plan. Because the time involved in the regulatory revision process, the Commission would suggest that the proposed regulation package be prepared as soon as possible after the selection of the final management alternative and published in the Federal Register as soon as possible following the approval of the Record of Decision for the CCP.

Response
We agree.

Resolved: Other (SEE RESPONSE)

Comment 14

The Commission notes 5 existing and 9 future step down plans for the Kenai NWR scheduled for revision or completion within the next several years. We [Citizens' Advisory Commission] encourage the FWS to continue to provide the public with the opportunity to participate in the development or revision of these plans where appropriate and the opportunity for review and comment in all cases.

Response
We agree.

Resolved: Other (SEE RESPONSE)

Letter 20

Respondent: Jack Hession
Organization: Sierra Club, Alaska Chapter

Comment 1

It is a clearly written document [the Draft Revised Comprehensive Conservation Plan] with excellent maps.

Resolved: Comment acknowledged; does not provide new information

Comment 2

We [Sierra Club Alaska Chapter] recommend the adoption of Alternative E, the Service's Preferred Alternative, with the following modification. Swanson River Oil and Gas Unit roads and related facilities. Amend Alternative E to include Alternative A's provision (Current Management), which calls for removing "most" industrial roads and facilities, and restoring the sites. Alternative E would remove only "some" industrial roads and facilities, and restore the sites.

Response
The difference between Alternative A and E is that Alternative A removes "most" roads and Alternative E removes "some" roads. There is no difference between Alternative A and E as far as

removal of facilities go; both alternatives remove "most" facilities. We appreciate the recommendation and will strive to develop long-term restoration actions for the majority of the areas currently leased for oil and gas development.

Resolved: Other (SEE RESPONSE)

Comment 3

We [Sierra Club Alaska Chapter] recommend the adoption of Alternative E, the Service's Preferred Alternative, with the following modification. Airplane access to Lakes Located in Designated Wilderness. Amend Alternative E by adopting Alternative B's provision, which is preferable because it is the only alternative that includes an environmental assessment "… to determine the amount of airplane use and any associated impacts on Refuge resources, recreation opportunities, and Wilderness (sic) values. The EA should begin soon after final adoption of the RCCP. Delete the provision in Alternative B allowing airplane access after September 10 to two wilderness lakes despite the possible presence of nesting swans and/or their broods. In the five alternatives, wilderness area lakes open to airplane access range from 45 to 59, with Alternative A settling on 46, which is current management. How many airplane-accessible lakes are in the Kenai Wilderness? How many lakes were open to airplane landings prior to the establishment of the refuge in 1980? The answers should provide readers with the information necessary to evaluate the balance in the various alternatives between lakes open and closed.

Response
The Refuge received requests for aircraft use levels and/or impact studies from interests desirous of additional aircraft access, and those concerned with current or possible increasing levels of aircraft use on the Refuge. We agree that such studies would be desirable, but also understand that the resources do not exist to complete such work currently. Rather that commit to an effort that may not be completed, we have chosen not to include additional studies or an environmental assessment at this time. We will, however, likely support such efforts should a reasonable opportunity present itself. It is difficult to determine exactly how many wilderness lakes are reasonably accessible for aircraft landing (given surface size and other limitations to safe use), but we have further described this issue in the final plan. Additionally, many lakes and upland landing areas were placed off limits in the 1960s. Prior to 1980 (the Refuge was established in 1941) authorization was required to use aircraft, snowmachines, or other vehicles within the Refuge. Authorizations were provided in some cases, but not under all conditions in every location. Such authorizations were issued by general regulation, or by specific special use permit.

Resolved: Other (SEE RESPONSE)

Comment 4

We [Sierra Club Alaska Chapter] recommend the adoption of Alternative E, the Service's Preferred Alternative, with the following modification. Snowmachine access. Alternative E has "studies with stakeholders would evaluate the effects of use on Refuge resources and visitor experiences, the results of which would be used to support future management decisions. Delete the studies with stakeholders in favor of an EA that necessarily involves all of the public, and that would "determine the amount of [[snowmachine]] use and any associated impacts on Refuge resources, recreation opportunities, and Wilderness (sic) values." As with the recommended EA on airplane access to wilderness area lakes, an EA on snowmachine access refuge-wide should begin soon after final adoption of the final revised plan.

Response

We may complete an EA as suggested; however, we are in need of baseline data and whatever impact information that could reasonably be collected in order to develop reasonable alternatives in an EA. Completing the proposed study is our first priority.

Resolved: Other (SEE RESPONSE)

Comment 5

Review of non-wilderness refuge areas

The Draft's discussion of this issue is deeply flawed. After reviewing the 10 non-wilderness review units of the original 1985 CCP, the Draft fails to specify which units, or portions of the units, are suitable for addition to the Wilderness System. The Draft also fails to include an alternative recommending area for potential addition to the System, preferring instead to retain the refuge's 1988 recommendation for 195,000 acres. As in other draft revised conservation plans for Alaska units of the system, boilerplate text gives readers the reason for no wilderness suitability findings and recommendations for additions to the Wilderness System: As a result of concerns expressed by the State of Alaska and subsequent analysis of those concerns by the Service, alternatives that would have recommended that Congress consider lands for inclusion in the [[Wilderness System]] were considered but eliminated from detailed study. What are these concerns that have led to the Service's cave-in? What is the Service's analysis? We request that the final CCP include the Service's analysis and any statements or other correspondence, if any, from the State.

Response
Section 5.17 of the U.S. Fish and Wildlife Revised Wilderness Stewardship Policy, issued on November 13, 2008, states that "we have completed wilderness reviews for refuges in Alaska in accordance with Section 1317 of ANILCA [Alaska National Interest Lands Conservation Act, 1980] [as part of our initial comprehensive conservation planning efforts undertaken in the 1980s]. Additional wilderness reviews as described in the refuge planning policy (602 FW 1 and 3) are not required for refuges in Alaska...[and that] ANILCA does not require that we incorporate formal recommendations for wilderness designation in CCPs and CCP revisions. During preparation of CCPs for refuges in Alaska, we follow the provisions of section 304(g) of ANILCA, which requires us to identify and describe the special values of the refuge, including wilderness values." See section 3.5 in the Final Revised Plan for a description of wilderness values. In addition, the wilderness recommendation (i.e., approximately 195,000 acres) from the Supplemental Environmental Impact Statement for the Wilderness Proposal of the Final Kenai Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review (USFWS 1988) will remain in effect unless withdrawn or until submitted to Congress.

Resolved: Other (SEE RESPONSE)

Comment 6

Wild and Scenic River review

The Wild and Scenic Rivers Act requires that federal land management agencies determine the eligibility and suitability of rivers for addition to the Wild and Scenic Rivers System when preparing and revising land management plans. In the Draft, rivers are considered for the first time. This represents some progress, as the Janurary1985 final CCP ignored this planning requirement altogether. Although the Draft describes seven refuge rivers with "outstandingly remarkable values," it fails to determine the eligibility and suitability of these rivers for addition to the WSRS. This renders the Draft out of compliance with the Act. Four of the seven rivers—Kenai, Moose, Chickaloon/Mystery Creek, and Swanson—would gain added protection for their non-wilderness segments if added to the WSRS. As the Fox, Killey, and the refuge's share of the Russian River are within designated wilderness, adding these rivers to the system is unnecessary

Again the boilerplate text quoted above is offered as the explanation for the Service's action. What are the State's concerns that have led to the Service's non-compliance? What is the Service's analysis? We request that the final CCP include the Service's analysis and any statements or other correspondence, if any, from the State. According to the Draft, each of the alternatives will "Ensure that Refuge management complies with all other Federal laws and regulations that provide direction for managing units of the National Wildlife Refuge System." In ignoring the planning requirements of the Wild and Scenic Rivers Act in favor of kow-towing to the State and its mysterious "concerns," the Service is violating its own policy as well as dismissing the requirements of the Act.

Response
After a thorough review of ANILCA Section 304(g) planning requirements and Refuge System planning policy, we determined that we would best meet ANILCA requirements by identifying the special values of the refuge without conducting a wild and scenic rivers review. Section 2.7.1 of the draft plan provides the Service's rationale for not conducting wild and scenic river reviews. River values are described in Chapter 3.

Resolved: Other (SEE RESPONSE)

Letter 21

Respondent: Gereth Stillman
Organization: Ruffed Grouse Society South Central Alaska Chapter

Comment 1

Section 1.6.2.5, Section 2.1.4.9, Objective 7.12, Section 3.4.6.3, and Section 6.2.10

All of these sections conspicuously omit hunting as a legal, legitimate, encouraged use of the Kenai Refuge. This blatant anti-hunting sentiment must be corrected in the final plan! It is particularly discouraging given the clear direction that the Presidents Executive Order 13443 gave encouraging the expansion of hunting opportunities and wildlife management. There is no balance in any of the alternatives offered that provides for equitable access and opportunity for the consumptive user of wildlife and the enhancement of game populations.

Response
Over 97 percent of Kenai NWR is open to hunting and arguably provides more hunter-days of opportunity than many public lands areas in Alaska. Hunting is a recognized priority public use and is balanced with other priority public uses (including fishing, wildlife viewing, photography, outdoor education, and interpretation) while ensuring the primary purpose of the Refuge (conserving wildlife and habitats in their natural diversity) is met. Emphasis on the priority public uses (including hunting) was added to the plan text.

Resolved: Other (SEE RESPONSE)

Comment 2

Section 3.4.6.2 Limiting the approved youth small game hunt to 18 days between October 1 and March 1 has no logical justification. This hunt should be opened to correspond with the state wide season rather than limiting it to specific dates within that time frame. This use does not conflict with summer visitors whose primary objective is to see wildlife or other recreational users of the Skilak area. Hunting occurs in much more populated areas with no danger to life or property. The hunting season should be open the entire period of 1 October to 1 March.

Response

The recently completed Skilak Wildlife Recreation Area Revised Final Management Plan (May 2007) provides for a small game youth hunt on the refuge. This public use was not addressed in the revised comprehensive conservation plan because it was covered in the Skilak plan.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: See Revised Final Skilak WRA Management Plan (May 2007)

Comment 3

Section 3-5.4.8 (Page 162)

To suggest "…human activities concentrated along the Skilak Loop Road system and at adjacent recreation facilities have negative effects on overall naturalness.", suggests that humans are not part of nature. Humans have been using the Kenai Peninsula for eons, possibly longer than moose. Although human activity has the potential for a bigger impact than one moose, humans are no less a part of nature than any other animal. We simply need to balance the effects of all creatures so that no one species over shadows another. Loss of moose habitat because of human usage is no more detrimental to a moose population than over browsing of winter range by an excessive number of moose. Humans should have a place in this plan that seems to be missing because it isn't part of the defined "naturalness" of the area.

Resolved: Comment acknowledged; does not provide new information

Comment 4

Objective 7.10 (page 2-140)

The stated objective to increase back country patrols to enhance user safety and enjoyment is a contradictory goal. From our [Ruffed Grouse Society] prospective it would be an intrusive invasion of the solitude and wilderness atmosphere most backcountry users seek while producing no safer environment that we can see.

Response
While the Refuge understands that not all user groups enjoy being contacted by law enforcement personnel while visiting the Refuge, we believe that it is our responsibility to provide a reasonable level of patrols and contact with Refuge visitors.

Resolved: Other (SEE RESPONSE)

Comment 5

Registration

In several areas under alternative goals and objectives it has been suggested that a registration system be implemented for the canoe systems and the Mystery Creek Road. A registration system is expensive to operate, provides no known benefit, is a nuisance to the visitors and detracts from the enjoyment of the area. The plan does not show adequate justification for implementing such plans

Response
The registration system for use of the canoe trails has been in place for over 20 years and no changes to this system have been proposed. The Mystery Creek Access Road and Pipeline Corridor registration system was suggested by the right-of-way permittee for security reasons.

Resolved: Other (SEE RESPONSE)

Comment 6

Aircraft Access

Chickaloon Flats – We [Ruffed Grouse Society] can see no reason to restrict aircraft landings on the Chickaloon Flats. These are tidal areas where most evidence of human contact is eliminated after a large high tide and there certainly aren't any conflicts with non consumptive users here. Authorized landing areas should include the lightly vegetated areas south of the tidal influence areas, since aircraft would have very little impact. Limiting landings to a few designated locations implies these areas have been inspected and found appropriate for the use authorized and opens the refuge to possible liability should a problem occur. Landing should be at the pilot's discretion only.

Response
We believe increased aircraft access to the Chickaloon Flats area should have minimal impacts on refuge resources or visitor experiences. We intend to evaluate the use over time to determine if conditions change as a result of the new management direction.

Resolved: Other (SEE RESPONSE)

Comment 7

Float plane access to wilderness lakes as outlined in Alternative D is the least objectionable of the not acceptable alternatives. None of these Alternatives balance the need to protect wildlife with the national policy that emphasizes enhancing wildlife habitat and hunting opportunities. Limiting aircraft access to protect nesting swans may have been appropriate when it was implemented, but swan populations have rebounded both on and off the refuge beyond the goals initially set by the refuge, however, the aircraft restrictions have not been relaxed. There is room to expand access for back country users and hunters without negatively impacting populations that are now viable without such restrictive regulations. The fact that this isn't changing only emphasizes the blatant bias against hunters implicit throughout this document.

Resolved: Comment acknowledged; does not provide new information

Comment 8

We [Ruffed Grouse Society] find the general tone of this plan to be anti-hunting, very limiting to human back country utilization and devoid of any reasonable plan to enhance habitat for wildlife. This is a refuge not a park.

Resolved: Comment acknowledged; does not provide new information

Comment 9

We [Ruffed Grouse Society] believe President Bush made it clear that hunting opportunities and management for game species would be expanded in our National Wildlife Refuge System. This proposed plan does not follow that Executive Order. We respectfully request the National Wildlife Service suspend consideration of this proposed plan and that you modify the management approach for the Kenai NWR to comply with national direction.

Response
President Bush signed an Executive Order on August 16, 2007 that addressed the facilitation of hunting heritage and wildlife conservation. The order directs agencies to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat consistent with agency missions. This does not mean that every acre of Federal lands should be managed for new or enhanced hunting opportunities. The National Wildlife Refuge System has followed the intent of this order in opening many new refuges to hunting. At Kenai NWR, with all but a few acres of nearly 2 million acres already open to some type of hunting, it is a difficult to make significant improvements in this regard even without consideration of all the Refuge's legal mandates. The Refuge continues to work with ADF&G on joint wildlife management activities and improvements

to hunting opportunities on the Refuge. The Refuge has claim to, and hopes to remain, one of the premier destinations for quality hunting and fishing opportunities in the world.

Resolved: Other (SEE RESPONSE)

Letter 22

Respondent: Dan Dessecker
Organization: Ruffed Grouse Society

Comment 1

The Ruffed Grouse Society is disappointed that enhancing game wildlife habitats, populations and hunting opportunity is entirely absent from the goals listed to enhance wildlife-oriented recreation presented in the Draft. This is especially disconcerting given that public comments provided during the development of the Draft demonstrate that hunting is tied with hiking as the second most popular form of public recreation on the refuge.

Response
We believe that the goals and objectives included in the plan are appropriately focused on the conservation of fish, wildlife, and plants. The conservation measures are designed to benefit wildlife without regard to how Refuge visitors may choose to use wildlife (hunting, viewing, education, photography, interpretation). The Refuge continues to support wildlife-oriented recreation, including hunting, as a Congressionally mandated purpose as well as a recognized priority public use.

Resolved: Other (SEE RESPONSE)

Comment 2

An assessment of the acres available for active habitat management on the refuge under each potential alternative shows that wildlife habitat management activities in the future will be drastically reduced from present levels. All alternatives other than the "No Action" alternative reduce by approximately 50% the acreage classified as either Traditional Management or Moderate Management; the classifications where mechanical treatments and/or prescribed fire can be used to sustain habitats for game and non-game wildlife. The Draft provides no assessment of how these proposed changes to existing management direction will affect game wildlife populations and hunting opportunity.

Response
We believe the revised comprehensive conservation plan will maximize the potential use of prescribed fire -management ignitions (over doubling the acreage the current plan allows) as well as maximizing the opportunity to use wildland fire use - natural ignitions, for resource benefits. These changes will increase the ability to manage acreage in a way that will benefit many wildlife species.

Resolved: Other (SEE RESPONSE)

Comment 3

If implemented, the current Draft will lead to reductions in habitats essential for game wildlife and, therefore, hunting opportunity on the refuge. The Ruffed Grouse Society respectfully urges the US Fish and Wildlife Service to modify and select an alternative for implementation that will aid in meeting public expectations for recreation on the refuge and help to secure the future of our hunting heritage.

Response
See prior response.

Resolved: Other (SEE RESPONSE)

Comment 4

The [Ruffed Grouse] Society urges the Service to incorporate into the Draft a clear assessment of the potential effects of the proposed alternatives on hunting opportunity on the refuge. Such an assessment is essential if the hunting community, a primary user group, is to be able to provide informed input.

Response
We believe management direction described in the revised comprehensive conservation plan will benefit both wildlife and hunting opportunities. Conserving wildlife populations and habitats in their natural diversity is a primary purpose of the Refuge. All user groups who support wildlife conservation and sustaining wildlife populations will benefit from these management actions in the long-term. We recognize that where our conservation objectives are met (where our alternative analyses demonstrate benefits to wildlife populations and habitats) that hunting opportunities should benefit proportionally. We believe that this is a reasonable assumption implied in the alternatives analysis without attempting to further predict specific impacts to hunters or other wildlife user groups.

Resolved: Other (SEE RESPONSE)

Comment 5

The conspicuous absence of hunting from the list of priority objectives for the refuge runs counter to clear direction provided by the President in Executive Order 13443, the stated purpose of which is to "facilitate the expansion of hunting opportunities and the management of game species and their habitats" (16 August 2007).

Response
We believe that our objectives collectively benefit wildlife, habitats, and hunters and others who support sustained or enhanced wildlife populations. We do however; understand also that the Kenai NWR has a rich hunting heritage that we wish to perpetuate, consistent with the executive order and applicable laws, regulations, and policies. We have included language in the revised final Kenai NWR comprehensive conservation plan that supports and clarifies this intent.

Resolved: Other (SEE RESPONSE)

Letter 23

Respondent: Jill Garnet
Organization: Peninsula Sled Dog and Racing Association

Request for Information: No comment

Letter 24

Respondent: Robert L Baldwin
Organization: Friends of Kenai National Wildlife Refuge

Comment 1

The Friends of Kenai National Wildlife Refuge recommended adoption of Alternative E, the preferred alternative.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Resolved: Comment acknowledged; does not provide new information

The updated plan clearly states management alternatives and the planning issues considered for evaluation of alternatives. Supplemental budget, facilities, and staffing needs are stated for each alternative. Additionally, the listing of Refuge goals and objectives is very helpful. We [Friends of Kenai National Wildlife Refuge] are confident that the outstanding Kenai NWR management team will successfully accomplish all goals and objectives, assuming adequate funding. Experience causes us to be cautiously optimistic that adequate funding will be provided.

Resolved: Comment acknowledged; does not provide new information

Comment 3

It is understood that refuge goals and objectives are common to all alternatives, as stated in Section 2.2 of the full document. However, the widely reviewed summary document is not clear about this, which leads to confusion about how they are interrelated to issues and alternatives. The point of commonality could be clarified in Section 2.3.2 of the summary.

Response
A new summary document was prepared for the final revised comprehensive conservation plan. We clarified how the goals and objectives apply to implementation of the plan.

Resolved: Other (SEE RESPONSE)

Letter 25

Respondent: John J Lau
Organization: Enstar Natural Gas Company

Comment 1

Referenced in the above document page S-37, certain statements were made as to ENSTAR's maintenance of the Mystery Creek Road and Pipeline ROW access. Please be aware ENSTAR does not actively maintain the road for travel, i.e. bridges, driving surfaces, environmental protection, etc. Access to the pipeline ROW via ENSTAR wheeled vehicle is limited to 2-3 occasions on an annual basis. Additional pipeline maintenance activities are conducted via snowmachine during winter months. As significant road damage occurs due to public access, road improvements for public safety and environmental protection should be accomplished through Kenai National Wildlife Refuge efforts. ENSTAR's road maintenance efforts have been and will continue to focus on support for pipeline maintenance needs.

Response

The range of action alternatives related to management of the Mystery Creek Access Road and Pipeline Corridor, and the environmental consequences analysis related to them, have been revised to clarify that "road improvements" would be conducted by the Refuge.

Resolved: Alternative modified or new alt developed (SEE RESPONSE)
Citation: See Draft Plan/EIS, Chapter 4, Section 4.3.4.1, pgs 4-52 to 4-56

Letter 26

Respondent: Dale E Haines
Organization: Union Oil Company of California

Comment 1

UOCC [Union Oil Company of California] appreciates the USFWS' goal of balancing preservation of wilderness, management of resources, and recreational uses. In general, UOCC supports the management objectives set forth by the USFWS for the Kenai National Wildlife Refuge, although objectives finalized in the CCP cannot supersede the rights of the oil and gas industry pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the Bureau of Land Management (BLM) and other applicable federal and state departments.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Management Categories – We [Union Oil Company of California] support Alternative B because this alternative would convert Traditional management land east of the existing oil fields to the Moderate management category, and would retain the Moderate lands north and west of the existing oil fields. UOCC has concerns that access to the Birch Hill Unit north of the Swanson River Field could be impacted under Alternatives D and E, where all lands surrounding the existing oil fields and would be converted to Minimal lands. Similarly, Alternative C converts Traditional management lands to the Minimal category. The Minimal management designation does not allow oil and gas exploration and leasing (per Table 2-1, page 2-12), whereas on Moderate lands, these activities could be approved on a case-by-case basis.

Response
The Refuge recognizes the subsurface coal, oil and gas surrounding the Swanson River Unit is own by CIRI and subsurface within the Birch Hill Unit is within an approved Federal Oil and Gas Unit. Regulations under 43 CFR 36.10 require that adequate and feasible access be granted to the owners of valid inholings for economic and other purposes, subject to reasonable regulation to protect the natural and other values of the refuge. Therefore, access to these areas would be allowed as per regulations regardless of the management category.

Resolved: Other (SEE RESPONSE)

Comment 3

Swanson River and Beaver Creek Oil and Gas Units—UOCC [Union Oil Company of California] prefers Alternative D and would like to emphasize the importance of allowing pipelines and other infrastructure to be abandoned in place in cases where removal would result in more environmental damage than abandonment. UOCC recommends that the USFWS extend that consideration to all oil

and gas facilities/infrastructure, so that removal and restoration efforts do not cause more environmental damage than would be caused if the removal/restoration did not occur. Alternative B and C in particular would require excessive abandonment and restoration efforts potentially resulting in extensive environmental damage and reducing or eliminating means of public access that are presently available. Alternative E does not allow abandonment in place for the Beaver Creek Oil and Gas Unit.

Resolved: Comment acknowledged; does not provide new information

Comment 4

Contaminated Sites—All four of the action alternatives are identical regarding contaminated sites, as described in Section 2.1.6.3, 2.1.8.2, and 2.1.9.3; therefore, UOCC [Union Oil Company of California] does not prefer any one over the other. However, UOCC recommends that USFWS replace the text regarding contaminated sites in each of these sections with the following: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statues and regulations. Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by the Alaska Department of Environmental Conservation (ADEC), USFWS, and the site owner or operator." With this revision, Chevron would support all four of the action alternatives.

Response
This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 5

Snowmachine Access—UOCC [Union Oil Company of California] uses snowmachines to perform routine maintenance and inspections of existing oil and gas pipelines. UOCC supports Alternatives C and D because these alternatives allow for areas to be opened earlier or later depending upon snow conditions. Alternatives B and E do not allow any snowmachine use outside of the December 1 to April 30 window, regardless of whether adequate snow cover exists, which seems unnecessarily restrictive.

Resolved: Comment acknowledged; does not provide new information

Comment 6

[This] comment appl[ies] to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Sodotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. Frequent reference is made in the Draft Revised CCP/EIS to contamination associated with oil and gas activities in the Refuge. UOCC [Union Oil Company of California] fully supports the on-going cooperative efforts with USFWS and ADEC to address contaminated sites in the oil and gas units. It is UOCC's objective that none of the sites at UOCC facilities pose a risk to human health or the environment. To that end, UOCC cannot stress enough the importance of referencing the internal, state, and federal requirements for identifying, responding to, and remediating contaminated sites. Text the states that industrial users will continue to comply with state and federal contaminated sites regulations during project operations would help assure the public that industrial users are currently operating under these regulations.

Response

This comment is expanded upon in the balance of this letter, and is addressed in the detailed comments and agency responses that follow.

Resolved: Other (SEE RESPONSE)

Comment 7

[This] comment applies to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Soldotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. Guidance in the Draft Revised CCP/EIS presents a stance that oil and gas facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. Although UOCC [Union Oil Company of California] agrees with the on-going cooperative efforts towards remediation and restoration, we strongly disagree with including text in the Draft Revised CCP/EIS that would attempt to require industry to prematurely remove and restore oil and gas facilities, roads, and pipeline corridors. In addition to ignoring the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the BLM and other applicable federal and state departments, the USFWS position also overlooks the fact that the economic feasibility of oil and gas exploration and development increases with technological advancements and varies according to market fluctuations. Removing and restoring oil and gas facilities, roads, and pipeline corridors before operations have ceased in toto on federal leased land set aside for those purposes could result in the redisturbance of the same sites or the disturbance of additional area when exploration and development technologies, coupled with economic feasibility, result in new oil and gas exploration and development efforts.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry have within the Refuge, but would encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 8

[This] comment appl[ies] to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Sodotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. The requirement within the Draft Revised CCP/EIS that all industrial sites no longer in use be sampled for contaminants is too general and should be made more specific. Sites that have no documented history of contamination or potential contamination should not be included. Investigation of sites with a documented history should be limited to contaminants that are known to exist, or that are most likely to exist based on the industrial use of the area and historic documentation. Sampling and investigation requirements at these sites should be consistent with existing ADEC and EPA regulations that were established based upon risk factors.

Response
The oil and gas units on the Refuge were established over 50 years ago. Environmental practices have changed considerably throughout the years, and during the time when these Units were established, most of the United States' environmental laws did not exist. There have been 4 different operators for the Swanson River Unit. Documentation of contamination may have been lost or misplaced throughout the years or when operators of the unit changed. In the 1960s, sites weren't documented with contamination issues because of the existing environmental regulations.

Unfortunately, contaminated soils and solid wastes have been discovered "by accident" during excavation projects in the field on several occasions. Given the history of these industrial areas, sampling these sites is logical to ensure there is no "hidden" contamination.

Resolved: Other (SEE RESPONSE)

Comment 9

[This] comment applies to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Soldotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. UOCC [Union Oil Company of California] suggests that USFWS allows the opportunity for industry and the public to be involved in the development, contribution to, and comment on the various studies/programs that are proposed within the Draft Revised CCP/EIS (i.e., comprehensive step-down management plan to address exotic, injurious, and invasive species). We suggest adding text to the Draft Revised CCP/EIS to state that a public process for review of USFWS studies/programs will be in place. UOCC advocates thorough planning for all such programs to assure that the cost and scale of the effort are consistent with the benefits that would result.

Response
Industry and the public will be involved in the development of step-down plans for these units. Objective 2.16 states that we will develop restoration and recreation step-down management plans for the Swanson River and Beaver Creek Oil and Gas Units. Plans for projects of this magnitude would require environmental analyses which would include public involvement.

Resolved: Analysis modified (SEE RESPONSE)

Comment 10

[This] comment applies to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Soldotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. The reference to disturbed soils associated with oil and gas activities as resulting in the spread of exotic flora is misleading; rather it is the existence of disturbed soils singularly that facilitates growth of this flora and not the implied association with oil and gas activities.

Response
We have documented the presence and rapid spread of invasive/exotic plants species in industrial areas where soils have been disturbed by activities associated with oil and gas, including unit operations, utility corridors, and roadways. If the industrial activity wasn't occurring in the area, the soils would probably not be disturbed and would not be a vector for invasive/exotic plant encroachment.

Resolved: Other (SEE RESPONSE)

Comment 11

[This] comment applies to all oil and gas industry within the Refuge, including existing oil and gas units (Swanson River, Soldotna Creek, Beaver Creek, and Birch Hill units), Mystery Creek Road and the Alaska Pipeline corridor, and any new development where subsurface entitlements exist. Union Oil Company of California, not Chevron North America Exploration and Production, is the current operator of the Birch Hill, Soldotna Creek, and Swanson River oil and gas units.

Response

We revised the language in section 3.2.4 of the Revised Comprehensive Conservation Plan to note Union Oil Company of California is the current operator of the Birch Hill, Soldotna Creek, and Swanson River oil and gas units.
Resolved: Factual correction made (SEE CITATION, RESPONSE)

Comment 12

UOCC [Union Oil Company of California] is committed to operating in an environmentally and socially responsible manner across our operations, including those occurring within the Kenai National Wildlife Refuge.

Resolved: Comment acknowledged; does not provide new information

Comment 13

Pg 1-6 Section 1.2.4.3 – Coordination with the State of Alaska should include reference to the Alaska Department of Environmental Conservation (ADEC) with regard to state-permitted facilities (tanks, vessels, landfills, pipelines, etc.), contaminated sites, etc. With regard to contaminated sites and/or spills, ADEC regulations should be used for site cleanup and restoration. Additionally, the Alaska Department of Transportation (ADOT) should be referenced with regard to regulating major pipelines and associated rights of way (ROWs). The role of all relevant State of Alaska departments in regulation and oversight of oil and gas activities should be disclosed in Appendix B.

Response
ADEC has been added to Appendix B. Occasionally ADOT coordinates with FWS, but most pipeline and right-of-way coordination occurs with the owner/operator of the utility.

Resolved: Other (SEE RESPONSE)

Comment 14

Pg 1-30 Section 1.8 – Table 1-7 discussion of Oil and Gas Field Development and Production presents a U.S. Fish and Wildlife Service (USFWS) position that is repeated throughout the Draft Revised Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. This position does not recognize the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the Bureau of Land Management (BLM) and other applicable federal and state departments. The economic feasibility of oil and gas production, storage, exploration, and development within the unit increases with technological advancements. Production from existing facilities and/or exploration and development that is not currently feasible could become feasible and, therefore, pursued in the future. Production from existing facilities and/or exploration and development efforts made possible through technological advancements, as well as market influences, would take advantage of existing facilities/infrastructure, thereby eliminating or minimizing the necessity for disturbance to Kenai National Wildlife Refuge (Refuge) lands.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry has within the Refuge, but would encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 15

Pg 1-30 Section 1.8 – Table 1-7 claims that "Little restoration activity has occurred on sites that are no longer in production, therefore the field's footprint on the landscape remains the same or continues to increase." This is not true with regard to the Swanson River Field and is in conflict with statements on page 2-118. Since early development of the field starting in 1957, over six miles of road, nine well pads, one airstrip runway, and several gravel pits have been abandoned and re-vegetated. Additionally, 68 reserve pits have been inspected and closed by ADEC. The USFWS has participated in all abandonment and restoration work. Statements regarding the restoration work that appear later in this CCP, on page 2-118 under Objective 2.5, the last sentence under "Rationale," should also be placed in Table 1-7.

Response
See the description of the unit under Section 3.2.4.1 page 3-13. Some restoration work has been done, but the majority of the unit's footprint is still on the landscape. The 68 reserve pits did not reduce the footprint of the Unit and the Alaska Department of Environmental Conservation inspected and signed off on the pits being "closed". The USFWS was not a signatory on this "closure" and still has concerns regarding the contents of these buried pits.

Resolved: Other (SEE RESPONSE)

Comment 16

Pg. 2-6 Section 2.1.4.3 – The requirement that "all sites no longer used by industry will be sampled for contaminants' is unreasonable and arbitrary. Sites that have no documented history of contamination or potential contamination should not be included. Investigations of sites with such a documented history should be limited to contaminants that are known to exist, or that are likely to exist based on the industrial use of the area and historic documentation. UOCC [Union Oil Company of California] recommends replacing this language as follows: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."

Response
The oil and gas units on the Refuge were established over 50 years ago. Environmental practices have changed considerably throughout the years, and during the time when these Units were established, most of the United States' environmental laws did not exist. There have been 4 different operators for the Swanson River Unit. Documentation of contamination may have been lost or misplaced throughout the years or when operators of the unit changed. In the 1960s, sites weren't documented with contamination issues because of the existing environmental regulations. Unfortunately, contaminated soils and solid wastes have been discovered "by accident" during excavation projects in the field on several occasions. Given the history of these industrial areas, sampling these sites is logical to ensure there is no "hidden" contamination.

Resolved: Other (SEE RESPONSE)

Comment 17

Pg. 2-6 Section 2.1.4.3 – With regard to public "re-use" (last sentence in Section 2.1.4.3), any on-lease areas to be returned to unrestricted public access (except as established by USFWS) would have to be authorized by Union Oil Company of California (UOCC) to ensure the safety of both employees, contractors, and members of the general public. UOCC's intention is that any areas to be released would be remediated and restored as necessary to acceptable standards agreed upon by ADEC, USFWS, and UOCC.

Response

Industry and the public will be involved in the development of step-down plans for these units. Objective 2.16 states that we will develop restoration and recreation step-down management plans for the Swanson River and Beaver Creek Oil and Gas Units. Plans for projects of this magnitude would require environmental analyses which would include public.

Resolved: Other (SEE RESPONSE)

Comment 18

Pg. 2-7, 2-8 Section 2.1.4.10 – With respect to the design and construction of new development, it should be done in a manner that has "the least negative environmental impact possible," recognizing the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments.

Response
We recognize the existing rights of the oil and gas industry and cannot supersede these existing rights.

Resolved: Other (SEE RESPONSE)

Comment 19

Pg. 2-7, 2-8 Section 2.1.4.10 – New development (e.g., Birch Hill Oil and Gas Unit) will be required to sample for contaminants once exploration and/or production ceases. Please refer to comment number 4; this requirement is too broad and should limit site investigations of contaminants based on the industrial use of the area and historic documentation.

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 20

Pg. 2-8 Section 2.1.4.10 – Restoration of any site to "predevelopment conditions" is not practical. Such a requirement may conflict with the rights and obligations the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments. Instead, restoration of sites should proceed pursuant to a "site restoration plan" to be developed by the site owner or operator in cooperation with USFWS. Therefore, the CCP document should instead simply refer to "site restoration" or "postdevelopment restoration" and avoid use of the term or phrase "predevelopment conditions" wherever it occurs in the document.

Response
We generally define "restoration" to be putting back into the former or original state to the degree practical. Determining what is practical includes evaluation of ecological processes and how they may have been changed by the development activity. Restoring a site to "predevelopment conditions" is our ultimate goal and a site restoration plan would be developed by the surface owner and the unit operator to achieve this goal. We believe that it can generally be achieved, but recognize some predevelopment conditions may take many years.

Resolved: Other (SEE RESPONSE)

Comment 21

Resolved: Other (SEE RESPONSE)

Pg. 2-8 Section 2.1.4.12 – The USFWS should allow for public participation in the development of comprehensive step-down management plans for the Refuge, including the plan proposed in this section to address exotic, injurious, and invasive species.

Response
Industry and the public will be involved in the development of step-down plans for these units. Objective 2.16 states that we will develop restoration and recreation step-down management plans for the Swanson River and Beaver Creek Oil and Gas Units. Plans for projects of this magnitude would require environmental analyses which would include public involvement.

Resolved: Other (SEE RESPONSE)

Comment 22

Pg. 2-12, C-57 Section 2.1.5.2 – Table 2-1 depicts differences between Traditional and Minimal Management categories. In that table, under the "Minimal Management Category," all but one "Land Management Activity" is "Not Permitted." In a similar overview provided in Appendix C, Table C-1, on page 57, under the "Minimal Management" category for "Geophysical Exploration and Seismic Studies" and "Oil and Gas Leasing," these activities are "Not allowed with exceptions consistent with section 1.3.16.2 [[sic]]." Please clarify or resolve the discrepancy in Table 2-1 and Table C-1 between "Not Permitted" and "Not allowed with exceptions consistent with 1.3.15.2." Reference to 1.3.16.2 in Appendix C, Table C-1, should be corrected to say 1.3.15.2 where they occur in the document.

Response
Changes have been made to Table 2 -1 to make it consistent with Appendix C, Table C-1. References to section 1.3.16.2 in Appendix C, Table C-1 have been changed to 1.3.15.2.

Resolved: Other (SEE RESPONSE)

Comment 23

Pg. 2-15 Section 2.1.5.3, Issue 2 – The CCP/EIS uses the phrase "during the life of the project" in this section and throughout the document. With respect to oil and gas operations, the "life of the project" is the cessation of all oil and gas operations under the terms of the oil and gas leases, unit agreements, and storage leases. Please incorporate the above definition to ensure clarity regarding the rights of industrial users.

Response
We understand the definition of "life of the project" for oil and gas operations. Use of this phase is a succinct way of presenting the cessation of all oil and gas operations in the plan.

Resolved: Other (SEE RESPONSE)

Comment 24

Pg. 2-15 Section 2.1.5.3, Issue 2 – Swanson River Oil and Gas Unit – The CCP/EIS states that oil and gas infrastructure within the Swanson River Oil and Gas Unit may be authorized to support exploration and production of oil and gas "by the current unit operator." This phrase should be deleted. Change in ownership or operatorship is an existing right the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments, oil and gas leases. As development of the oil fields constantly evolve based on

technologies, market, and resources, oil and gas lease holdings often change among various operators.

Response
This is a generic term and is not in reference to a specific company or operator, just to the unit operator at any given point in time.

Resolved: Other (SEE RESPONSE)

Comment 25

Pg. 2-16 Section 2.1.5.3, Issue 2 – Contaminated Sites – Industrial sites have internal, state, and federal requirements for identifying, responding to, and remediating contaminated sites. The phrase "operate in a clean manner" is vague and ambiguous. The text of this subsection should be deleted in its entirety, and the following should be substituted in its place: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statues and regulations."

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 26

Pg. 2-28 Section 2.1.6.3, Issue 2 – Swanson River Oil and Gas Unit - See comment numbers 11 and 12. Removal of certain industrial roads, pipelines and associated fixtures, and other facilities built to support oil and gas operations prior to the cessation of all oil and gas operations under the terms of the oil and gas leases, unit agreements, and storage leases is not practical. Such a requirement also conflicts with the rights and obligations the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments. Instead, restoration of sites should proceed pursuant to a "site restoration plan" to be developed by the site owner or unit operator in cooperation with USFWS.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry have within the Refuge, but encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 27

Pg. 2-33 Section 2.1.6.3, Issue 2 – Contaminated Sites—See comment number 13. In the first section of the paragraph, the phrase "operate in a clean manner" is vague and ambiguous. The entire sentence should be deleted and replaced as follows: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statutes and regulations."

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 28

Pg. 2-33 Section 2.1.6.3, Issue 2 – Contaminated Sites—The last sentence in the Contaminated Sites section on this page states "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to clean sites if contamination is present." Pages 2-6 (Section 2.1.4.3 final sentence), and 2-100 (Table 2-12, Contaminated Sites: Alternative B column) of the full document, and page S-31 of the Summary document state that testing and/or sampling for contaminants will be required at all sites or all suspected contaminated sites. All statements should be consistent. UOCC [Union Oil Company of California] recommends adopting the following statement for that purpose: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 29

Pg. 2-49 Section 2.1.7.3, Issue 2 – Swanson River Oil and Gas Unit—See comment numbers 11 and 12. Removal of certain industrial roads, pipelines and associated fixtures, and other facilities built to support oil and gas operations prior to the cessation of all oil and gas operations under the terms of the oil and gas leases, unit agreements, and storage leases is not practical. Such a requirement also conflicts with the rights and obligations the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments. Instead, restoration of sites should proceed pursuant to a "site restoration plan" to be developed by the site owner or unit operator in cooperation with USFWS.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry has within the Refuge, but encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 30

Pg. 2-50 Section 2.1.7.3, Issue 2 – Contaminated Sites—See comment numbers 15 and 16. [In the first section of the paragraph, the phrase "operate in a clean manner" is vague and ambiguous. The entire sentence should be deleted and replaced as follows: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statutes and regulations." Contaminated Sites—The last sentence in the Contaminated Sites section on this page states "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to clean sites if contamination is present."] [Contaminated Sites: Alternative B column) of the full document, and page S-31 of the Summary document state that testing and/or sampling for contaminants will be required at all sites or all suspected contaminated sites. All statements should be consistent. UOCC recommends adopting the following statement for that purpose: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to

confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."]

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 31

Pg. 2-62 Section 2.1.8.3, Issue 2 – Swanson River Oil and Gas Unit—See comment numbers 11 and 12. [The CCP/EIS uses the phrase "during the life of the project" in this section and throughout the document. With respect to oil and gas operations, the "life of the project" is the cessation of all oil and gas operations under the terms of the oil and gas leases, unit agreements, and storage leases. Please incorporate the above definition to ensure clarity regarding the rights of industrial users.] [Swanson River Oil and Gas Unit – The CCP/EIS states that oil and gas infrastructure within the Swanson River Oil and Gas Unit may be authorized to support exploration and production of oil and gas "by the current unit operator." This phrase should be deleted. Change in ownership or operatorship is an existing right the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments, oil and gas leases. As development of the oil fields constantly evolve based on technologies, market, and resources, oil and gas lease holdings often change among various operators.] UOCC [Union Oil Company of California] concurs with the USFWS that in cases where the removal of pipelines would cause more damage than if they remain in place, the pipelines should be cleaned, capped, and left in place. UOCC also recommends the USFWS extend that consideration to all oil and gas facilities/infrastructure, so that removal and restoration efforts do not cause more environmental damage than would be caused if the removal/restoration did not occur.

Response
USFWS understands the definition of "life of the project" for oil and gas operations. Use of this phase is a succinct way of presenting the cessation of all oil and gas operations in the CCP.
"By the current unit operator" is a generic reference and is not in reference to a specific company or operator, just to the unit operator at any given point in time.

Resolved: Other (SEE RESPONSE)

Comment 32

Pg. 2-67 Section 2.1.8.3, Issue 2 – Contaminated Sites—See comment numbers 15 and 16. [In the first section of the paragraph, the phrase "operate in a clean manner" is vague and ambiguous. The entire sentence should be deleted and replaced as follows: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statutes and regulations."] [Contaminated Sites—The last sentence in the Contaminated Sites section on this page states "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to clean sites if contamination is present." Pages 2-6 (Section 2.1.4.3 final sentence), and 2-100 (Table 2-12, Contaminated Sites: Alternative B column) of the full document, and page S-31 of the Summary document state that testing and/or sampling for contaminants will be required at all sites or all suspected contaminated sites. All statements should be consistent. UOCC recommends adopting the following statement for that purpose: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."]

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 33

Pg. 2-80 Section 2.1.9.3, Issue 2 – Swanson River Oil and Gas Unit—See comment numbers 11 and 12. [The CCP/EIS uses the phrase "during the life of the project" in this section and throughout the document. With respect to oil and gas operations, the "life of the project" is the cessation of all oil and gas operations under the terms of the oil and gas leases, unit agreements, and storage leases. Please incorporate the above definition to ensure clarity regarding the rights of industrial users.] [Swanson River Oil and Gas Unit – The CCP/EIS states that oil and gas infrastructure within the Swanson River Oil and Gas Unit may be authorized to support exploration and production of oil and gas "by the current unit operator." This phrase should be deleted. Change in ownership or operatorship is an existing right the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage agreements, and agency regulations, guidance and orders issued by the BLM and other applicable federal and state departments, oil and gas leases. As development of the oil fields constantly evolve based on technologies, market, and resources, oil and gas lease holdings often change among various operators.] UOCC concurs with the USFWS that in cases where the removal of pipelines would cause more damage than if they remain in place, the pipelines should be cleaned, capped, and left in place. UOCC also recommends the USFWS extend that consideration to all oil and gas facilities/infrastructure, so that removal and restoration efforts do not cause more environmental damage than would be caused if the removal/restoration did not occur.

Response
We understand the definition of "life of the project" for oil and gas operations. Use of this phase is a succinct way of presenting the cessation of all oil and gas operations in the CCP. "By the current unit operator" is a generic reference and is not in reference to a specific company or operator, just to the unit operator at any given point in time.

Resolved: Other (SEE RESPONSE)

Comment 34

Pg. 2-85 Section 2.1.9.3, Issue 2 – Contaminated Sites—See comment numbers 15 and 16.

[In the first section of the paragraph, the phrase "operate in a clean manner" is vague and ambiguous. The entire sentence should be deleted and replaced as follows: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statutes and regulations."] [Contaminated Sites—The last sentence in the Contaminated Sites section on this page states "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to clean sites if contamination is present." Pages 2-6 (Section 2.1.4.3 final sentence), and 2-100 (Table 2-12, Contaminated Sites: Alternative B column) of the full document, and page S-31 of the Summary document state that testing and/or sampling for contaminants will be required at all sites or all suspected contaminated sites. All statements should be consistent. UOCC recommends adopting the following statement for that purpose: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."]

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 35

Pg 2-100 Table 2-12, Issue 2 – UOCC [Union Oil Company of California] objects to the language regarding contaminated sites in Table 2-12 in Section 2.1.10 (see comment numbers 4, 13, and 16).

UOCC recommends replacing the language under Alternative A as follows: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statues and regulations." UOCC recommends replacing the language under Alternative B through E as follows: "Industry would be required to investigate, and if necessary, test suspected contaminated sites to confirm the existence and identity of contaminates and to remediate and restore the sites as necessary to acceptable standards agreed upon by ADEC, USFWS, and the site owner or operator."

Response
Changes have been made to the document reflecting this.

Resolved: Alternative modified or new alt developed (SEE RESPONSE)

Comment 36

Pg 2-118 Objection 2.5 – As stated in comment number 2, removing and restoring oil and gas facilities, roads, and pipeline corridors before operations have ceased in toto on federally leased land set aside for those purposes ignores the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the BLM and other applicable federal and state departments. Further, prematurely removing and restoring oil and gas facilities, roads, and pipeline corridors could result in the redisturbance of the same sites or the disturbance of additional area when exploration and development technologies, coupled with economic feasibility, result in new oil and gas exploration and development efforts. UOCC [Union Oil Company of California] agrees with and has participated in on-going cooperative efforts towards remediation and restoration; however, references to requirements for remediation or restoration to be completed within a two-year period following the plugging and abandonment (P&A) of a well must be deleted. Well P&As may occur for any number of reasons, including economic conditions, resource depletion, or problems with well integrity. However, the P&A of a well does not a necessarily mean that additional opportunities for resource development are absent from the pad location. Additionally, in the case of pad abandonment it may be advantageous to postpone site restoration activities until either sufficient quantities of restoration work are available (economies of scale) or post-development opportunities are more fully defined.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry has within the Refuge, but encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 37

Pg. 2-122 Objective 2-16 – UOCC [Union Oil Company of California] believes that Objective 2.16, calling for the completion of a restoration and recreation plan for oil and gas units within 3 years of the CCP/EISs approval, will foster unrealistic expectations and is otherwise neither practical nor reasonable and is arbitrary. Oil and gas production, storage, exploration, and development are not stagnant venture and will continue within the Refuge under the operative oil and gas leases, storage leases, and unit agreements for years to come. As acknowledged in the general assumptions in Section 4.3.2, existing industrial activities will not decrease but will remain at current levels, or even increase, over the 15-year life of the proposed CCP. The development of a restoration and recreation plan should occur at a time that is much closer to the cessation of oil and gas production, storage, exploration, and development efforts within the Refuge.

Response

This Objective has been revised to state that a restoration and recreation plan for the oil and gas units will be initiated within 3 years of the CCP/EISs approval.

Resolved: Other (SEE RESPONSE)

Comment 38

Pg. 2-122 Objective 2.17 - For a Terrestrial and Aquatic Invasive Species Management program to be effective, it requires input from industry and other stakeholders operating within the Refuge. The plan should consider all roads and other developed areas within the Refuge in addition to the oil and gas units.

Resolved: Comment acknowledged; does not provide new information

Comment 39

Pg. 2-124 Objective 3.3 – UOCC [Union Oil Company of California] fully supports the on-going cooperative efforts with USFWS and ADEC to address contaminated sites in the O&G units. It is UOCC's objective that none of the sites at UOCC facilities pose a risk to human health or the environment. The term "clean closure" is vague; please see the recommendation in comment number 13. [Industrial sites have internal, state, and federal requirements for identifying, responding to, and remediating contaminated sites. The phrase "operate in a clean manner" is vague and ambiguous. The text of this subsection should be deleted in its entirety, and the following should be substituted in its place: "Industrial facilities would be required to operate in compliance with all applicable federal and state environmental statues and regulations."]

Response
A brief history of past practices which occurred in the oil and gas units resulting in contaminated sites is appropriate under this section. No reference is made to "operate in a clean manner" in this section.

Resolved: Other (SEE RESPONSE)

Comment 40

Pg. 2-135 Objective 6.1.15 – UOCC [Union Oil Company of California] applauds the USFWS' efforts to record and document the history of the Kenai Peninsula and in particular the history and importance of the oil and gas industry there. The importance of this industry to the local people, the local economy, and the state cannot be understated.

Resolved: Comment acknowledged; does not provide new information

Comment 41

Pg. 2-142 Objective 8.3 – UOCC [Union Oil Company of California] agrees with and fully supports this objective. However, UOCC objects to the statement that it is more financially feasible to clean up and restore individual oil and gas sites "as they become available" than waiting until an entire Field or Unit is no longer in use (see comment numbers 2 and 24). [(Comment 2) Pg 1-30 Section 1.8 – Table 1-7 discussion of Oil and Gas Field Development and Production presents a U.S. Fish and Wildlife Service (USFWS) position that is repeated throughout the Draft Revised Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. This position does not recognize the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the Bureau of Land Management (BLM) and other applicable federal and state departments. The economic feasibility of oil and gas production, storage, exploration, and development within the unit

increases with technological advancements. Production from existing facilities and/or exploration and development that is not currently feasible could become feasible and, therefore, pursued in the future. Production from existing facilities and/or exploration and development efforts made possible through technological advancements, as well as market influences, would take advantage of existing facilities/infrastructure, thereby eliminating or minimizing the necessity for disturbance to Kenai National Wildlife Refuge (Refuge) lands.] [(Comment 24) Pg 2-118 Objection 2.5 – As stated in comment number 2, removing and restoring oil and gas facilities, roads, and pipeline corridors before operations have ceased in toto on federally leased land set aside for those purposes ignores the rights the oil and gas industry has pursuant to common law, oil and gas leases, unit agreements, storage leases, and agency regulations, guidance, and orders issued by the BLM and other applicable federal and state departments. Further, prematurely removing and restoring oil and gas facilities, roads, and pipeline corridors could result in the redisturbance of the same sites or the disturbance of additional area when exploration and development technologies, coupled with economic feasibility, result in new oil and gas exploration and development efforts. UOCC [Union Oil Company of California] agrees with and has participated in on-going cooperative efforts towards remediation and restoration; however, references to requirements for remediation or restoration to be completed within a two-year period following the plugging and abandonment (P&A) of a well must be deleted. Well P&As may occur for any number of reasons, including economic conditions, resource depletion, or problems with well integrity. However, the P&A of a well does not a necessarily mean that additional opportunities for resource development are absent from the pad location. Additionally, in the case of pad abandonment it may be advantageous to postpone site restoration activities until either sufficient quantities of restoration work are available (economies of scale) or post-development opportunities are more fully defined.] USFWS has not provided any basis for this assertion; thus it should be removed. As previously stated, this approach is generally unwarranted and impractical.

Response
We maintain that facilities/infrastructure no longer needed to support ongoing production efforts should be removed and the sites restored. We are not trying to supersede existing rights the oil and gas industry has within the Refuge, but encourage industry to continually evaluate its existing infrastructure and eliminate items which they determine are no longer needed for current or future use.

Resolved: Other (SEE RESPONSE)

Comment 42

Pg. 3-10 section 3.2.4 – UOCC [Union Oil Company of California] appreciates that the USFWS has presented the fact that oil and gas operations have occurred in the Kenai Refuge for almost as long as the Refuge has been designated as such. The section indicates that 13, 252 acres of Refuge lands have active Federal oil and gas leases. The total acreage of the Refuge should be provided for comparison (1,987,202 acres), and the percentage impact from oil and gas operations should be stated (less than 0.007% of the entire Refuge). These comparisons allow the reader to see that the footprint of oil and gas operations is extremely small relative to the size of the Refuge.

Response
The total acreage of the Refuge is given throughout the planning document. If someone is interested in calculating what percentage oil and gas operations impacts the Refuge, they have the needed information.

Resolved: Other (SEE RESPONSE)

Comment 43

Pg. 3-17 Section 3.2.4.8 – The last paragraph of the section is misleading. It ignores the fact that a compatibility review is not permitted for the Swanson River Field and Birch Hill Unit and makes

sweeping statements that "the result of the compatibility determination is that oil and gas exploration and development is not compatible with the purposes of the Refuge." As the USFWS acknowledges in the prior paragraphs, it is precluded by law from subjecting certain oil and gas interests to such a determination. The last paragraph should specify the oil and gas interests that were subject to the compatibility review. In addition, the conclusions that are drawn relative to those oil and gas interests subject to the compatibility determination review are overstated. The impacted area is less than 0.007% of the total acreage covered by the Refuge. This minimal footprint of activity does not support the statement that oil and gas activities "clearly interfere with the purposes of the Refuge." Therefore, this language should be deleted.

Response
Section 3.2.4.8 explains what the compatibility determination covers. Compatibility determinations are required for proposed activities that are discretionary, i.e., we can deny the use. Since there are approved Federal oil and gas leases, along with private subsurface coal, oil and gas ownership, within the Refuge, these activities cannot be denied, but overall, oil and gas activities are not compatible with the purposes of the Refuge.

Resolved: Other (SEE RESPONSE)

Comment 44

Pg. 3-18 Section 3.2.4.8 – USFWS has not provided scientific data or documentation to support the statement "Measurable – and often significant – impacts to wildlife and wildlife habitats have resulted from [[oil and gas-related]] activities." Multiple objectives (e.g., Objectives 2.11, 2.13, 2.14, 3.1, 3.6) indicate that the USFWS is still collecting, or is planning to collect, information about wildlife health, population trends, and distribution. Also, p3-62, para 5 states that black bear population numbers within the refuge appear to be healthy. The statement about impacts from oil and gas is not substantiated. These comments are arbitrary and should be deleted.

Response
For the 1999 Compatibility Determination, Refuge biologists looked at habitat loss, seismic exploration, contaminants, noise, and other miscellaneous activities associated with oil and gas activities occurring on the Refuge and their impacts on the natural resources. For wildlife habitat loss, it was reported that by 1998, at least 524.4 acres of the Refuge were lost as wildlife habitat associated with oil and gas development due to drill pads, facilities, and roads, and an additional 424.3 acres of wildlife habitat were lost because of oil and gas support infrastructure (access roads, pipelines, and power lines). The estimated loss of wildlife foods in various habitats includes 496 to 1,070 pounds per year of American devils club fruit for black and brown bears and over 640,000 pounds per year of browse for moose and snowshoe hares. These habitat losses affecting browse were estimated to be the equivalent of feeding 41 to 136 cow moose and 411 snowshoe hares per year. Fragmentation of habitat, and increased disturbance and animal mortality is also of great concern but more difficult to quantify.

Resolved: Other (SEE RESPONSE)

Comment 45

Pg. 3-26 Section 3.2.8.3, para 1 – The first paragraph on page 3-26 makes reference to "documented" environmental effected related to oil and gas operations on Alaska's North Slope. The reference to environmental issues on the North Slope has no rational relationship to alleged impacts in the Beaver Creek and Swanson River Oil and Gas Units and should be deleted.

Response
The referenced document was produced by the National Research Council of the National Academies. We acknowledge in the referenced paragraph that "although operations in the high Arctic are encountering environmental problems unique to that system (e.g., permafrost), the Swanson

River and Beaver Creek oil and gas units have had - and continue to have - "measureable negative effects on wildlife populations and habitats in the leased area". The biological findings of the NRC include growth of industrial activity, interactions of climate change and oil development, roads, effects on animal populations, oil spills, expansion of activities into new areas, and a legacy of abandoned infrastructure and unrestored landscapes. These are all relevant, albeit at a smaller scale, to the leased areas on the refuge.

Resolved: Other (SEE RESPONSE)

Comment 46

Pg. 3-26 Section 3.2.8.3, para 1 - The first paragraph on page 3-26 claims that "oil and gas units...[[have]]...measurable negative affects on wildlife populations and habitats in the leased area." This statement is confusing and misleading. What is measurable and with regard to which: populations, habitat or both? Habitat loss due to roads and pads in the units is clear and measurable, although the magnitude of such impact is negligible when considered in context of the area encompassed by the Refuge. The implied negative impacts to populations should be substantiated here by reference to the studies upon which the agency is relying for these statements.

Response
Both populations and habitats are affected. In Section 3.2.8.3 and again in Chapter 4, we discuss not only habitat lost due to the actual industrial footprint, but also the extensive fragmentation on the leased areas, 1800 miles of seismic lines, oil spills and the spread of invasive plants that are established from within the leased areas. More specific information on wildlife impacts can be found in: Bailey, T.N., E.A. Jozwiak, R.D. Ernst, and S.D. Schulmeister. 1999. Effects of gas and oil exploration, production, and development on wildlife habitats and populations within the Kenai National Wildlife Refuge, Alaska. U.S. Fish and Wildlife Service, Kenai National Wildlife Refuge, Soldotna, AK. 45 pp. Bangs, E.E., and T.N. Bailey. 1982. Moose movement and distribution in response to winter seismological exploration on the Kenai National Wildlife Refuge, Alaska. Unpublished report. Prepared for ARCO, Alaska, Inc., Anchorage, AK. 46 pp. Frates 1999. A summary of reported hydrocarbon spills for Swanson River and Beaver Creek Operating Units 1957-February 1999. Kenai National Wildlife Refuge, U.S. Fish & Wildlife Service, Soldotna, AK. National Research Council. 2003. Cumulative environmental effects of oil and gas activities on Alaska's North Slope. National Academies Press, Wash., D.C. 288+pp. Parson, T.A.S. 2001. Kenai National Wildlife Refuge, Contaminant Assessment. U.S. Fish and Wildlife Service, Anchorage, AK. 123 pp. Staples, W.R., III, and T.N. Bailey. 1998. Disturbance of and a human fatality related to brown bears in dens during winter seismic exploration on the Kenai National Wildlife Refuge, Alaska. Unpublished report. U.S. Fish and Wildlife Service, Kenai National Wildlife Refuge, Soldotna, AK. 13+ pp. Thurber, J.M., R.O. Peterson, T.D. Drummer, and S.A. Thomasma. 1994. Gray wolf response to refuge boundaries and roads in Alaska. Wildlife Society Bulletin 22:61-68.

Resolved: Other (SEE RESPONSE)

Comment 47

Pg. 3-27 Section 3.2.8.3, para 1 – The reference to disturbed soils associated with oil and gas activities resulting in the spread of exotic flora is misleading. Rather it is the mere existence of disturbed soils that facilitates growth of this flora and not the implied association with oil and gas activities. Considering only roads, as referenced in Table 3-5 (page 3-119), there are 43 miles of gravel roads associated with O&G activities within the Refuge. However, there are also 262 miles of trails (page 3-101), 29.8 miles of roads maintained by USFWS, and 55.6 miles of state-maintained roads also in the Refuge. These other areas are also impacted by exotic flora. References to this issue should address all disturbed areas and not attempt to associate it solely with oil and gas activities, which, again, represent only a small subset of the impacted areas.

Response
Section 3.2.8.3 described the oil and gas units industrial footprint and what occurs in these units. FWS has documented the presence and rapid spread of invasive/exotic plants species in industrial areas where soils have been disturbed by activities associated with oil and gas, including unit operations, utility corridors, and roadways. If the industrial activity wasn't occurring in the area, the soils would probably not be disturbed and would not be a vector for invasive/exotic plant encroachment.

Resolved: Other (SEE RESPONSE)

Comment 48

Pg. 3-26 Section 3.2.8.3, para 2 – The word "chronic" should be replaced with "multiple." Spills that occur during a program that lasts one year do not warrant the "chronic" descriptor. Also, "significant" is used in this section and in others throughout the CCP/EIS without an adequate explanation (i.e., numbers, acres impacted) of its meaning. "Significant" has both scientific and legal meaning, and should only be used when consistent with and clearly linked to one of these definitions, which should be included in the document.

Response
Changes have been made to the document reflecting this.

Resolved: Other (SEE RESPONSE)

Comment 49

Pg. 3-27 Section 3.2.8.3, para 3 – The value of a comprehensive baseline study is questionable and unrelated to oil and gas units. If it is the USFWS' objective to have a comprehensive study across the entire refuge, then it should be listed as an objective that is independent of the oil and gas lease areas.

Response
We agree with the comment but would extend it further. Assessments at both the landscape level (i.e., refuge) and within commercial leased areas need to occur. Consequently, Objective 3.11 (page 2-127) states "within 2 years of funding, determine baseline levels of selected contaminants, specifically organochlorines, organophosphates, and heavy metals that may have originated from nonrenewable resource extraction, long-range atmospheric deposition, and/or past management practices."

Resolved: Other (SEE RESPONSE)

Comment 50

Pg. 3-27 Section 3.2.8.3, para 4 & 5 – Following the completion of cleanup activities on contaminated sites, ADEC and/or the EPA provides a closure letter, which indicates that these entities have agreed that the cleanup efforts are adequately protection of human health and the environment. Additional sampling and investigation at these sites beyond ADEC and EPA-approved efforts are unnecessary and unrelated to risk.

Response

As technology evolves and new information is available, sampling and investigation of "closed sites" might reveal that residual contamination may still exist which could be harmful to human health or the environment.

Resolved: Other (SEE RESPONSE)

Comment 51

Pg. 3-114 Section 3.4.3.2 – It is both unclear why, and arbitrary, for the USFWS to include the economic significance of the commercial fishing industry in calculating the economic significance of the Refuge, while at the same time ignoring the value derived from the oil and gas industry. Both are commercial undertakings, and both are operations that are "Refuge dependent." All commercial activities that are Refuge dependent and have economic impact attributable to the Refuge, including the oil and gas industry, should be included in this section.

Response
This section (and referenced report) evaluates the benefits of having the Kenai Refuge within the Kenai Peninsula Borough, its value to recreation, hunting, fishing, outdoor activities, and benefits to commercial operations such as for fisheries, guiding, and wildlife viewing. Oil and gas activities would most likely occur within the borough whether the Refuge was here or not.

Resolved: Other (SEE RESPONSE)

Comment 52

Pg. 4-24 Section 4.3.2.2 – Second bullet under the title "Assumptions"; the word "effects" should be "efforts."

Response
Correction has been made.

Resolved: Other (SEE RESPONSE)

Comment 53

Pg. 4.-32 Section 4.3.2.2 – Public access to the oil and gas field must continue to be limited as it is under the current management plan. Because the Swanson River Field is an active producing field, any enhanced access offered under a new plan could unnecessarily expose the public to safety risks from being in the field and would be an additional burden for field personnel to manage.

Resolved: Comment acknowledged; does not provide new information

Comment 54

Pg. 4-36 Section 4.3.2.3 – The statement that "increased wildlife-vehicle collisions" would be expected under these alternatives is arbitrary and capricious. USFWS did not provide enough specific information for a comparison between alternatives. Please provide the number of wildlife-vehicle collisions within the Swanson River Field in recent years and an estimate of the increase that you would anticipate with increased road development under each proposed alternative.

Response
It is a reasonable assumption that if a road is developed in a roadless area (where there are zero wildlife vehicle collisions) there would be an increase in wildlife-vehicle collisions on some scale. Wildlife-vehicle collisions occur not only with large-bodied animals, such as moose, bear and lynx; but also with smaller species such as songbirds, spruce grouse, snowshoe hares, and red squirrels. We

do not have records of the number of wildlife-vehicle collisions which have occurred within the Swanson River field.

Resolved: Other (SEE RESPONSE)

Comment 55

Pg. 4-41 Section 4.3.2.3 – Analysis of the environmental consequences of Alternative A on wilderness values is in conflict with the analysis of the wilderness value of the oilfield units presented in Section 3.5.4.5 on p3-159. The analysis in section 4 p4-41, states that oil and gas exploration and development would have "adverse, long-term impacts on wilderness values" and further describes the units as being in an "untrammeled condition"; however, this area has been developed for oil and gas operations since the 1950s. Section 3.5.4.5 describes the oilfields as having portions that "are natural in appearance. However, an extensive network of wells, pipelines, roads, and related facilities…significantly after the naturalness of the area. In addition, the "rumble of the Swanson River Field compressor plant can be heard throughout the unit." This area already has "limited opportunities to experience isolation, wilderness solitude, or other dimensions that characterize primitive recreation" p3-159. Although local impacts would occur due to new development, the scale of these impacts would be minor, if not negligible, due to the existing network of facilities combined with restricted public access to the area. The analysis of the environmental consequences of Alternative A on page 4-41 should be revised to address this discrepancy.

Response
The analysis of the environmental consequences of Alternative A on wilderness values had three indicators presented on page 4-40 of Section 4.3.2.3. Those indictors were untrammeled condition, opportunities for solitude, and opportunities for primitive and unconfined types of recreation. Using those indictors, oil and gas exploration and development would have "adverse, long-term impacts" on wilderness values when and where such activities occur.

Resolved: Other (SEE RESPONSE)

Comment 56

Resolved: Other (SEE RESPONSE)

P. 6-24 Table -1 Objective 3.3 – The objective states to continue to work with ADEC and industry to address issues regarding contaminated sites. However, the Management Standard(s) cites use of EPA standards. UOCC [Union Oil Company of California] recommends that USFWS use applicable State of Alaska standards such as 18 AAC 75.

Response
We use applicable ADEC and/or EPA clean-up standards when we are evaluating contaminated sites.

Resolved: Other (SEE RESPONSE)

Letter 27

Respondent: Rod Arno
Organization: Alaska Outdoor Council

Comment 1

Inadequate environmental analysis of conservation concerns rising from federal subsistence harvest regulations for the Kenai NWR. Since the management direction for the Kenai Refuge was finalized in 1985 the Federal Subsistence Board (FSB) has established Federal Subsistence harvest seasons within the boundaries of the Kenai Refuge. A number of these harvestable species of fish and game are considered to be species of conservation concern by the Alaska Department of Fish and Game. The FSB acknowledged that the Oct. 20- Nov.10 subsistence moose hunt in Units 15B and 15C could be closed by the Refuge Managers based on conservation concerns. The Biological Inventory and Monitoring Plan for the Kenai Refuge calls for population assessments of rainbow and lake trout, due to conservation concerns. What impacts will Federal subsistence harvests have on these species of concern over the next 15 years of the life of the revised CCP? AOC [The Alaska Outdoor Council] recommends that an analysis of the impacts of the FSB adopting Federal subsistence hunting and fishing regulations within the boundaries of the Kenai Refuge be added to the Draft Revised CCP and EIS for the Kenai Refuge. An Analysis of the effects on the biological and socioeconomic environments caused by an increase in federally qualified subsistence users is missing from the Draft CCP for the Kenai Refuge. With no limits on the number of individuals living in a federally recognized community who can participate in subsistence harvests within the Kenai Refuge there is no reason to believe that non-federally qualified hunters, trappers, and anglers will not loose opportunities for fish and wildlife-oriented recreation over the next 15 years. No alternative in the Draft CCP addresses this loss of opportunity described in the purpose of the Kenai Refuge, Section 303(4) (B) (v) of ANILCA.

Response
We recognize that subsistence use (in terms of federally recognized opportunity) is a new issue in relation to the original Comprehensive Conservation Plan (1985) and added additional background information to Chapter 3, section 3.4.6.6. in the Revised Comprehensive Conservation Plan. Subsistence take (both fish and wildlife) currently is not significant and requires no special analysis or new range of alternatives. Concerns that subsistence take will increase over time may have merit, but are difficult to predict. The Refuge believes that it must provide a subsistence preference to federally recognized rural residents consistent with the general requirements of Title VIII of ANILCA, but also must continue to provide opportunities for wildlife-oriented recreation (a specific ANILCA purpose for Kenai NWR). The two uses are not, however, mutually exclusive. The Revised Comprehensive Conservation Plan is not designed to address the mechanics of resource allocation issues, but such issues will likely be addressed through future actions of the State Boards of Fish and Game, Federal Subsistence Boards, and Refuge compatibility reviews.

Resolved: Other (SEE RESPONSE)

Comment 2

The spectrum of options increasing motorized methods of access on existing industrial roads is not offered under the five current Draft Alternatives. A comparison of management options for issue 2: How will the Refuge manage facilities for public use while ensuring resources protection does not provide the public with an environmental analysis of restoring all industrial roads for highway vehicle use. In order for fish and game oriented recreation to occur in remote areas motorized vehicles allow rapid, safe access for visitors on a limited time schedule. Refuge-specific regulations (50 CFR 36.39) prohibit the use of off-road vehicles in the majority Kenai Refuge thus reducing the opportunity for dispersing recreational access to remote areas in the Refuge. With a reported use of 300,000 visitors to the Kenai Refuge, located on the Kenai Peninsula with a population of 50,000 residents growing at a rate of 2% a year and within a couple hour's drive of 70% of the states population, dispersing visitor use will be a major issue over the next 15 years. AOC [The Alaska Outdoor Council] would like the option of supporting a management alternative that would allow a public process to address the impacts of expanding Transportation Systems in the Kenai Refuge to increase the opportunities for fish and wildlife oriented recreation while ensuring resource protection.

Response

All industrial rights-of-way permitted in the Refuge currently have requirements to be fully restored, as practical, after the life of the project. In general, such provisions are likely to best benefit wildlife resources over time. The Refuge compromised in some areas to allow increased access and recreational use opportunity by retaining some roads for vehicle use that are now closed (see Chapter 2, section 2.1.5 - 2.1.9 as they relate to the Swanson River Oil and Gas Unit). All potential alternatives were not considered (such as retaining all roads) because such an alternative would likely be counter to the primary purposes of the Refuge and goals and objectives in the plan.

Resolved: Other (SEE RESPONSE)

Comment 3

Alternative options for allowing airplane access to lakes in the Designated Wilderness areas is limited based on an inadequate analysis. Aircraft access to designated Wilderness areas is clearly protected by Sec 1110(a) of ANILCA. No new data substantiating a decline in trumpeter swans in the Kenai Refuge was presented in the Draft CCP. No new data was presented that attributes floatplane landings/takeoffs on lakes open to airplane use to a decline in nesting pairs of trumpeter swans any more than other allowable methods of access such as motorboats, canoeists, or any human presence.

Response
We agree that no new data is apparent that suggests additional changes to current regulations (more or less restrictive) are warranted at this time and have supported status quo management (see Chapter 2, section 2.1.5 Alternative A) for this issue.

Resolved: Other (SEE RESPONSE)

Comment 4

The cooperative planning process between the FWS, State, and the public should be outlined in the Final Plan of the CCP for the Kenai Refuge. An outline of the Limits-of-Acceptable-Change (LAC) planning process should be part of the Final Plan. What role will stakeholders play in the outcome of the planning process? Will representatives of individuals who have no intention of visiting the Refuge carry the same weight in a stakeholder process as those who are dependent on wild food resources or who recreate in the Kenai Refuge?

Response
See citations above regarding cooperative planning process with the State of Alaska. The LAC process involves users to define a desired future condition and limits of acceptable change – and actions to take if limits are exceeded. While there is no restriction on who may participate in an LAC process, public stakeholder meetings are generally conducted only in the areas affected by the planning process.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Section 1.7; Appendix B; H-2

Comment 5

Upper and middle Kenai River management of public uses should be done jointly by the FWS, State, and local governments.

Resolved: Comment acknowledged; does not provide new information

Comment 6

The Final CCP for the Kenai Refuge should open a planning process to review the opportunity for a longer youth firearm hunting season in the Skilak Loop Special Management Area. Increased hunting opportunity in areas that are road accessible in the Kenai Refuge is consistent with the goals of the Refuge.

Response
Youth hunting of small game in the Skilak Loop area was addressed in a separate planning process (Kenai National Wildlife Refuge Skilak Wildlife Recreation Area Revised Final Management Plan - May 2007).

Resolved: Other (SEE RESPONSE)

Comment 7

Hunters and anglers currently compose the largest user group in the Kenai Refuge. An assessment of the 5 alternatives offered in the Draft Revised CCP for the Refuge show losses in area available for management to enhance wildlife habitat. By reducing areas open to prescribed burns or mechanical treatments the ability of the FWS to provide subsistence and non-subsistence hunters with a reasonable change to obtain wild food sources are reduced. Currently hunter success for moose is less than 15% on Refuge lands, yet there was no discussion in the Draft CCP regarding hunting opportunities or future plans to enhance game populations.

AOC [The Alaska Outdoor Council] requests that a Final Draft CCP for the Kenai Refuge include an assessment of the potential effects of the proposed alternatives on harvest opportunities for both federally qualified subsistence hunters as well as general season hunters under State regulations.

Response
We disagree. The proposed changes to the revised Kenai CCP will more than double the acreage currently allowed to be managed using prescribed fire - management ignition. It will also increase the acreage that may be managed using wildland fire use - natural ignition - for resource benefits.

Resolved: Other (SEE RESPONSE)

Letter 28

Respondent: Dee Hanson
Organization: Alaska Airmens Association

Comment 1

A number of years ago, two of our [AK Airmen's Association] members were cited for landing in the Chickaloon Flats area. We are pleased to see this area being opened to aviation use in your preferred alternative C. Better yet, for the sake of safety, Alternative D where Big Indian strip is maintained would be our preference. A concern we have is the identification of the boundaries to insure pilots do not get cited for landing outside the approved areas.

Response
We appreciate the comments and concerns. While significantly increasing the area on Chickaloon Flats where aircraft landing would be allowed, some boundaries are still necessary. We hope to minimize confusion in how we describe these boundaries and are open to suggestions as we look to appropriate regulations following the planning process.

Resolved: Other (SEE RESPONSE)

Comment 2

The Airmen also support the opening of additional lakes for aircraft as stated in Alternative D. Again, with limited use during nesting season, how do we identify this restriction?

Resolved: Comment acknowledged; does not provide new information

Comment 3

We [AK Airmen's Association] understand that these lakes have been and will continue to be used by other recreational users. Multiple users may require some safety guidelines be developed.

Resolved: Comment acknowledged; does not provide new information

Letter 29

Respondent: Tom George
Organization: Aircraft Owners and Pilots Association

Comment 1

The Aircraft Owners and Pilot's Association (AOPA), on behalf of over 415,000 general aviation pilots, including over 4,200 pilots in Alaska, supports increasing aircraft access in the Kenai Wildlife Refuge, with appropriate safeguards for refuge resources and aviation safety.

Resolved: Comment acknowledged; does not provide new information

Comment 2

We [Aircraft Owners and Pilots Association] support increasing areas for wheel-plane access in Chickaloon Flats, as described in Alternative D.

Resolved: Comment acknowledged; does not provide new information

Comment 3

We [Aircraft Owners and Pilots Association] support re-establishment of the Indian Creek air strip, as it is currently unusable due to brush. While the USFWS will need to manage maintenance of the air strip, we note that an aviation group is currently partnering with the National Park Service to assist in maintenance of back-country strips in the Wrangell St. Elias National Park on a volunteer basis. This may be a model which would help reduce costs to the refuge for ongoing maintenance of the Indian Creek air strip.

Response
We have revised the final revised Kenai CCP to allow maintenance of the Big Indian Air Strip. We have not generated a plan yet as to how we will accomplish the work.
Resolved: Other (SEE RESPONSE)

Comment 4

AOPA [Aircraft Owners and Pilot's Association] also support increasing airplane access to lakes, as described in Alternative D.

Resolved: Comment acknowledged; does not provide new information

Comment 5

We [Aircraft Owners and Pilots Association] have not conducted an examination of each of the lakes listed in the plan, and would encourage the Fish and Wildlife Service to establish an aviation stakeholder group to look at individual lakes from an aviation safety perspective. The stakeholder group, with representatives from different aviation organizations active in Alaska, could also help devise ways to communicate more clearly the areas that are open for access, to help reduce the incidents of pilots inadvertently landing in closed areas.

Response
The suggested stakeholder process is beyond the scope of this planning process. Safety is a primary concern; however, among various issues regarding aircraft use of lakes, and the recommendation is appreciated.

Resolved: Other (SEE RESPONSE)

Letter 30

Respondent: Norbert Miller

Comment 1

The first thing that strikes me is that some rules are intrinsically un-enforceable and should simply be struck from the books. The prohibition on the collection, for personal use, vegetation, fungi, and antlers is a fine example of this, and I see, fortunately, that this is one rule that will be heavily modified in whatever alternative is adopted. But - 8 antlers per person? How in the world will this be enforced? Or what is the purpose of limiting collection to this number? Will a person have to register every antler collected? This is but one example of what has been described by others to me as micromanagement that ought to be simply abandoned.

Response
We understand the concern about resource collection regulations. General regulations prohibit the collection/removal of any natural object from national wildlife refuges without a permit. The proposed regulatory change should provide a welcome exception to this prohibition.

Resolved: Other (SEE RESPONSE)

Comment 2

Another thing that strikes me as odd is the blanket prohibition on bicycles for reasons that are unclear to me. It seems that horses are acceptable, but bicycles are not. I simply do not understand the thinking behind this, if I am reasoning from the perspective of environmental impact/damage. And yet - with such a rule in place, the Refuge will not prohibit the use of motors on the Kenai River. It seems to me that any reasoning that would prohibit bicycles would also declare the river to be a no-motor zone. I feel less strongly about allowing bicycles than I do about prohibiting motors - I believe that

making the river "drift only" is the simplest and most practical way to reduce the impact on the river environment. (My suggestion is to make the motor prohibition seasonal, when traffic is highest.) Yes, the river guides will scream bloody murder - for a little while. Then when they realize that their operating costs are way down and everyone's in the same boat, so to speak, the din will quiet down. Whatever the case, I think the Refuge needs to clarify its thinking and explain itself to the public as to how such a contradictory set of rules, one prohibiting bicycles, and one upholding the use of motors on the river, can be upheld at the same time.

Resolved: Comment acknowledged; does not provide new information

Comment 3

Regarding goals and objectives - please keep them realistic and relevant. I bring to your attention Objective 7.12 at the bottom of page S-20: "Within ten years of Plan's approval, improve overall recreation-related visitor satisfaction in the Skilak Wildlife Recreational Area to 90 percent or higher. Recreationists surveyed will include…" What in the world could this possibly mean? It seems to me that the Refuge is setting itself up to be merely jerked around by public opinion. And - it's essentially meaningless. Suppose that ten thousand people visit per year, on average, and half consider it worthwhile. Suppose that the Plan is approved, in whatever form, and after that only five thousand visit, on average, per year, and 90% of those consider it worthwhile. Great - Objective 7.12 has been met, and the Planners can pat themselves on the back. But fewer people have visited, and fewer are really satisfied.

Response
The points are good ones - pointing out some potential problems with surveys, statistics, and related goals. We do believe, however, that we should strive to provide for visitor satisfaction as practical, and it is important for us to gauge how well we are doing in this regard over time.

Resolved: Other (SEE RESPONSE)

Comment 4

The Comprehensive Plan is far too comprehensive. Get rid of unreasonable or un-enforceable rules, like the berry and antler harvesting rules, but don't replace them with equally unenforceable limits. Paving Skilak Loop is a bad idea, and will only increase traffic and reduce the wild "feel" of the place. Motors good, bicycles bad? Explain - and do so in a reasonable manner, not a mere parroting of policy.

Resolved: Comment acknowledged; does not provide new information

Comment 5

It bothers me greatly that a fine plan can be drafted up on a grand scale – but ongoing maintenance is neglected. I shall mention one example: last year, on the Swanson River Canoe Trails, I was rather disappointed with the condition of many of the "docks" that are provided at the softer, muddier lakes to aid in launching one's boat while avoiding getting wet and muddy as well as tearing up the delicate vegetation at the shoreline. It had been a couple of years earlier that I had visited before, and even then a good amount of maintenance was needed. It's just gotten worse since then, so I know that it's been several years since anything was done at all. If the

Refuge really wishes to serve the public, things like ongoing maintenance, as mundane as that is, should take a higher priority than coming up with new plans for the future.

Response
We agree. Maintenance on a 2 million acre public area with over 1 million visitors each year is an ongoing challenge. This does not lessen our need to complete comprehensive planning exercises,

but reminds us that whatever we build we must also maintain. The canoe system docks were constructed as a Boy Scout project and only served well for a year or two.
Because of freeze-thaw issues they may not make sense to retain. We will ask trail crews to evaluate them each season and determine an appropriate action: whether to leave them be, repair them, or remove them.

Resolved: Other (SEE RESPONSE)

Letter 31

Respondent: Clarence A Petty

Comment 1

In view of the increase of human populations throughout the world even including Alaska, the emphasis on planning for the future must include protection of the natural resources particularly fish and wildlife.

Resolved: Comment acknowledged; does not provide new information

Comment 2

The "Preferred Alternatives" does not favor sufficient protection of the natural resource.

I recommend that protection of the natural resources be given more emphasis.

Resolved: Comment acknowledged; does not provide new information

Letter 32

Removed: Not public comment

Letter 33

Respondent: William M Cox MD

Comment 1

Island campsites in Gavia Lake, Look Lake, Kuviak Lake, Campers Lake, etc. receive high impact from human waste which is likely to be anywhere. Composting low-impact toilets serviced annually would concentrate the waste visitation is not overwhelming.

Response
The preferred alternative requires stipulations on handling of human waste (burying away from water bodies) and should address concerns at high-use campsites such as those referenced. Designated sites (composting toilets) work well in some locations, but may not be where needed by many visitors and can have maintenance issues, including interference by bears and other animals.
Resolved: Other (SEE RESPONSE)

Comment 2

Keep the canoe system non-motorized all year round!

Resolved: Comment acknowledged; does not provide new information

Comment 3

Phase out aircraft landings and commercial activity on Wilderness Lake and King Lake (as permits expire, over 20 years or even the working lifetime of existing users). These 2 lakes belong in the non-motorized wilderness canoe system.

Resolved: Comment acknowledged; does not provide new information

Letter 34

Respondent: Dori Hollingsworth

Comment 1

I write with regard to the conservation plan in the Mystery Creek Access Road and Pipeline Corridor. As per the current proposal for this area there is no mention of traditional dog sled travel as part of the allowable user groups. I am asking for the inclusion of mushing with respect to traditional travel and training within this area. There is an established history of use by dog teams in this area. I would like to see this user group added in writing to the 15-year plan before it becomes finalized. Also I would ask that dog team travel be included in the permanent use category alongside pedestrian and horse travel. The impact would be similar or less than given the snow cover during the winter months. Additionally, for safety purposes for all user groups I am asking for a parking area to be established.

Response
Dog mushing, subject to refuge specific regulations, is currently permitted on the Refuge and will continue to be permitted, as per management guidelines, under all alternatives. Nothing was proposed in the draft revised comprehensive conservation plan that would lessen the opportunity to engage in dog mushing. Additionally, we will evaluate the options for constructing a parking area near the Mystery Creek Access Road gates. This is a small potential project that we can undertake as part of our routine maintenance and does not need to be evaluated in the CCP. This improvement could benefit a variety of users, including dog mushers.

Resolved: Other (SEE RESPONSE)
Citation: Appendix C (ACCESS) (Page C-51 in draft.

Letter 35

Respondent: Laurie Cramer

Request Information: Mailing list only or nothing to code (do not attach a flag)

Letter 36

Respondent: Scott Hagan

Request Information: Mailing list only or nothing to code (do not attach a flag)

Letter 37

Respondent: Mitch Seavey

Comment 1

Last winter alone my teams logged over 3000 training miles on the pipeline and the Mystery Creek Road. We own 155 acres nearby with extensive improvements, for the sole purpose of training sled dogs on the pipeline. If dog mushing were excluded from the gas pipeline and Mystery Creek Road it would be a disaster for us. Again, we have been training here since the 1960s.

Response
Dog Mushing, subject to refuge specific regulations, is permitted under all management categories of. There is no proposal to restrict or eliminate dog mushing on the Refuge. (Additionally, see response to letter 34).

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Appendix C (ACCESS) Page C-51 of Draft

Letter 38

Respondent: Heather Dunbar

Request Information: Mailing list only or nothing to code (do not attach a flag)

Letter 39

Respondent: Alan Barass
Organization: Tsalteshi Trails Association

Comment 1

Both trail and backcountry skiing have a long history on the refuge. The first manager, Dave Spencer, was a strong advocate of skiing as a means to view winter wildlife. The developed trails around Headquarters and Nordic Lakes date from the mid-1960s when they were first laid out by a competitive skier named Joe Stansky with the assistance of the local Kalifornsky Nordic Ski Club including the Billingslea, Ischi, Odum, and Kjelstad families among many others. In addition, many of the summer hiking/canoeing trails double as winter ski trails particularly those in the Swanson River Canoe system. Tustumena, Skilak, Hidden and other large lakes are an excellent place to ski, as are the Swanson, Moose and other rivers systems. We [Tsalteshi Trails Association] believe that cross country skiing enhances the KNW Refuge Comprehensive Plan's Goal 7, Wildlife Oriented Recreation. As a non-motorized activity, cross country skiing represents one of the best ways to view and photograph wildlife in a natural winter setting. I have personally seen moose, spring bears, wolves, coyotes, river otter, hare and other smaller mammals and, of course, all the winter birds while skiing on the refuge. (The largest brown bear tracks I ever saw were in July skiing on the Harding Ice Field.) In addition, cross country skiing is a form of self-taught "outdoor recreation" as people encounter the winter landscape and its animals and through activity and experience form a code of ethical wilderness standards.

Resolved: Comment acknowledged; does not provide new information

Comment 2

We [Tsalteshi Trails Association] support the continued operation of the cross country ski trails in the vicinity of Headquarters and Nordic Lakes.

Resolved: Comment acknowledged; does not provide new information

Comment 3

When new backcountry trails are developed or old trails are modified, we [Tsalteshi Trails Association] support a design compatible with cross country skiing wherever possible. (e.g. no sharp turns at the bottom of steep hills).

Resolved: Comment acknowledged; does not provide new information

Comment 4

We [Tsalteshi Trails Association] support the status quo or expansion of non-motorized areas such as the wilderness areas in the Swanson River area. Snowmachine use has intensified over the years and in some places stresses winter wildlife and is potentially hazardous to human-powered activities such as cross-country skiing. We feel there needs to be places where non-motorized winter activities can be undertaken in safety.

Response
We do not have good information on snowmachine use on the Refuge. Alternative E: The Preferred Alternative requires studies be conducted in cooperation with stakeholders to "evaluate the effects of use on Refuge resources [i.e., wildlife or wildlife habitat] and visitor experiences."

Resolved: Other (SEE RESPONSE)

Comment 5

Resolved: Other (SEE RESPONSE)

We [Tsalteshi Trails Association] support connecting the Tsalteshi Ski Trails on the west side of the Sterling Highway to the trail system on Refuge lands on the east side of the highway via an underpass. a. An underpass would connect the Tsalteshi Ski Trails both to the Headquarters and Kenai Peninsula Sled Dog Racing Trails and to the complex of current trails extending to Slikok Lake. Historically, activities on these trails have included the largely compatible non-motorized activities of cross country skiing, snowshoeing, dog mushing and skijoring. b. We understand that the refuge would retain its right to establish rules and procedures that might differ from those of the Tsalteshi system and these could be enforced via signage as one passed from one to the other. (for example: the refuge does not permit races, while Tsalteshi trails system does; Tsalteshi does not permit dog teams, the refuge does on portions of this trail system) c. Potentially one could ski or snowshoe from the Tsalteshi trailhead on Kalifornsky Beach Road through the refuge system and even connect the Funny River Horse Trails going from a near-urban area to largely pristine boreal forest to the Skilak Bench lands above treeline (although probably not in one day) making it one of the most remarkable winter trails systems in the United States doing for winter what the Refuge's canoe system does for summer activity. d. This underpass which would double as a getaway for wildlife, potentially reducing highway moose kills.

Response
The specific proposed project is outside the scope of the revised Kenai NWR CCP but is consistent with some of its goals and objectives, and may logically be added to future planning required to implement the preferred alternative in managing Ski Hill Road. While the Refuge may have some operational concerns regarding the proposal, we are supportive in principle, and look forward to future partnerships with Tsalteshi Trails Association on area trail development and maintenance.

Resolved: Other (SEE RESPONSE)

Comment 6

We [Tsalteshi Trails Association] share a mission of bonding people to the land in productive, healthy nondestructive ways that creates an ethic that values a wild Kenai Peninsula.

Resolved: Comment acknowledged; does not provide new information

Letter 40

Respondent: James H Richardson

Comment 1

The part that interested me most as a land owner in Cooper Landing and as a retired Fire Management Officer for B.L.M was the portion relating to prescribed fire and wild land fire use. I noted that there were references to these programs on at least thirty pages and figures. These references applied to management of habitat resources on the refuge, but totally neglect to mention the effect on and protection of adjacent land owners and local communities including Cooper Landing, Sterling, Soldotna, Kenai, and other peninsula communities, and Anchorage. In past years I have seen the threat of uncontrolled wildfires and smoke from the refuge to these communities. In 1969 the Swanson River camper's fire which escaped initial attack control when small because of refuge policy on use of cats later threatened Kenai and Soldotna. Nearly 100 cats and 20 million dollars were needed to contain the fire. In 1991 another camp fire on upper Skilak Lake (the Bear fire) escaped minimal control and spread to Forest Service land on the Russian River. It jumped the Kenai River and threatened Cooper Landing. The Fire Management Officer said in a nightly fire review meeting that he could give us only two hours to evacuate from Cooper Landing. In recent years, one wildfire was allowed to burn with the resultant smoke choking people sterling and Anchorage, and other communities. A fire that big can be very difficult or nearly impossible to control. Another wildfire south of Skilak Lake was allowed to burn all summer with no suppression effort until the Alaska Wildlands Adventure lodge and cabins were threatened. The manager had to obtain a pump and fight the fire to protect the buildings.

Response
We had only minimally included mention in the "air" impact analysis; see Chapter 4, Section 4.3.1.1 - "Minimizing the effects of fire on communities and recreation areas in and around the Kenai Peninsula...would continue to be a priority for the Refuge." We have added, now, to Chapter 2, Section 2.1.4 Management Direction Common To All Alternatives more discussion of potential impacts of uncontrolled wildfire to adjacent lands and communities.

Resolved: Other (SEE RESPONSE)

Letter 41

Respondent: Ashley Irman

Request Information: Mailing list only or nothing to code (do not attach a flag)

Letter 42

Respondent: Paul D Forman MD

Request Information: Mailing list only or nothing to code (do not attach a flag)

Letter 43

Respondent: James Browning

Comment 1

I did review certain sections that were of interest to me, particularly those related to the use of airplanes. As a long time pilot with experience in the Kenai area, I was dismayed to note that the preferred alternative selected by the refuge concerning landing airplanes in lakes was the status quo. In my evaluation of the issue, this is simply not a responsible or reasonable decision. I understand that the Refuge has mandates to conserve wildlife and maintain wilderness, but nothing in this document shows that the continued restrictions for landing airplanes in the Refuge are not necessary to protect either, and primarily serve the unnecessarily prevent access by the public in order to enjoy public lands.

Response
Since 1985 and the development of the previous CCP in response to new refuge purposes under ANILCA, a lot has changed. In 1980, the residential human population in the Kenai Peninsula Borough was 25,000. The population has since doubled to over 50,000 with ~1,000 new residents added to the Peninsula annually at the current growth rate of 2.2%. Similarly, the Anchorage population has increased ~100,000 during the same interval. Other issues have risen in the past 20 years that overshadow our earlier concerns about the local swan population including increased aircraft traffic, noise pollution, the spread of invasive plants, and a general increase in recreational use of refuge resources. Aircraft landings on lakes and associated noise enroute clearly have the potential to impact other wildlife besides trumpeter swans, especially brown bears, wolves, loons and harlequin ducks. The most sensitive times of year for water birds, during nesting and molting, are also the most heavily used periods of time by aircraft. In the National Park Service's report to Congress on the effects of aircraft overflights (1994), the primary concern expressed was that low-level flights over wild animals may cause physiological and/or behavioral responses that reduce the animals' fitness or ability to survive. Loss of fitness could be manifested as accidental injury, reproductive loss, energy losses, habitat avoidance and abandonment, and potential bird strike hazards. Over 200 published and unpublished reports can be found on the subject, most of which documents the effects of aircraft on waterfowl, raptors, and other birds (Bowles et al. 1994).

Resolved: Other (SEE RESPONSE)

Comment 2

In the mid 1980's, the refuge made the determination that aircraft needed to be prohibited form the vast majority of the refuge in order to protect what they saw as a dwindling trumpeter swan population. We were told by refuge staff that when swan populations increased the regulations would be relaxed. Now, over 20 years later, and after significant increases in the population of swans, the refuge has once again determined that swans need additional protections despite their population being above the target levels set in the 1980's and that the entire Pacific Coast population of trumpeter swans has increased by about 60%. This just does not make good sense or comply with your Mission to conserve wildlife and benefit the American people. What, exactly, is the benefit in preventing people from using these lands particularly after the resource has exhibited such resilience?

Response
See response to comment 1 above.

Resolved: Other (SEE RESPONSE)

Comment 3

I have to tell you that in reviewing this document, I fond some examples of "creative logic" for preventing the public from landing on these lakes. You seem to have invented data that I cannot find printed anywhere else but in this CCP. Do you really think that "The anticipated increase in population growth and an aging population for Anchorage and the Kenai Peninsula over the life of the Plan would result in a corresponding increase in airplane ownership and recreational use within the Refuge?" It's my sense of general aviation today that as fuel and aircraft prices increase, in addition to insurance and maintenance, the number of people willing and able to continue as aircraft owners and pilots is dwindling. I believe a check with the Aircraft Owners and Pilots Association (AOPA) on their membership statistics over the recent past would bear that out. As people get older my experience is that they fly less, not more. They have reduced incomes and more trouble passing flight physicals. I know, I am getting " a bit long in the tooth" myself and while I can still pass my flight physical, it gets a bit harder each year and I don't have to tell you that the price of fuel, maintenance and insurance have been keeping my feet on the ground more and more the past few years. Especially this year.

Response
We agree with part of the reviewer's comment. An "aging population" was deleted. However, the high rate of residential population growth on both the Peninsula and in the Anchorage area as described in the previous response is a concern. See Section 3.4.4.3 for statistics on aircraft traffic.

Resolved: Other (SEE RESPONSE)

Comment 4

In addition, you also make the statement that the Kenai "Receives a tremendous amount of airplane use" but then say that "precise estimates for total aircraft using the refuge do not exist", and then somehow make the statement that airplane use is increasing at a commonly accepted 2.5% per year. Accepted by whom? I couldn't find this fact anywhere else. I'm a retired professional biologist with over 35 years experience flying in Alaska and would want to be citing reliable sources if I'm going to present such flimsy statistics on public use. Better work is expected of professionals, particularly if public policy is going to be based on the numbers.

Response
See Section 3.4.4.3 for statistics on aircraft traffic. However, to make a case that aircraft traffic is positively correlated with residential population growth doesn't seem unreasonable. The high rate of residential population growth on both the Peninsula and in the Anchorage area is a concern. As stated in the responses to the preceding comments, other issues have arisen in the past 20 years that overshadow our earlier concerns about the local swan population including increased aircraft traffic, noise pollution, the spread of invasive plants, and a general increase in recreational use of refuge resources.

Resolved: Other (SEE RESPONSE)

Comment 5

Another item that I think you're being less than candid with the public on is the number of lakes that you can actually land an airplane on. The document says that there are hundreds of lakes open for landing airplanes, but that isn't necessarily so. In the Wilderness area, which is about 2/3 of the

refuge, you can only land on 40 some lakes, not hundreds. And you can only land on them if they don't have swans nesting on them according to regulations for the refuge. Other than the wilderness area, there are few lakes to land on, so in actual effect, most of the Park is closed to airplane landings. You should be very clear to the general aviation public about what is and what isn't open. The way you present this is just not accurate.

Response
See Section 4.3.10 that explains how we've estimated that at least 580 lakes within the refuge would be open and potentially useable by a standard Piper Super Cub. Swans have high nest site tenacity over their relatively long lives; consequently, lakes used for nesting from year to year are fairly predictable. Successful swan pairs will sometimes move older broods into better brooding habitat or if disturbed; consequently, the refuge conducts an aerial survey just before the hunting season to identify lakes that are being used by swan broods. The reviewer may call the refuge to get an update. The reviewer's comment also makes reference to the Refuge as a "Park", and may be confusing our legislative mandates with those of the National Park Service.

Resolved: Other (SEE RESPONSE)

Comment 6

Throughout the discussion concerning swans, I did not vote any proactive work that the refuge was engaged in to determine the effect of the closures to swans, other than to say that the populations had increased since the closures. This is pretty disingenuous, since the population of swans increased throughout Pacific Coat and not just on the KNWR. Early in this you say that F&G proposed several studies about swans but that you wouldn't be doing any of them since they were "impractical, unfeasible, or too expensive to implement." I reviewed the proposed studies and they looked practical, feasible and seemed reasonable cost wise considering some of the other things that you intend to do. (For example, to put signs every 1000 ft on each road, trail and entry point to the refuge. How much will that cost and at what cost to the views present? Pretty silly and a potential huge waste of public funds given the potential number of signs involved.) Perhaps refuge staff could review some of the proposed work again and seriously consider them as they may allow you to make reasonable decisions that would conserve wildlife and allow for public use. The public use part is a part of your management strategy that seems to get left behind all too often.
Response

See page 2-3 for explanation on why further research on aircraft impact to swans broods is considered unnecessary.

Resolved: Other (SEE RESPONSE)

Comment 7

I did like the increased area that would be open for landing at Chickaloon Flats. You did this part right by expanding the areas where people can land for hunting and fishing. The current area "boxes" were poorly chosen by someone who knew little about the needs for landing airplanes. Those boxes were not near places where people wanted to hunt or fish and had lousy stretches for landing, making it dangerous to use them. I don't think that opening up the area will result in a considerable increase in use, because there are only so many decent places to land and people will use them. I am a bit concerned about what will be determined as "unvegetated" for enforcement purposes. I didn't see that defined. Will driving over a bit of beach grass be a problem? That would be good for public to know.

Response
The description of the proposed areas to be opened on Chickaloon Flats includes generally unvegetated areas and the point made is a good one. The regulation will include a boundary description to depict generally unvegetated areas, but some vegetation will certainly occur there. Pilots landing in the zones to be described will not have to worry if there is some vegetation present.

Resolved: Other (SEE RESPONSE)

Comment 8

Your lengthy discussions about snowmachines are a bit overwrought but I did like the proposal to "zone" the refuge to take advantage of differing snow depth, particularly in the Caribou Hills. Very often the Caribou Hills have decent snow cover early in the season but are closed while we wait for the rest of the refuge to get adequate snowfall. I think that Denali Park uses such a zone process and it works well. We could get to the Caribou Hills from the Homer side of the Kenai and have early season snow machining. I hope you reconsider the selection for this and provide some maps (which are notable by their absence) that could show how the zones would be laid out. That would at least lend credence to you having seriously looked at this before making up your mind.

Response
The Refuge was asked to look at zoning of areas on the Refuge for snowmachine use as part of scoping, identifying issues for the revised Kenai CCP to address. We looked at this issue and determined that there is nothing in current plans or regulations that prohibit the Refuge from opening or closing certain areas of the Refuge earlier or later than other areas. The only limitation is on whether the areas are included in locations that are eligible for snowmachine use, and that the authorization is for a time between December 1 and April 30. The Refuge has opened the Caribou Hills earlier than other areas in the past and will continue to consider this as an option in the future.

Resolved: Other (SEE RESPONSE)

Letter 44

Respondent: Mike Kush

Comment 1

I do not think that the alternatives you choose adequately allow aircraft use in the Refuge as was intended under ANILCA. Prior to 1985 I used to use lakes in the Refuge for camping, fishing and hunting. After 1985 few lakes remained open for my use, purportedly to protect trumpeter swans. At the time the regulations were passed we were told by the Refuge that the restrictions on landings were only temporary and that we would eventually be allowed to use these lakes again when swan populations increased. Here it is 20 some years later and there are no changes being considered in the ability to use aircraft in the area despite swan populations having increased not only here but also in areas across the state where there are no restrictions on landing aircraft. I strongly disagree with this.

Response
See the responses to the comments to the letter above.

Resolved: Other (SEE RESPONSE)

Comment 2

It is particularly hard to understand the continuation of these closures [of lakes to aircrafts] when there is not new science or even proposed studies to look at the effect of airplanes on swans. The Plan references several things that could be affecting swans and the lakes they use such as the ph levels

or canoes or other influences but it seems the only group that is paying the price here are airplane operators. I don't see the lakes closed to canoes.

Response
See our response to the preceding letter. Also, aircraft probably have as much access to lakes refuge-wide as canoes because canoe access is restricted by the existing road network and established portages.

Resolved: Other (SEE RESPONSE)

Comment 3

I fail to see why none of the proposals the ADF&G made for studies were not followed through on by the Refuge. They all seemed reasonable to me. Additional areas for landing airplanes are needed on the Kenai and this Plan does not provide it.

Response
See our responses to the preceding letter.

Resolved: Other (SEE RESPONSE)

Comment 4

I wanted to discuss the comment made in the Plan that, "The anticipated increase in population growth and an aging population for Anchorage and the Kenai Peninsula over the life of the plan would result in corresponding increase in airplane ownership and recreational use within the Refuge. Where in the world did you think this up? I have been flying small planes in the Alaska for over 30 years and have never seen this factoid anywhere. It is simply not true. If anything, as people get older they fly less as they have a reduced income and physical ability to fly. This is simply silly. But in addition, you also make the claim that the Refuge receives "a tremendous amount of airplane use" and "precise estimates for total aircraft using the Refuge do not exist" along with the fact that airplane use is increasing at a "commonly accepted" annual rate of 2.5%. I looked through this Plan pretty thoroughly and did not see anything that supported this anywhere. How can you manage use on public lands without real data?

Response
We agree with part of the reviewer's comment. An "aging population" was deleted. See our responses to the preceding letter. See Section 3.4.4.3 for statistics on aircraft traffic.

Resolved: Other (SEE RESPONSE)

Comment 5

I think you're using a switch and bait concept when you talk about all the lakes that are open to land on. You talk about hundreds of lakes being open but the truth is that most of the lakes on the refuge are closed, including all but about 45 in the entire wilderness area that makes up about 1,300,000 acres of the refuge. You also have a regulation that makes it difficult for anyone to safely land on a lake that is open by making it illegal to land on a lake with a nesting swan. This regulation is really difficult to comply with because where swans nest changes from year to year and if you happen to miss seeing one and land you could get ticketed. And with more and more swans on the refuge there are more and more lakes closed every year. Here does that end? Why isn't hat being changed in this?

Response

See Section 4.3.10 that explains how we've estimated that at least 580 lakes within the refuge would be open and potentially useable by a standard Piper Super Cub. Swans have high nest site tenacity over their relatively long lives; consequently, lakes used for nesting from year to year are fairly predictable. Successful swan pairs will sometimes move older broods into better brooding habitat or if disturbed; consequently, the refuge conducts an aerial survey just before the hunting season to identify lakes that are being used by swan broods. The reviewer may call the refuge to get an update.

Resolved: Other (SEE RESPONSE)

Comment 6

I did want to commend you on the decision to allow a larger area for airplane lands in the Chickaloon Flats area. This is a long overdue decision. The current areas that lands are allowed in don't let hunters or fishermen get to the places they want to go because they are in poor locations to safely land planes or are cut off from hunting and fishing areas by tidal guts. This is a good decision. But by unvegetated will that allow me to run over a bit of weed or grass without being ticketed? Is there a definition of unvegetated that I'll have to comply with or will common sense prevails and it not have to be completely barren of all vegetation but could have a few tufts of grass and weeds and be OK?

Response
The description of the proposed areas to be opened on Chickaloon Flats includes generally unvegetated areas and the point made is a good one. The regulation will include a boundary description to depict generally unvegetated areas, but some vegetation will certainly occur there. Pilots landing in the zones described will not have to worry if there is some vegetation present.

Resolved: Other (SEE RESPONSE)

Comment 7

I want to let you know that I think you should choose an alternative that allows the zoning of the refuge for snow machine use. The Caribou Hills are often deep in snow before the rest of the refuge has any while the entire refuge remains closed waiting for the rest of it to get snow cover. This makes no sense to me. If the Caribou Hills were open we could use that area early in the season, getting there from the State and public lands behind Homer, which also get snow early on. I did not see proposed "zones" noted in the plan but it should be easy to make some as well as get the word out to folks that use the area through the people who already maintain the trails. Chugach State Park does this and I think that Mt. McKinley Park does too.

Response
The Refuge was asked to look at zoning of areas on the Refuge for snowmachine use as part of scoping, identifying issues for the revised Kenai NWR CCP to address. We looked at this issue and determined that there is nothing in current plans or regulations that prohibit the Refuge from opening or closing certain areas of the Refuge earlier or later than other areas. The only limitation is on whether the areas are included in locations that are eligible for snowmachine use, and that the authorization is for a time between December 1 and April 30. The Refuge has opened the Caribou Hills earlier than other areas in the past and will continue to consider this as an option in the future.

Resolved: Other (SEE RESPONSE)

Comment 8

There does seem to be some discussion in the Plan about snowmachines and impacts to caribou and moose. I think most of that is a lot of baloney. The Caribou Hills may be named for caribou but to my eye, the habitat for caribou is pretty limited. Moose don't seem to be bothered by snowmachines in

the area unless people are directly harassing them and that's already illegal everywhere and an enforcement issue not a simple snowmachine use problem for the guys that are obeying the laws.

Response
The original woodland caribou population that inhabited the Kenai Peninsula was extirpated around 1912. The last few individuals were harvested from the Caribou Hills. Snowmachine use may be preventing caribou from re-establishing in Caribou Hills. Impacts of snowmachines on caribou have been well-documented (Klein 1971, Horeisi 1981, Simpson 1987, Smith 1988, Tyler 1991). Caribou avoid unfamiliar stimuli and are especially susceptible to disturbances in early winter (Geist 1971, McCourt and Horstman 1974). The sound of snowmachines alerts caribou to an unnatural presence. The sight, scent, and noise created by fast-moving snowmachines leads to avoidance of high use snowmachine areas. Moen et al (1982) suggested that large groups of snowmachines roaming an area may unintentionally "chase" animals. Simpson (1987) states that being surrounded by fast moving sound stimuli may panic caribou because they are unable to locate multiple threats when scent triggers flight. Caribou are capable of locating and avoiding a few machines, but many moving vehicles may elicit panic behavior and lead to abandonment of an area. Careless use of snowmachines during the calving period could also cause a loss of females and calves. It is possible that some moose may be habituating to snowmachines if they're not harassed. However, these kinds of casual observations can be misleading. MacArthur et al. (1982) showed that mountain sheep continued to have elevated heart rates when disturbed by aircraft despite showing no evidence of behavioral response. Also, using individually-marked waterbirds, Klein (1989, 1993) showed that some individuals at Ding Darling NWR were tolerant of human disturbance, but many flushed immediately. This is inherently the problem with many casual observations of human-wildlife interactions is that the individual animals observed may not be representative of the population as a whole.

Resolved: Other (SEE RESPONSE)

Comment 9

When ANILCA was passed we were told that we would be able to keep doing things up here as we always had, able to use snowmachines and airplanes in a responsible manner. But since ANILCA I feel that we airplane and snowmachine users get the short shrift on being able to go to refuges and parks. I enjoy going to places just like folks who walk or ski in, looking at wildlife, the scenery or just enjoying being there. I just happen to use an airplane or snowmachine ad the refuge seems to want people like me to go somewhere else.

Resolved: Comment acknowledged; does not provide new information

Letter 45

Respondent: Charles Fryer

Comment 1

In general, I think the range of alternatives (i.e., Alternatives A-E), as they relate to issue [5], are acceptable.

Resolved: Comment acknowledged; does not provide new information

Comment 2

More specifically, I think Alternative E (the Preferred Alternative), as it relates to issue [5] is unacceptable. Big Indian airstrip is unusable. It is overgrown. There are 2 cabins in t area that could/should be used and there is no easy access by air. It should be maintained. Also the northern airstrip on the Alaska Pipeline Corridor should be opened and maintained for public use.

Cars, trucks, ATV's, etc. can use the road thru this airstrip and do. There is nothing there to be vandalized or damaged by aircraft.

Response
The preferred alternative has been modified to allow maintenance of the Big Indian Airstrip. The other airstrip mentioned was built to support the construction of the pipeline nearly 50 years ago. It has since become part of the access right-of-way and licensed highway vehicles or snowmachines use this old runway as the "road" when the area is open to their use. Because of safety considerations, the fact that the runway was constructed as part of a limited right-of-way permit and not for public access, and because there is no public use cabin or nearby fishing lake or stream, opening this old strip was not considered in the planning process.

Resolved: Other (SEE RESPONSE)

Comment 3

The cabin at 60.53.292 N, 150.01.878 was burned by the USFWS. It does not exist, and it is all swamp and is unusable by wheeled or float aircraft.

Response
The old cabin near Pincher Creek was replaced with a new public use cabin (constructed summer 2008). It is accessible by wheeled aircraft on the beach, or by float-equipped aircraft depending on the tides.

Resolved: Other (SEE RESPONSE)

Comment 4

The area along the Chickaloon River, especially the mud flats, should be opened to wheeled aircraft. In the past, citations have been given for loading along the river.

Response
The preferred alternative will open much of the tidally influenced areas in the Chickaloon Flats. The specific landing area inland, and adjacent the private property along the Chickaloon River, was not proposed for opening, primarily due to concerns over concentrated aircraft use and by recommendation of the Interagency Brown Bear Study Team.

Resolved: Other (SEE RESPONSE)

Letter 46

Respondent: Thomas P Lonnie
Organization: US DOI BLM Alaska Office

Comment 1

I am responding to you directly with two issues related to oil and gas activities that the BLM permits on the Kenai NWR: (1) ability for the BLM to use Energy Policy Act Categorical Exclusions, and (2)

identification of surface protection measures. Additional comments on the Draft Kenai CCP will be submitted to Rob Campellone, Region 7 Conservation Planning, as requested in the Draft EIS. As you know, our agencies work closely during the permitting of oil and gas drilling on existing leases within the Kenai NWR. Prior to approving oil and gas drilling permits, the BLM must ensure an environmental document is prepared in conformance with the requirements of the National Environmental Policy Act (NEPA).

The Energy Policy Act of 2005, Section 390, established several Categorical Exclusions related to oil and gas development that preclude some activities from further NEPA analysis. For many permits considered on the Kenai NWR, we would like to be able to apply Categorical Exclusion #3. However, we are constrained from using the exclusion because there is no approved land use plan that analyzed drilling as a reasonably foreseeable activity. The BLM land use plans do not cover decisions or actions concerning the USFWS's surface.

Response
Analysis of the effects of drilling is beyond the scope of this environmental impact statement and the Refuge comprehensive conservation plan. We look forward to working with the Bureau of Land Management to address National Environmental Policy Act compliance concerns as we implement the revised comprehensive conservation plan.

Resolved: Other (SEE RESPONSE)

Comment 2

The BLM would like the Kenai CCP to address future oil and gas activities occurring on existing leases in the Swanson River, Beaver Creek, and Birch Hill Oil and Gas Units. If the Kenai CCP addresses drilling operations as a reasonably foreseeable activity, the BLM would be able to apply the Energy Act's Categorical Exclusion #3, as appropriate. If the Kenai CCP does not address these actions, the BLM must continue to develop EAs for oil and gas drilling permits.

If the Kenai CCP does not address ongoing oil and gas activities, the BLM cannot conform to our regulations requiring our actions to comply with a land use plan (43 CFR 1601.5-3). The BLM's regulations allow our actions related to oil and gas permitting to conform to the Kenai CCP (43 CFR 1610.5-7), but only if the Kenai CCP addresses the action we're permitting.

Response
As stated in our response to other comments, analysis of the effects of drilling is at a level of detail beyond the scope of this environmental impact statement and the Refuge comprehensive conservation plan. We look forward to working with the Bureau of Land Management to address National Environmental Policy Act compliance concerns as we implement the revised comprehensive conservation plan.

Resolved: Other (SEE RESPONSE)

Comment 3

We [US DOI BLM State of Alaska Office] would like the Kenai CCP to identify surface protection measures related to oil and gas activities in the Swanson River, Beaver Creek and Birch Hill Oil and Gas Units. As part of NEPA analysis, the BLM considers various measures and constraints that provide resource protection. Although the BLM permits subsurface activities, we consider surface impacts and apply protection. Although the BLM permits subsurface activities, we consider surface impacts and apply protection measures through the Conditions of Approval for the permit. However, we lack a basis for applying surface protection measures absent a NEPA analysis that addresses the action. We believe the Kenai CCP may be the document to identify surface protection measures to be included in the Surface Plan of Operations or the permit's Condition of Approval.

Response

As stated in our response to other comments, analysis of the effects of drilling is beyond the scope of this environmental impact statement and the Refuge comprehensive conservation plan. We work with the Bureau of Land Management to provide surface protection measures on individual applications for permits to drill. Given the varying conditions of the different oil and gas units, we are not confident that one set of surface protection measures would adequately protect refuge resources. We look forward to working with the Bureau of Land Management to address this issue as we implement the revised comprehensive conservation plan.

Resolved: Other (SEE RESPONSE)

Letter 47

Respondent: Christine Reichgott
Organization: US EPA Region 10

Comment 1

Based on our review of the Kenai National Wildlife Refuge Draft EIS, EPA assigned a rating of "LO" (Lack of Objections). Our [US EPA] review concludes that the proposed plan and EIS will provide a good foundation for future planning actions that will be critical to the long term management of the refuge, such as transportation planning, and oil and gas infrastructure decommissioning. We also find that additional detail should be included in the final EIS regarding efforts around tribal consultation and environmental justice. Each of these recommendations is detailed in the enclosed written comments. A coy of EPA's rating system criteria used in conducting our environmental review can be found at: http://www.epa.gov/Compliance/nepa/comments/ratings.html. This rating and a summary of our comments will be published in the Federal Register.

Resolved: Comment acknowledged; does not provide new information

Comment 2

A number of significant issues were identified for consideration in the Draft Plan/EIS. Many of these issues included public use and access (motorized vs. non-motorized) to the Refuge and the facilities, large scale habitat changes, and the need to balance protection of resources and visitor experience. Public access and use of the Refuge has grown substantially since the development of the 1985 Plan and has affected the natural resources and visitor experiences. In particular, access to the Refuge has expanded due to the development of motorized and non-motorized roads/trails, winter trails for snow machines, and access for aircraft related activities. The Draft Plan/EIS indicates that there are more than 650 miles of State maintained roads in the Kenai Peninsula Borough and more than 100 miles of maintained roads within the Refuge boundary. In particular, the Alaska Department of Transportation and Public Facilities (ADOT and PF) and the U.S. Forest Service (USFS) are evaluating the Sterling Highway MP 45 to 60 project to consider additional road access through the Chugach National Forest and the Kenai National Wildlife Refuge. With the potential for future highway expansion and increased public access, a Transportation Plan for the Refuge would be beneficial to minimize potential conflicts between the competing uses and resources protection. Recommendation. As a future step down plan, EPA recommends that the USFWS commit to developing a Transportation Plan for the Kenai National Wildlife Refuge. A transportation would provide management direction for how public access to the refuge would be provided, general areas where future roads, trails, and public facilities would be provided and/or decommissioned, areas where aircraft and snowmachines access would be allowed and would not conflict with other uses, and natural areas that would be protected.

This plan should be consistent with other transportation efforts at the local, state, and federal levels.

Response
We are working with other federal agencies and the State of Alaska to prepare a state-wide long range transportation plan for federal public lands as required by Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA_LU). As we are still at a preliminary stage in developing this state-wide transportation plan, it would be premature to determine what types of step-down plans might be appropriate. It may be most appropriate to address transportation within Kenai Refuge as part of a broader regional transportation planning effort.

Resolved: Other (SEE RESPONSE)

Comment 3

The Draft Plan/EIS indicates that oil and gas activities have occurred on the Refuge since 1957. Presently, there are 13, 252 acres of active oil and gas leases on the Refuge, including the Swanson River and Soldotna Creek Unit, the Beaver Creek Oil and Gas Unit, and the Birch Hill Oil and Gas Unit. Oil and gas development has resulted in numerous support facilities on the Refuge including roads, well pads, pipelines, and other industrial and residential development. In addition, oil and gas development is a potential source of contamination to water and air resources. A Plan for decommissioning Oil and Gas infrastructure in the Refuge would be consistent with the management direction of the Plan.

Recommendation. As a future step down plan, EPA recommends that the USFWS commit to the development of an Oil and Gas Infrastructure Decommissioning Plan for the Kenai National Wildlife Refuge. This plan would ensure that after the active life of oil and gas fields on the Refuge, proper steps would be taken to decommission the facilities and restore the area for future public uses and expansion of wildlife habitat.

Response
We will take this into consideration as we implement the revised comprehensive conservation plan.

Resolved: Other (SEE RESPONSE)

Comment 4

The Draft Plan/EIS fails to document the Tribal consultation and coordination process consistent with Executive Order (E.O. 13175) Consultation and Coordination with Indian Tribal Governments. Recommendation. The Final Plan/EIS should disclose the Tribal consultation and coordination process by providing a chronology with the dates and locations of meetings with tribal governments, results of the meetings, an a discussion of how the tribal governments' input was used to develop the EIS development phase. This process is an opportunity to gather traditional ecological knowledge (TEK) about local subsistence use and harvest, cultural resources, and migration patterns of subsistence resources in the planning area.

Recommendation. The USFWS should develop a Tribal Government-to-Government Consultation Plan to outline a framework for working effectively with tribal governments in setting the management direction for the Refuge. A Tribal Government-to-Government Plan would be useful in determining the best timing for conducting the consultation meetings which will not conflict with Alaska Native subsistence seasons. We [US EPA] recommend that such a plan be developed in collaboration with interested tribal governments.

Response
We notified affected tribal interests at each stage of our planning process (scoping, planning updates, and draft revised comprehensive conservation plan). We worked closely with tribal governments in the area on matters of mutual concern during the planning process, both specific to goals and objectives in the draft revised plan, and on more specific time-sensitive issues. Traditional ecological knowledge has been compiled for many areas of the Refuge by the Service's office of subsistence management and that information was used, as appropriate, in developing this revised

comprehensive conservation plan and environmental impact statement. We are well aware of the need to be sensitive to seasons of use when developing public involvement activities related to our planning and management activities. While this draft plan was available for public review during the busy summer season we provided numerous opportunities for input and worked closely with local media outlets to insure that local residents were aware of the planning process and opportunities to provide input. We received no requests to extend the public comment period on this document. We will continue to work with local tribal governments in manners which work for both of us. Putting an additional structured consultation process in place would serve no need and would overly burden local tribal governments and the Service. See also comments and responses to letter 17 from Cook Inlet Region, Inc.

Resolved: Other (SEE RESPONSE)

Comment 5

The Draft Plan/EIS does not describe the efforts taken to meet environmental justice requirements consistent with E.O. 12898 Federal Actions to Address Environmental Justice in Minority and Low-Income Populations.

Response
Environmental Justice is addressed in Section 4.7 of the DEIS and FEIS. We concluded that none of the alternatives would place a disproportionate weight of any adverse effects on minority or low-income populations. None of the alternatives would have direct negative impacts on low-income or minority populations. Maintenance of high quality habitat, healthy populations of fish and wildlife, and water quality would likely have beneficial effects on local residents, including low-income and minority populations.

Resolved: Other (SEE RESPONSE)
Citation: See Chapter 4, Section 4.7

Comment 6

The Final Revised Plan should include a detailed EJ analysis, which should include a description of the methodology and criteria utilized for identifying low income and people of color communities, if appropriate; the source of data utilized for these analyses, and the references utilized for establishing the criteria.

Response
See response to previous comment on environmental justice.

Resolved: Other (SEE RESPONSE)
Citation: See Chapter 3, Sections 3.4.2 and 3.4.3

Comment 7

The Final Revised Plan should include a detailed EJ analysis, which should include an accounting of the impacts on low income or minority communities, including, but not limited to, cumulative and indirect impacts, and impacts to subsistence, cultural, and historic resources. In addition, the EIS needs to determine if the impacts to these communities will be disproportionately higher than those on non-low income or minority communities. For such a determination, the EIS should identify a reference community, provide a justification for utilizing this reference community, and include a discussion of the methodology for selecting the reference community.

Response
We addressed the cumulative impacts of implementing proposed management on the biological

environment including subsistence resources in Chapter 4, section 4.3.13.3 and the socioeconomic environment (e.g., local economy and cultural resources) in Chapter 4, section 4.3.13.4. Section 4.7 Environmental Justice states "None of the alternatives evaluated in the Revised Comprehensive Conservation Plan would place a disproportionate weight of any adverse effects on minority or low-income populations."

Resolved: Other (SEE RESPONSE)
Citation: See Chapter 4, sections 4.3.13.3 and 4.3.13.4

Comment 8

The Final Revised Plan should include a detailed EJ analysis, which should include the EIS should demonstrate that communities, if any, bearing disproportionately high and adverse effects, have had the opportunity for meaningful input in to the decisions being made about the Plan. The EIS should describe what was done to inform the communities about the project and the potential impacts that it will have on their communities (e.g., notices, mailings, fact sheets, briefings, presentations, exhibits, tours, news releases, newsletters, reports, community interviews, surveys, stakeholder meetings, etc.), what input was received from the communities, and how that input was utilized in the decisions that were made regarding the Plan.

Response
We describe our public involvement efforts in Chapter 1, sections 1.7.2, 1.7.5 - 1.7.6. Because none of the proposed management alternatives evaluated were determined to have adverse impacts on any of the communities, including low-income and minority residents, located in the vicinity of the Refuge, none were specifically sought for dialogue and discussion beyond that described in the referenced sections of Chapter 1.

Resolved: Other (SEE RESPONSE)
Citation: See Chapter 1, Section 1.7.2

Letter 48

Respondent: Don Pohland

Comment 1

In general, I think the range of alternatives (i.e., Alternative A-E), as they relate to issue [5], are acceptable.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Resolved: Comment acknowledged; does not provide new information

More specifically, I think Alternative E (the Preferred Alternative), as it relates to issue [5], is acceptable.

Resolved: Comment acknowledged; does not provide new information

Comment 3

Citation*: Consequences of Implementing Airplane Access Strategies in the Chickaloon Flats (4-151)*
I'd also like to provide the following comment(s) related to issue [5]:

I agree more of the Flats should be opened. I am still a little vague on "unvegetated". There is vegetation below the highest high water mark – is this grass considered "vegetated"?

Response
Vegetation exists in portions of the areas proposed to be added to new landing areas in the Chickaloon Flats Area. Pilots would not be responsible for landing in areas totally devoid of vegetation, but would be limited to the proposed areas as described (which are primarily "unvegetated").

Resolved: Already addressed in planning documents (SEE CITATION)

Letter 49

Respondent: Jolie Pollet
Organization: US DOI BLM Alaska Office

Comment 1

BLM will be providing comment related to oil and gas activities on existing uses. We would like the CCP to address ongoing oil and gas activities on existing (pre-NEPA) leases. We would like the CCP to address BMPs/not a measure relevant to oil and gas actions or existing leases.

Response
Ongoing activities are addressed in the cited section. Best management practices may change over time.

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: 3.2.4

Letter 50

Respondent: Sara Hepner

Comment 1

In general, I think [Alternative B] (i.e., Alternative A-E), as [it] relates to the issue [issue 2] is acceptable "Working cooperatively with stakeholders…" The Tsalteshi Trails Association as well as other private individuals are interested in being part of this process.

Resolved: Comment acknowledged; does not provide new information

Letter 51

Respondent: Jim Werner

Comment 1

The CCP should include the expected distribution/allocation of costs to be borne for 30 years of infrastructure (roads, electric, emergency services) as well as natural resources.

Response
Thirty years is beyond the planning horizon for the revised Kenai NWR CCP. While the information would be very desirable for managers to have, it would be near impossible to generate meaningful estimates for maintenance and general operations costs so far into the future.

Resolved: Other (SEE RESPONSE)

Letter 52

Respondent: Sara Hepner

Comment 1

In general, I think the range of alternative (i.e., Alternatives A-E), as they relate to the issue [issue 4], are acceptable.

Resolved: Comment acknowledged; does not provide new information

Comment 2

More specifically, I think Alternative E (the preferred alternative), as it relates to the issues [issue 4] is unacceptable. Is there not enough existing information to move toward managing non-guided public use at this time? I support Alternative B as a pro-active approach to easing crowding for the non-guided public.

Response
We believe that the preferred alternative takes more direct action towards reducing crowding along the Upper Kenai River than Alternative B. Fishing is the primary use of the area and therefore contributes to crowding in the most significant way. Alternative E (the preferred alternative) proposes direct action to address this concern, albeit through use level surveys and potential follow-up rule-making and policy changes. Alternative B requires us to cooperatively update existing plans, or initiate new ones, without assurance that any course of action might ultimately be taken to lessen crowding of the non-guided public.

Resolved: Other (SEE RESPONSE)

Comment 3

More specifically, I think Alternative E (the preferred alternative), as it relates to the issues [issue 4] is unacceptable. For sport fishing guides I support the permit reduction, but also suggest reducing starts per week to 8, maximum 3 per day.

Response
Alternative E (the preferred alternative) also allows for additional restrictions, but they are not specifically defined. One example could be permit stipulations that limit when starts may occur, to lessen crowding at specific times. The Refuge is also mindful that, while the number of permits offered can be reduced, more care is necessary in reducing the opportunity offered under each permit to ensure that the operation can be economically viable.

Resolved: Other (SEE RESPONSE)

Comment 4

The fish and the 'wilderness' are valuable resources and all user groups should share equally in their protection.

Resolved: Comment acknowledged; does not provide new information

Letter 53

Respondent: John Lockhart

Comment 1

Over the years, I have seen many changes in our great State. One change has been the limiting of fishing and hunting, by restricting public access to these areas.

Resolved: Comment acknowledged; does not provide new information

Comment 2

Chickaloon Flats is one of two areas I have always hunted waterfowl. The Flats are only accessible by aircraft or boat. In the 33 years I have hunted there, I have never seen a boat cross the Turnagain Arm to do duck hunting. Only once, have I seen five aircraft in the 21 square miles, and three were in our party. Most of the time, I am the only aircraft in the whole area.

We need to keep this part of Alaska open for the few of us who enjoy the experience of wilderness so close to home.

Response
The preferred alternative of the revised Kenai NWR CCP would increase allowable aircraft landing areas from the current three designated areas to a larger open area (from approximately 1,155 acres to approximately 13,661 acres).

Resolved: Already addressed in planning documents (SEE CITATION)
Citation: Preferred Alternative - Airplane Access to Chickaloon Flats (2-107)

Comment 3

I take part in the wildlife survey for the USFWS. If they keep closing down hunting areas, soon there will no longer be a need for a survey.

Response
No hunting areas are proposed to be closed.

Resolved: Other (SEE RESPONSE)

Comment 4

I remember about fifteen years ago, when they restricted access for fishing on the Chickaloon Flats, by limiting the landing areas available for airplanes. That effectively ended fishing for us on the Flats. I don't remember any open forum for public comment. One day it was open and the next day the

landing area was closed and pilots were being ticketed. I don't want to see the same thing happen with hunting.

Response
While not all of the Chickaloon Flats area is suitable for landing an aircraft, nor will be authorized under the preferred alternative of the revised Kenai NWR CCP, increased proposed access (landing areas) are included. No closures to hunting are proposed.

Resolved: Other (SEE RESPONSE)

Comment 5

I hope Alternative B, C, D, or E is approved.

Resolved: Comment acknowledged; does not provide new information

Appendix E:

Easements and Right-of-Ways

1. Easements and Right-of-Ways

1.1 Introduction

Section 17(b) of Alaska Native Claims Settlement Act (ANCSA) requires the Federal government to reserve easements for public access across Native village and regional corporation lands to publicly owned lands and waters. The Bureau of Land Management (BLM) is responsible for identifying and reserving these easements during the conveyance process. Easements can be linear (e.g., roads or trails), or one-acre sites for use to facilitate change in modes of transportation (e.g., switch from airplane to a boat). A 17(b) easement reserves a right to cross private lands to access public lands for the purpose(s) of recreation, hunting, transportation, utilities, docks, or other public uses. Public activities such as recreation and hunting are not authorized on the easement or on the private lands through which the easement reservation was made. The associated conveyance documents describe in detail each 17(b) easement and the specific use(s) reserved by that easement. The easements are listed by easement identification number (EIN). The Service is responsible for administering 17(b) easements, inside and outside the Refuge boundaries that provide access to Refuge lands.

There are no 17(b) easements within the boundaries of the Kenai National Wildlife Refuge, but there are eight 17(b) easements reserved on or across private lands that provide access to the Refuge (figure E-1).

1.1.1 Cook Inlet Region, Inc.

Easement Descriptions

EIN 10 C6, D1, D9
Three-acre site easement upland of the ordinary high water mark in the NW1/4 sec. 22, T. 2 N., R. 11 W., on the left bank of the Kasilof River and bisected by the Tustumena Lake Road. Adjoins the ordinary high water mark and includes a boat ramp and parking area.

EIN 12 D1, D9, C5, C6
A 25-foot wide easement for an existing access trail from road easement EIN 9 C6, D1, D9 in the NW1/4 sec. 22, T. 2 N., R. 11 W. The trail runs southwesterly to public lands in sec. 35, T. 2 N., R. 11 W. The trail is parallel to the Kasilof River and Tustumena Lake above ordinary high water line.

EIN 12a C5, C6
A 25-foot wide easement for a winter access trail running from the intersection of the Tustumena Lake Road with the section line between sec. 20 and 21, T. 2 N., R. 11 W., to trail easement EIN12 D1, D9, C5, C6 in the NW1/4 sec. 27, T. 2 N., R 11 W. The trail runs south, then easterly along bottom lands draining to the Kasilof River. Season of use is limited to winter.

Use Descriptions
Site Easement–allowed uses are vehicle parking; and temporary camping, and loading or unloading (limited to 24 hours).

25-foot-wide trail easements–allowed uses are travel by foot, dogsleds, animals, snowmobiles, two- and three-wheel vehicles, and all-terrain vehicles (less than 3,000 pounds gross vehicle weight).

60-foot-wide road easement–allowed uses are travel by foot, dogsleds, animals, snowmobiles, two- and three-wheel vehicles, small and large all-terrain vehicles, track vehicles, four-wheel drive vehicles, automobiles, and trucks.

1.1.2 Kenai Native Association, Inc.

Easement Descriptions

EIN 2 C6
A 60-foot-wide easement for an existing road from the City of Kenai in sec. 33, T. 6 N., R. 11 W., that runs northerly to the Beaver Creek Oil and Gas Unit.

EIN 8 C6
A 60-foot-wide easement for an existing road from the Sterling Highway in sec. 36, T. 6 N., R. 9 W., that runs northerly to public land.

EIN 4 L
A 100-foot-wide easement for an existing 115 KV power line that runs through sec. 11 and 12, T. 6 N., R. 11 W., Allowed uses are those necessary for construction, operation, and maintenance of the power line.

EIN 25 C6
A 25-foot-wide easement for a buried power line from the Sterling Highway in sec. 36, T. 6 N., R. 9 W., that runs northerly and parallel to the Swanson River Road to public land. Allowed uses are those necessary for construction, operation, and maintenance of the power line.

Use Description

60-foot-wide road easements–allowed uses are travel by foot, dogsleds, animals, snowmobiles, two- and three-wheel vehicles, small and large all-terrain vehicles, track vehicles, four-wheel drive vehicles, automobiles, trucks, and other heavy equipment used in the support of oilfield operations.

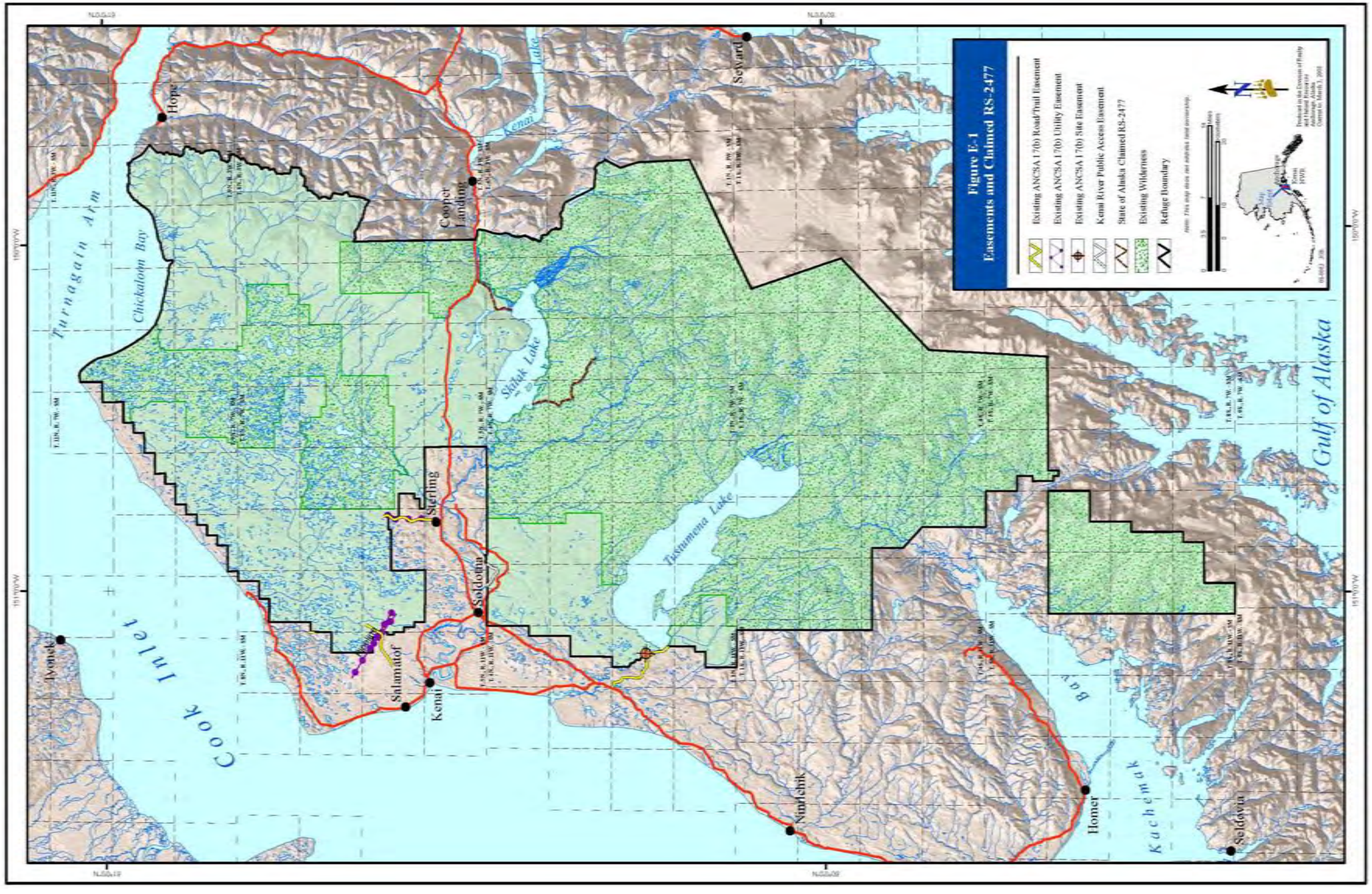

Figure E-1. Easements and Identified RS-2477s

1.2 Withdrawals

There are no Federal withdrawals within the Refuge.

1.3 R.S. 2477 Right-of-Ways Claimed by the State of Alaska

The State of Alaska identifies numerous claims to roads, trails, and paths across federal lands under Revised Statute 2477 (RS 2477), a section in the Mining Act of 1866 that states, "The right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted." RS 2477 was repealed by the Federal Land Policy and Management Act of 1976, subject to valid existing claims.

Assertion and identification of potential right-of-ways does not establish the validity of these claims nor the public's right to use them. The validity of all RS 2477 right-of-ways will be determined on a case-by-case basis, either through the courts or by other legally-binding document. The State of Alaska has identified, in Alaska Statute 19.30.400, two routes on the Refuge it claims as right-of-ways under RS 2477 (see Figure E-1 and Table E-1).

Table E-1. State Claimed RS 2477 Routes within the Kenai National Wildlife Refuge

Route No.	Route Name	Description of Route	Length (approx.)
405	King's County Trail	Originates at Skilak Lake, runs along King County Creek and terminates at a small lake.	10 miles
634	Explorer's Kenai River Trail	Originates near Hidden Creek and Skilak Road and terminates at Skilak Lake.	2 miles

1.4 Right-of-Way Permits

The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (the Improvement Act) [16 U.S.C. 668dd] and the Alaska National Interests Lands Conservation Act of 1980 (ANILCA) provide the authority to use National Wildlife Refuge System lands for specifically permitted purposes. These uses are generally long term and include the construction, maintenance, and operation required for the use. The permit grantee is required to pay fair market rental value for the use and occupancy of Refuge lands. All uses are subject to specific terms and conditions and must be compatible with the purposes of the area or unit and the mission of the National Wildlife Refuge System.

With the passage of the ANILCA on December 2, 1980, Congress addressed Alaska's largely undeveloped transportation and utility network in Title XI, Transportation and Utility Systems In and Across, and Access Into, Conservation System Units (TUS). Title XI right-of-way permits are issued pursuant to both ANILCA and the Improvement Act and are specifically used for transportation and utility systems within Conservation System Units, including National Wildlife Refuge System lands administered by the U.S. Fish and Wildlife Service (Service). The types of TUS uses include but are not limited to canals, pipelines, electrical transmission and distribution systems, radio and television systems, roads, landing strips, docks, and other systems of general transportation.

Table E-2 provides a list of active right-of-way permits that were issued to authorize the use and occupancy of lands located within the Kenai National Wildlife Refuge. Included in the listed permits are some TUS type right-of-way permits, as well as permits initially issued prior to the establishment of the Refuge.

Table E-2. Active Right-of-Way Permits

Type of Right-of-Way Permit	Number of Permits
Electrical transmission lines/fiber optic lines	7
Material site	1
Pipelines/pipeline roads/pads	8
Radio relay site	1
Road	1
Telecommunications facilities	1
Total Right-of-Way Permits	**19**

Appendix F:

Species List

1. Species List

This appendix contains a list of over 1,000 species identified on Kenai National Wildlife Refuge including: 484 vascular plants, 164 insects, 151 birds, 30 mammals, and 20 fish.

1.1 Mammal List

Scientific Name	*Common Name*
Alces alces	moose
Canis latrans	coyote
Canis lupus	gray wolf
Castor canadensis	American beaver
Clethrionomys rutilus	northern red-backed vole
Erethizon dorsatum	common porcupine
Gulo gulo	wolverine
Homo sapiens	human
Lepus americanus	snowshoe hare
Lontra canadensis	northern river otter
Lynx lynx	lynx
Marmota broweri	Alaska marmot
Martes americana	American marten
Microtus miurus	singing vole
Microtus oeconomus	tundra vole
Mustela erminea	ermine
Mustela vison	American mink
Myotis lucifugus	little brown myotis
Ondatra zibethicus	muskbeaver
Oreamnos americanus	Mountain goat
Ovis dalli	Dall's sheep
Rangifer tarandus	caribou
Sorex cinereus	common shrew
Sorex hoyi	pygmy shrew
Sorex monticolus	montane shrew
Synaptomys borealis	northern bog lemming
Tamiasciurus hudsonicus	Red squirrel
Ursus americanus	black bear

Ursus arctos	brown bear
Vulpes vulpes	red fox

1.2 Bird List

Scientific Name	***Common Name***
Accipiter gentilis	Northern Goshawk
Accipiter striatus	Sharp-shinned Hawk
Actitis macularia	Spotted Sandpiper
Aegolius acadicus	Northern Saw-whet Owl
Aegolius funereus	Boreal Owl
Anas acuta	Northern Pintail
Anas americana	American Wigeon
Anas clypeata	Northern Shoveler
Anas crecca	Green-winged Teal
Anas discors	Blue-winged Teal
Anas platyrhynchos	Mallard
Anas strepera	Gadwall
Anser albifrons	Greater White-fronted Goose
Anthus rubescens	American Pipit
Aquila chrysaetos	Golden Eagle
Arenaria interpres	Ruddy Turnstone
Arenaria melanocephala	Black Turnstone
Asio flammeus	Short-eared Owl
Aythya americana	Redhead
Aythya collaris	Ring-necked Duck
Aythya marila	Greater Scaup
Aythya valisineria	Canvasback
Bombycilla garrulus	Bohemian Waxwing
Bonasa umbellus	Ruffed Grouse
Brachyramphus marmoratus	Marbled Murrelet
Branta canadensis	Canada Goose
Branta hutchinsii	Cackling Goose
Bubo virginianus	Great Horned Owl
Bucephala albeola	Bufflehead
Bucephala clangula	Common Goldeneye
Bucephala islandica	Barrow's Goldeneye
Buteo jamaicensis	Red-tailed Hawk
Buteo lagopus	Rough-legged Hawk

Calcarius lapponicus	Lapland Longspur
Calidris bairdii	Baird's Sandpiper
Calidris mauri	Western Sandpiper
Calidris melanotos	Pectoral Sandpiper
Calidris minutilla	Least Sandpiper
Calidris pusilla	Semipalmated Sandpiper
Canachites canadensis	Spruce Grouse
Carduelis flammea	Common Redpoll
Carduelis pinus	Pine Siskin
Catharus guttatus	Hermit Thrush
Catharus minimus	Gray-cheeked Thrush
Catharus ustulatus	Swainson's Thrush
Certhia americana	Brown Creeper
Charadrius semipalmatus	Semipalmated Plover
Chen caerulescens	Snow Goose
Cinclus mexicanus	American Dipper
Circus cyaneus	Northern Harrier
Clangula hyemalis	Long-tailed Duck
Colaptes auratus	Northern Flicker
Contopus cooperi	Olive-sided Flycatcher
Contopus sordidulus	Western Wood-Pewee
Corvus caurinus	Northwestern Crow
Corvus corax	Common Raven
Cyanocitta stelleri	Steller's Jay
Cygnus buccinator	Trumpeter Swan
Cygnus columbianus	Tundra Swan
Dendroica coronata	Yellow-rumped Warbler
Dendroica petechia	Yellow Warbler
Dendroica striata	Blackpoll Warbler
Dendroica townsendi	Townsend's Warbler
Empidonax alnorum	Alder Flycatcher
Empidonax hammondii	Hammond's Flycatcher
Eremophila alpestris	Horned Lark
Euphagus carolinus	Rusty Blackbird
Falco columbarius	Merlin
Falco peregrinus	Peregrine Falcon
Falco rusticolus	Gyrfalcon
Falco sparverius	American Kestrel
Gallinago delicata	Wilson's Snipe
Gavia immer	Common Loon
Gavia pacifica	Pacific Loon

Gavia stellata	Red-throated Loon
Grus canadensis	Sandhill Crane
Haliaeetus leucocephalus	Bald Eagle
Heteroscelus incanus	Wandering Tattler
Histrionicus histrionicus	Harlequin Duck
Ixoreus naevius	Varied Thrush
Junco hyemalis	Dark-eyed Junco
Lagopus lagopus	Willow Ptarmigan
Lagopus leucura	White-tailed Ptarmigan
Lagopus muta	Rock Ptarmigan
Lanius excubitor	Northern Shrike
Larus argentatus	Herring Gull
Larus canus	Mew Gull
Larus glaucescens	Glaucous-winged Gull
Larus philadelphia	Bonaparte's Gull
Leucosticte tephrocotis	Gray-crowned Rosy-Finch
Limnodromus griseus	Short-billed Dowitcher
Limnodromus scolopaceus	Long-billed Dowitcher
Limosa haemastica	Hudsonian Godwit
Loxia leucoptera	White-winged Crossbill
Megaceryle alcyon	Belted Kingfisher
Melanitta fusca	White-winged Scoter
Melanitta nigra	Black Scoter
Melanitta perspicillata	Surf Scoter
Meleagris gallopavo	Wild Turkey
Melospiza lincolnii	Lincoln's Sparrow
Melospiza melodia	Song Sparrow
Mergus merganser	Common Merganser
Mergus serrator	Red-breasted Merganser
Myadestes townsendi	Townsend's Solitaire
Numenius phaeopus	Whimbrel
Oceanodroma furcata	Fork-tailed Storm-Petrel
Oenanthe oenanthe	Northern Wheatear
Pandion haliaetus	Osprey
Passerculus sandwichensis	Savannah Sparrow
Passerella iliaca	Fox Sparrow
Perisoreus canadensis	Gray Jay
Petrochelidon pyrrhonota	Cliff Swallow
Phalacrocorax auritus	Double-crested Cormorant
Phalaropus lobatus	Red-necked Phalarope
Pica pica	Black-billed Magpie

Picoides arcticus	Black-backed Woodpecker
Picoides dorsalis	American Three-toed Woodpecker
Picoides pubescens	Downy Woodpecker
Picoides villosus	Hairy Woodpecker
Pinicola enucleator	Pine Grosbeak
Plectrophenax nivalis	Snow Bunting
Pluvialis dominica	American Golden-Plover
Pluvialis fulva	Pacific Golden-Plover
Pluvialis squatarola	Black-bellied Plover
Podiceps auritus	Horned Grebe
Podiceps grisegena	Red-necked Grebe
Poecile atricapillus	Black-capped Chickadee
Poecile hudsonicus	Boreal Chickadee
Regulus calendula	Ruby-crowned Kinglet
Regulus satrapa	Golden-crowned Kinglet
Riparia riparia	Bank Swallow
Rissa tridactyla	Black-legged Kittiwake
Seiurus noveboracensis	Northern Waterthrush
Selasphorus rufus	Rufous Hummingbird
Sitta canadensis	Red-breasted Nuthatch
Spizella arborea	American Tree Sparrow
Sterna aleutica	Aleutian Tern
Sterna caspia	Caspian Tern
Sterna paradisaea	Arctic Tern
Strix nebulosa	Great Gray Owl
Surnia ulula	Northern Hawk Owl
Tachycineta bicolor	Tree Swallow
Tachycineta thalassina	Violet-green Swallow
Tringa flavipes	Lesser Yellowlegs
Tringa melanoleuca	Greater Yellowlegs
Tringa solitaria	Solitary Sandpiper
Turdus migratorius	American Robin
Vermivora celata	Orange-crowned Warbler
Wilsonia pusilla	Wilson's Warbler
Zonotrichia atricapilla	Golden-crowned Sparrow
Zonotrichia leucophrys	White-crowned Sparrow

1.3 Fish List

Scientific Name	*Common Name*
Catostomus catostomus	longnose sucker
Cottus aleuticus	coastrange sculpin
Cottus cognatus	slimy sculpin
Esox lucius	northern pike
Gasterosteus aculeatus	threespine stickleback
Lampetra camtschatica	Arctic lamprey
Lampetra tridentata	Pacific lamprey
Oncorhynchus gorbuscha	pink salmon
Oncorhynchus keta	chum salmon
Oncorhynchus kisutch	coho salmon or silver salmon
Oncorhynchus mykiss	rainbow trout or steelhead
Oncorhynchus nerka	sockeye salmon or kokanee
Oncorhynchus tshawytscha	Chinook salmon or king salmon
Platichthys stellatus	starry flounder
Prosopium cylindraceum	round whitefish
Pungitius pungitius	ninespine stickleback
Salvelinus alpinus	Arctic char
Salvelinus malma	Dolly varden
Salvelinus namaycush	lake trout
Thaleichthys pacificus	eulachon
Thymallus arcticus	Arctic grayling

1.4 Insect List

Scientific Name	*Common Name*
Achorotile subarctica	
Acronicta impressa	Impressive Dagger Moth
Aegialia browni	
Aeshna septentrionalis	Azure Darner
Agonum decentis	
Agriades glandon	
Amara alpina	
Aphodius aleutus	
Aphodius congregatus	
Athous rufiventris	
Atomaria fimetarii	
Baccha elongata	

Badonellia titei	
Bibio longipes	
Blethisa quadricollis	
Boloria chariclea	
Boloria freija	
Boloria napaea	
Boloria selene	silverbordered fritillary
Boriomyia speciosa	
Bromius obscurus	
Calathus advena	
Calathus ingratus	
Calathus ruficollis	
Calvia quatuordecimguttata	
Campiglossa farinata	
Camponotus herculeanus	
Carabus taedatus	
Carterocephalus palaemon	Arctic skipper
Catops alpinus	
Catops egenus	
Catops luridipennis	
Celestrina ladon	
Cephalops furnaceus	
Ceratomegilla ulkei	
Cixius meridionalis	
Coccinella trifasciata	ladybird beetle
Coenagrion resolutum	Taiga Bluet
Coenonympha kodiak	
Colias nastes	
Colias palaeno	
Colias philodice	clouded sulphur
Coniopteryx tineiformis	
Craspedolepta alaskensis	
Craspedolepta nebulosa	
Craspedolepta subpunctata	
Criomorphus wilhemi	
Cryphalus ruficollis	
Ctenicera kendalli	
Ctenicera ochreipennis	
Ctenicera resplendens	
Cydia piperana	
Delphacodes serrata	

Dendroides ephemeroides	
Diarsia esurialis	
Diarsia rosaria	
Dilophus femoratus	
Dolerus yukonensis	
Dolichovespula arenaria	
Dorylomorpha albitarsis	
Dorylomorpha spinosa	
Dorytomus leucophyllus	
Ecliptopera silacaeta	
Elasmostethus interstinctus	
Elasmosthethus interstinctus	
Enallagma cyathigerum	Northern Bluet
Epidemia dorcas	
Erebia discoidalis	
Euchloe ausonides	
Euchloe creusa	
Eulia ministrana	
Eupithecia sharronata	
Formica aserva	
Formica gagatoides	
Galerucella nymphaeae	
Glaucopsyche lygdamus	silvery blue
Helcomyza mirabilis	
Hesperinus brevifrons	
Homaemus aeneifrons	a shield-backed bug
Hybomitra zonalis	
Hypnoidus bicolor	
Hystrichophora asphodelana	
Javesella pellucida	
Kleidocerys resedae	
Lacanobia nevade	
Leptothorax canadensis	
Lepyrus gemellus	
Lepyrus oregonus	
Leucorrhinia patricia	Canada Whiteface
Libellula quadrimaculata	Four-Spotted Skimmer
Limnoporus rufoscutellatus	
Lycaeides idas	
Lytogaster obscura	
Melieria cana	

Micromus postichus	
Monochamus scutellatus	White-Spotted Pine Sawyer
Myrmica alaskensis	
Nemotaulius hostilis	
Nicrophorus investigator	
Nicrophorus vespilloides	
Nymphalis antiopa	mourningcloak butterfly
Nymphalis milberti	
Oeneis bore	
Oeneis jutta	jutta arctic
Oeneis melissa	
Oeneis polixenes	polixenes arctic
Omalus aenus	
Orgyia antigua	Rusty Tussock Moth
Ostoma columbiana	
Papilio canadensis	
Papilio machaon	
Paraliburnia kilmani	
Parnassius phoebus	
Parydra parasocia	
Patrobus foveocollis	
Pelina canadensis	
Pherbellia albocostata	
Pherbellia schoenherri maculata	
Pherbellia tenuipes	
Philotelma alaskense	
Phratora hudsoniana	
Phryganea cinerea	
Pieris napi	mustard white
Pipunculus hertzogi	
Platygaster obscuripennis	
Platynus decentis	
Plebejus saepiolus	
Polygonia faunus	green comma
Pontia occidentalis	
Priognathus monilicornis	
Pseudobourletiella spinata	
Psylla minor	
Pterostichus adstrictus	
Pterourus canadensis	
Renocera brevis	

Rheumaptera hastata	spearmarked black moth
Rheumaptera subhastata	
Scaphinotus marginatus	
Scatella picea	
Scopula inductata	Soft-Lined Wave
Sepedon borealis	marsh fly
Sericus incongruus	
Speyeria mormonia	
Stenodema trispinosa	
Suillia apicalis	
Suillia convergens	
Synneuron decipiens	
Tetanocera fuscinervis	
Tetanocera montana	
Tetanocera phyllophora	
Tetanocera plebeja	
Tetanocera silvatica	
Torymus cecidomyiae	
Trachypachus holmbergi	
Trechus tenuiscapus	
Trichalophus alternatus	
Trichodezia albovittata	White-Striped Black
Uroceras gigas	
Vacciniina optilete	
Vespula vulgaris	
Xanthorhoe decoloraria	
Xanthorhoe ferrugata	Dark-Barred Twin-Spot Carpet
Xanthorhoe fossaria	
Xylotype acadia	Acadian Sallow

1.5 Spider/Scorpion List

Scientific Name	***Common Name***
Leiobunum exilipes	
Leptobunus borealis	
Misumena vatia	
Mitopus morio	
Nelima paessleri	
Opilio parietinus	
Phalangium opilio	

1.6 Other Invertebrates List

Scientific Name	*Common Name*
Mesenchytraeus solifugus	ice worm

1.7 Vascular Plants List

Scientific Name	*Common Name*
Achillea millefolium	
Achillea ptarmica	sneezeweed
Aconitum delphiniifolium	larkspurleaf monkshood
Actaea rubra	western baneberry
Agrostis capillaris	
Agrostis mertensii	arctic bentgrass
Agrostis scabra	rough bentgrass
Allium schoenoprasum	wild chive
Alnus incana	
Alnus viridis	
Alopecurus alpinus	boreal alopecurus, foxtail
Alopecurus geniculatus	water foxtail
Alopecurus pratensis	field meadow-foxtail, meadow foxtail
Amelanchier alnifolia	western serviceberry
Amsinckia menziesii	Menzies' fiddleneck
Andromeda polifolia	bog rosemary
Anemone narcissiflora	
Anemone narcissiflora	narcissus-flowered anemone
Anemone parviflora	small-flowered anemone
Anemone richardsonii	yellow thimbleweed
Angelica genuflexa	kneeling angelica
Angelica lucida	seacoast angelica
Antennaria alpina	alpine pussytoes
Antennaria monocephala	pygmy pussytoes
Aquilegia formosa	western columbine
Arabis hirsuta	
Arabis hirsuta	
Arabis holboellii	Holboell's rockcress
Arabis lyallii	Lyall's rockcress
Arabis lyrata	lyrate rockcress
Arctagrostis latifolia	
Arctophila fulva	
Arctostaphylos alpina	

Arctostaphylos rubra	red fruit bearberry, red manzanita
Arctostaphylos uva-ursi	bearberry, bearberry manzanita
Argentina egedii	
Arnica chamissonis	chamisso arnica
Arnica frigida	snow arnica
Arnica latifolia	broadleaf arnica
Arnica lessingii	nodding arnica
Artemisia arctica	boreal sagebrush
Asperugo procumbens	German-madwort
Aster sibiricus	arctic aster
Astragalus alpinus	alpine milkvetch
Astragalus polaris	
Athyrium filix-femina	lady fern
Barbarea orthoceras	
Betula nana	shrub birch
Betula neoalaskana	resin birch
Betula papyrifera	paper birch
Boschniakia rossica	northern groundcone
Botrychium boreale	
Botrychium lunaria	
Brassica rapa	field mustard
Bromus inermis	
Bromus tectorum	wild oats, cheat grass, downy brom
Calamagrostis canadensis	bluejoint, bluejoint reedgrass
Calamagrostis lapponica	lapland reedgrass
Calla palustris	water arum, water-dragon
Callitriche palustris	spiny waterstarwort
Caltha leptosepala	white marsh marigold
Caltha palustris	yellow marsh marigold
Campanula lasiocarpa	mountain harebell
Campanula rotundifolia	roundleaf harebell, bluebell
Capsella bursa-pastoris	shepherd's purse
Cardamine bellidifolia	alpine bittercress
Cardamine pratensis	
Carex aquatilis	water sedge
Carex bigelowii	Bigelow's sedge
Carex brunnescens	brownish sedge
Carex canescens	silver sedge
Carex chordorrhiza	creeping sedge, rope-root sedge
Carex deflexa	northern sedge
Carex deweyana	Dewey's sedge

Carex dioica	
Carex disperma	soft-leaf sedge
Carex gynocrates	
Carex interior	inland sedge
Carex laeviculmis	smoothstem sedge
Carex lasiocarpa	woolly-fruit sedge
Carex leptalea	bristly-stalk sedge
Carex limosa	mud sedge
Carex livida	livid sedge
Carex loliacea	
Carex lyngbyei	Lyngbye's sedge
Carex macrochaeta	lawn sedge
Carex magellanica	boreal bog sedge
Carex membranacea	fragile sedge
Carex mertensii	Mertens' sedge
Carex microchaeta	smallawned sedge
Carex norvegica	
Carex pachystachya	thickhead sedge
Carex pauciflora	fewflower sedge
Carex phaeocephala	dunehead sedge
Carex pluriflora	manyflower sedge
Carex podocarpa	shortstalk sedge
Carex preslii	Presl's sedge
Carex pyrenaica	
Carex ramenskii	
Carex rotundata	round sedge
Carex saxatilis	rock sedge
Carex scirpoidea	downy sedge
Carex spectabilis	showy sedge
Carex tenuiflora	
Carex utriculata	Northwest Territory sedge
Carex viridula	
Cassiope lycopodioides	clubmoss mountain heather
Cassiope tetragona	white arctic mountain heather
Castilleja unalascensis	yellow paintbrush
Castilleja unalaschcensis	Alaska indian paintbrush
Cerastium arvense	field chickweed
Cerastium beeringianum	bering chickweed
Cerastium fischerianum	Fischer's chickweed
Cerastium fontanum	
Chamaedaphne calyculata	leatherleaf

Chamerion angustifolium	
Chamerion latifolium	dwarf fireweed
Chenopodium album	lamb's quarters
Chenopodium berlandieri	pitseed goosefoot
Chrysosplenium tetrandrum	northern golden saxifrage
Cicuta virosa	Mackenzie's water hemlock
Circaea alpina	small enchanter's nightshade
Comarum palustre	purple marshlocks
Conioselinum chinense	Chinese hemlockparsley
Coptis trifolia	threeleaf goldthread
Cornus canadensis	Canadian bunchberry
Cornus suecia	Lapland cornel
Cornus suecica	Lapland cornel
Corydalis sempervirens	rock harlequin
Crepis tectorum	
Cryptogramma acrostichoides	American rockbrake
Cryptogramma crispa	crisp rockbrake
Cystopteris fragilis	brittle bladderfern
Cytisus scoparius	Scotch broom
Dactylis glomerata	orchard grass
Danthonia intermedia	timber oatgrass
Dasiphora floribunda	
Delphinium glaucum	mountain larkspur
Dendranthema arcticum	
Deschampsia caespitosa	tufted hairgrass
Dianthus deltoides	maiden pink
Dianthus repens	boreal carnation
Diapensia lapponica	pincushion plant
Douglasia alaskana	
Draba borealis	boreal draba
Draba juvenilis	longstalk draba, longstalk whitlowgrass
Draba nivalis	
Draba stenoloba	Alaska draba
Drosera anglica	english sundew
Drosera rotundifolia	round-leaf sundew
Dryas drummondii	Drummond's mountain-avens
Dryas integrifolia	
Dryas octopetala	eightpetal mountain-avens
Dryopteris expansa	spreading woodfern
Dryopteris fragrans	Fragrant Shield-fern
Eleocharis palustris	creeping spikerushr

Elymus alaskanus	
Elymus repens	quackgrass
Elymus sibiricus	Siberian wild rye
Elymus trachycaulus	
Empetrum nigrum	black crowberry
Epilobium anagallidifolium	alpine willowweedr
Epilobium ciliatum	hairy willowherbr
Epilobium hornemannii	
Epilobium lactiflorum	milkflower willowherbr
Epilobium palustre	marsh willowherbr
Equisetum arvense	scouring rushr
Equisetum fluviatile	water horsetail
Equisetum hyemale	
Equisetum palustre	marsh horsetail
Equisetum pratense	meadow horsetail
Equisetum sylvaticum	woodland horsetail
Equisetum variegatum	variegated horsetailr
Erigeron acris	bitter fleabane
Erigeron humilis	arctic alpine fleabane
Erigeron peregrinus	subalpine fleabaner
Eriophorum angustifolium	narrowleaf cottonsedger
Eriophorum callitrix	arctic cottongrass
Eriophorum russeolum	red cottongrass
Eriophorum scheuchzeri	white cottongrass
Eriophorum vaginatum	tussock cottongrass
Eriophorum viridicarinatum	
Erysimum cheiranthoides	wormseed wallflower
Eurybia sibirica	arctic aster
Festuca altaica	altai fescue, rough fescue
Festuca brachyphylla	alpine fescue
Festuca rubra	ravine fescue, red fescue
Festuca saximontana	mountain fescue
Fragaria vesca	
Fragaria X ananassa	domestic strawberry
Fritillaria camschatcensis	kamchatka fritillary
Galeopsis bifida	splitlip hempnettle
Galeopsis tetrahit	brittlestem hempnettle
Galium boreale	
Galium trifidum	small bedstraw
Galium triflorum	fragrant bedstraw
Gentiana douglasiana	swamp gentian

Gentiana glauca	pale gentian
Gentianella amarella	
Geocaulon lividum	false toadflax
Geranium erianthum	woolly geranium
Geum calthifolium	calthaleaf avens
Geum macrophyllum	large-leaf avens
Geum rossii	alpine avens, Ross' avens
Glaux maritima	sea milkwort
Glyceria borealis	northern mannagrass
Goodyera oblongifolia	rattlesnake plantain
Goodyera repens	dwarf rattlesnake-plantain
Gymnocarpium dryopteris	western oak fern
Harrimanella hypnoides	moss plant
Harrimanella stelleriana	Alaska bellheather
Hedysarum alpinum	alpine sweetvetch
Heracleum maximum	
Heuchera glabra	alpine heuchera
Hieracium caespitosum	meadow hawkweed
Hieracium triste	woolly hawkweed
Hieracium umbellatum	narrowleaf hawkweed
Hieracium X flagellare	whiplash hawkweed
Hierochloe alpina	alpine sweetgrass
Hierochloe odorata	
Hippuris vulgaris	marestail
Hordeum brachyantherum	
Hordeum jubatum	foxtail barley
Iris setosa	beachhead iris
Juncus alpinoarticulatus	
Juncus bufonius	toad rush
Juncus castaneus	chestnut rush
Juncus filiformis	thread rush
Juncus mertensianus	Mertens rush
Juncus triglumis	threehulled rush
Juniperus communis	dwarf juniper
Lathyrus palustris	marsh pea, marsh vetchling
Ledum groenlandicum	bog labrador tea
Ledum palustre	marsh labrador tea
Lepidium densiflorum	common pepperweed
Leptarrhena pyrolifolia	fireleaf leptarrhena
Leucanthemum vulgare	
Leymus mollis	

Linaria vulgaris	
Linnaea borealis	twinflower
Linum perenne	blue flax
Listera caurina	northwestern twayblade
Listera cordata	heartleafed twayblade
Lloydia serotina	alpine lily
Loiseleuria procumbens	alpine azalea
Lolium perenne	
Luetkea pectinata	partridgefoot
Lupinus arcticus	
Lupinus nootkatensis	Nootka lupine
Lupinus polyphyllus	marsh lupine
Luzula arcuata	
Luzula multiflora	common woodrush
Luzula parviflora	smallflowered woodrush
Luzula piperi	
Luzula spicata	spiked woodrush
Luzula wahlenbergii	Wahlenberg's woodrush
Lycopodium alpinum	alpine clubmoss
Lycopodium annotinum	clubmoss
Lycopodium clavatum	running clubmoss
Lycopodium complanatum	groundcedar
Lycopodium lagopus	running clubmoss
Maianthemum stellatum	false Solomons seal
Matricaria discoidea	
Matteuccia struthiopteris	ostrich fern
Melilotus alba	
Menyanthes trifoliata	common bogbean
Menziesia ferruginea	Rusty menzesia
Mertensia paniculata	tall bluebells
Minuartia arctica	arctic stitchwort
Minuartia macrocarpa	longpod stitchwort
Minuartia rubella	boreal stitchwort
Moehringia lateriflora	grove sandwort
Moneses uniflora	single delight
Myosotis asiatica	alpine forget me not
Myrica gale	sweetgale
Nuphar lutea	
Nymphaea tetragona	
Oplopanax horridus	devils club
Orthilia secunda	

Osmorhiza depauperata	bluntseed sweetroot
Oxyria digyna	mountain sorrel
Oxytropis campestris	northern yellow locoweed
Oxytropis monticola	field locoweed
Oxytropis nigrescens	blackish oxytrope
Oxytropis splendens	showy pointvetch
Packera cymbalaria	
Papaver alboroseum	
Papaver nudicaule	Iceland poppy
Parnassia palustris	California grass-of-parnassus
Pedicularis capitata	capitate lousewort
Pedicularis kanei	woolly lousewort
Pedicularis labradorica	labrador lousewort
Pedicularis macrodonta	muskeg lousewort
Pedicularis parviflora	smallflower lousewort
Pedicularis verticillata	whorled lousewort
Petasites frigidus	arctic sweet coltsfoot
Phalaris arundinacea	
Phegopteris connectilis	long beechfern
Phleum alpinum	alpine timothy
Phleum pratense	timothy
Phyllodoce aleutica	Aleutian mountainheath
Picea glauca	western white spruce
Picea mariana	shortleaf black spruce
Picea X lutzii	Lutz's spruce
Pinguicula villosa	hairy butterwort
Plantago major	
Plantago maritima	goose tongue
Platanthera dilatata	boreal bog orchid
Platanthera obtusata	northern small bogorchid
Poa alpina	alpine bluegrass
Poa annua	annual bluegrass
Poa arctica	arctic bluegrass
Poa compressa	Canada bluegrass
Poa eminens	largeflower speargrass
Poa glauca	white bluegrass
Poa macrocalyx	
Poa pratensis	spreading bluegrass
Poa stenantha	northern bluegrass
Poa trivialis	
Polemonium acutiflorum	tall Jacob's-ladder

Polemonium boreale	
Polemonium pulcherrimum	Jacob's-ladder
Polygonum alpinum	
Polygonum aviculare	
Polygonum bistorta	
Polygonum convolvulus	black bindweed
Polygonum viviparum	alpine bistort
Populous balsamifera	Black cottonwood
Populus balsamifera	balsam poplar
Populus tremuloides	quaking aspen
Potamogeton gramineus	variableleaf pondweed
Potamogeton natans	broadleaf pondweed
Potamogeton praelongus	white-stem pondweed
Potamogeton pusillus	
Potamogeton richardsonii	Richardson's pondweed
Potentilla diversifolia	mountain-meadow cinquefoil
Potentilla furcata	forked cinquefoil
Potentilla gracilis	
Potentilla nana	arctic cinquefoil
Potentilla norvegica	Norwegian cinquefoil
Potentilla pensylvanica	prairie cinquefoil
Potentilla uniflora	one-flowered cinquefoil
Potentilla vahliana	vahl's cinquefoil
Potentilla villosa	villous cinquefoil
Primula cuneifolia	wedgeleaf primrose
Puccinellia nutkaensis	
Pyrola asarifolia	liverleaf wintergreen
Pyrola chlorantha	wintergreen
Pyrola grandiflora	largeflowered wintergreen
Pyrola minor	snowline wintergreen
Ranunculus eschscholtzii	spruce-fir buttercup
Ranunculus hyperboreus	artic buttercup
Ranunculus lapponicus	
Ranunculus nivalis	snow buttercup
Ranunculus occidentalis	western buttercup
Ranunculus trichophyllus	threadleaf crowfoot
Rhinanthus minor	little yellowrattle
Rhodiola integrifolia	
Rhodiola rosea	roseroot stonecrop
Ribes bracteosum	stink currant
Ribes glandulosum	skunk currant

Ribes hudsonianum	black currant
Ribes lacustre	prickly currant
Ribes laxiflorum	trailing black currant
Ribes triste	red currant
Rorippa palustris	
Rosa acicularis	prickly rose
Rosa nutkana	nootka rose
Rubus arcticus	arctic blackberry
Rubus chamaemorus	cloudberry
Rubus idaeus	western red raspberry
Rubus pedatus	strawberryleaf raspberry
Rubus spectabilis	salmonberry
Rumex acetosella	sheep sorrel
Rumex arcticus	
Rumex crispus	curly dock
Rumex longifolius	dooryard dock
Salicornia maritima	
Salix alaxensis	feltleaf willow
Salix arbusculoides	a willow
Salix arctica	arctic willow
Salix arctophila	
Salix barclayi	Barclay's willow
Salix bebbiana	Bebb's willow
Salix boothii	
Salix commutata	undergreen willow
Salix fuscescens	Alaska bog willow
Salix glauca	grayleaf willow
Salix lucida	
Salix planifolia	
Salix pulchra	tealeaf willow
Salix reticulata	netleaf willow
Salix rotundifolia	tweedy willow, least willow
Salix scoulerana	scouler willow
Salix scouleriana	Scouler's willow
Salix sitchensis	sitka willow
Salix stolonifera	sprouting leaf willow
Salix tweedyi	
Sambucus racemosa	red elderberry
Sanguisorba canadensis	
Saxifraga bronchialis	spotted saxifrage
Saxifraga nelsoniana	

Saxifraga nivalis	
Saxifraga oppositifolia	purple mountain saxifrage
Saxifraga platysepala	whiplash saxifrage
Saxifraga tricuspidata	three toothed saxifrage
Scheuchzeria palustris	
Sedum roseum	
Senecio lugens	small blacktip ragwort
Senecio triangularis	arrowleaf groundsel
Senecio vulgaris	common groundsel
Shepherdia canadensis	russet buffaloberry
Sibbaldia procumbens	prostrate sibbaldia
Silene acaulis	moss campion
Silene noctiflora	nightflowering silene
Sinapis arvensis	charlock mustard
Solidago canadensis	Canada goldenrod
Solidago multiradiata	mountain goldenrod
Sorbaria sorbifolia	false spirea
Sorbus scopulina	Cascade mountain-ash
Sorbus sitchensis	western mountain ash
Sparganium hyperboreum	northern bur-reed
Spergula arvensis	corn sandspurry
Spergularia rubra	
Spiraea douglasii	rose spirea
Spiraea stevenii	
Spiranthes romanzoffiana	hooded lady's tresses
Stellaria calycantha	northern chickweed
Stellaria crispa	crisp starwort
Stellaria humifusa	saltmarsh starwort
Stellaria longipes	long-stalk starwort
Stellaria media	common chickweed
Streptopus amplexifolius	clasping twisted stalk
Stuckenia filiformis	
Swertia perennis	star gentian
Tanacetum vulgare	common tansy
Taraxacum officinale	common dandelion
Taraxacum phymatocarpum	northern dandelion
Thalictrum sparsiflorum	fewflower meadowrue
Thlaspi arcticum	arctic pennycress
Thlaspi arvense	pennycress
Tiarella trifoliata	threeleaf foamflower
Tofieldia coccinea	northern asphodel

Tofieldia glutinosa	sticky tofieldia
Trichophorum caespitosum	tufted bulrush
Trientalis europaea	arctic starflower
Trientalis europea	
Trifolium hybridum	
Trifolium pratense	
Trifolium repens	white clover
Triglochin maritima	
Triglochin maritimum	arrowgrass
Triglochin palustre	marsh arrowgrass
Tripleurospermum perforata	false mayweed
Trisetum spicatum	spike trisetum
Tsuga heterophylla	western hemlock
Tsuga mertensiana	mountain hemlock
Typha latifolia	broadleaf cattail
Urtica dioica	
Utricularia intermedia	flat-leaf bladderwort
Utricularia macrorhiza	
Vaccinium caespitosum	dwarf bilberry
Vaccinium ovalifolium	oval-leaf blueberry
Vaccinium oxycoccos	small cranberry
Vaccinium oxycoccus	
Vaccinium uliginosum	bog blueberry
Vaccinium vitis-idaea	lingonberry
Vahlodea atropurpurea	mountain hairgrass
Valeriana capitata	sharpleaf valerian
Valeriana sitchensis	Sitka valerian
Veratrum viride	green false hellebore
Veronica americana	American speedwell
Veronica wormskjoldii	American alpine speedwell
Viburnum edule	squashberry
Viburnum opulus	American cranberrybush
Vicia cracca	
Viola adunca	
Viola epipsila	dwarf marsh violet
Viola glabella	pioneer violet
Viola langsdorfii	Aleutian violet
Viola renifolia	northern white violet
Viola selkirkii	Selkirk's violet
Woodsia ilvensis	rusty woodsia
Zigadenus elegans	mountain deathcamas

1.8 Fungi List

Scientific Name	*Common Name*
Alectoria nigricans	Grey witch's hair
Alectoria ochroleuca	
Asahinea chrysantha	
Aspicilia myrinii	
Biatora vernalis	
Bryocaulon divergens	
Bryoria carlottae	
Bryoria fremontii	
Bryoria fuscescens	
Bryoria lanestris	
Bryoria nitidula	
Candelariella xanthostigma	
Cetraria chlorophylla	
Cetraria cucullata	
Cetraria ericetorum	
Cetraria islandica	
Cetraria kamczatica	
Cetraria laevigata	
Cetraria nigricans	Blackened icelandmoss
Cetraria nigricascens	
Cetraria nivalis	Ragged snow
Cetraria sepincola	
Cladonia amaurocraea	
Cladonia bellidiflora	
Cladonia carneola	
Cladonia cenotea	
Cladonia chlorophaea	
Cladonia coccifera	
Cladonia coniocraea	
Cladonia deformis	
Cladonia ecmocyna	
Cladonia fimbriata	
Cladonia furcata	
Cladonia gracilis	
Cladonia grayi	
Cladonia hookeri	
Cladonia kanewskii	
Cladonia macroceras	

Cladonia macrophyllodes	
Cladonia multiformis	
Cladonia pyxidata	
Cladonia rei	
Cladonia squamosa	
Cladonia subfurcata	
Cladonia subulata	
Cladonia sulphurina	
Cladonia umbricola	
Cladonia uncialis	
Dactylina arctica	
Hypogymnia bitteri	
Hypogymnia duplicata	
Hypogymnia enteromorpha	
Hypogymnia metaphysodes	
Hypogymnia physodes	Monk's-hood
Hypogymnia rugosa	
Lecanora fuliginosa	
Lecanora piniperda	
Lecidella wulfenii	
Lobaria hallii	
Lobaria linita	Lobariaceae
Lopadium coralloideum	
Mycoblastus affinis	
Nephroma arcticum	
Nephroma expallidum	
Ochrolechia androgyna	
Ochrolechia frigida	
Ochrolechia upsaliensis	
Pannaria praetermissa	Moss mouse
Parmelia saxatilis	
Parmelia sulcata	
Peltigera aphthosa	
Peltigera britannica	
Peltigera canina	
Peltigera collina	
Peltigera degenii	
Peltigera leucophlebia	
Peltigera malacea	
Peltigera neopolydactyla	
Peltigera scabrosa	

Pertusaria dactylina	
Pertusaria subobducens	
Phaeophyscia endococcinodes	
Physcia caesia	
Pseudephebe minuscula	
Pseudephebe pubescens	
Pseudocyphellaria crocata	
Ramalina farinacea	
Ramalina obtusata	
Ramalina roesleri	
Rinodina mniaraea	
Stereocaulon alpinum	
Trapeliopsis granulosa	
Tuckermannopsis chlorophylla	
Umbilicaria proboscidea	
Umbillicaria hyperborea	Blistered rocktripe
Usnea substerilis	
Xanthoria candelaria	Shrubby orange

1.9 Lichen List

Scientific Name	***Common Name***
Amygdalaria pelobotryon	
Arctoparmelia centrifuga	
Calicium lenticulare	
Calicium viride	
Cetrariella delisei	
Cladina arbuscula	
Cladina ciliata	
Cladina mitis	
Cladina portentosa	
Cladina rangiferina	Reindeer moss
Cladina stellaris	
Cladina stygia	Black-footed reindeer
Cladonia phyllophora	
Flavocetraria nivalis	
Icmadophila ericetorum	
Lepraria membranacea	
Lepraria neglecta	
Melanelia hepatizon	
Melanelia panniformis	

Melanelia septentrionalis	
Melanelia stygia	
Melanelia subaurifera	
Ophioparma ventosa	
Peltigera polydactylon	
Porpidia flavocaerulescens	
Psoroma hypnorum	
Rhizocarpon eupetraeoides	
Rhizocarpon eupetraeum	
Rhizocarpon geographicum	
Solorina crocea	
Sphaerophorus fragilis	
Sphaerophorus globosus	
Stereocaulon tomentosum	
Thamnolia vermicularis	Whiteworm lichen
Vulpicida pinastri	

1.10 Moss List

Scientific Name	***Common Name***
Amblystegium serpens	
Aulacomnium palustre	
Aulacomnium turgidum	
Brachythecium albicans	
Brachythecium oxycladon	
Brachythecium reflexum	
Brachythecium rutabulum	
Brachythecium salebrosum	
Brachythecium velutinum	
Bryum caespiticium	
Bryum weigelii	
Calliergon cordifolium	
Calliergon giganteum	
Calliergon stramineum	
Campylium stellatum	
Ceratodon purpureus	
Cinclidium stygium	
Climacium dendroides	
Cynodontium strumiferum	
Desmatodon latifolius	
Dichodontium pellucidum	

Dicranella subulata	
Dicranoweisia crispula	
Dicranum acutifolium	
Dicranum elongatum	
Dicranum fuscescens	
Dicranum polysetum	
Dicranum scoparium	
Dicranum tauricum	
Eurhynchium oreganum	
Eurhynchium pulchellum	
Grimmia anodon	
Hamatocaulis vernicosus	
Helodium blandowii	
Hylocomiastrum umbratum	
Hylocomium splendens	
Hypnum circinale	
Leptobryum pyriforme	Leptobyum moss
Leptodictyum humile	
Limprichtia revolvens	
Meesia uliginosa	
Oncophorus virens	
Oncophorus wahlenbergii	
Paludella squarrosa	
Plagiomnium ellipticum	
Plagiomnium insigne	
Plagiothecium laetum	Plagiomnium moss
Pleurozium schreberi	
Pogonatum urnigerum	
Pohlia cruda	
Pohlia elongata	
Pohlia nutans	
Pohlia wahlenbergii	
Polytrichum commune	
Polytrichum juniperinum	
Polytrichum longisetum	
Polytrichum piliferum	
Polytrichum strictum	
Pseudobryum cinclidioides	
Pseudocalliergon turgescens	
Pseudoscleropodium purum	
Ptilium crista-castrensis	

Racomitrium canescens
Racomitrium ericoides
Racomitrium lanuginosum
Racomitrium sudeticum
Rhizomnium nudum
Rhytidiadelphus loreus
Rhytidiadelphus triquetrus
Schistidium apocarpum
Scorpidium scorpioides
Sphagnum angustifolium
Sphagnum balticum
Sphagnum compactum
Sphagnum fuscum
Sphagnum girgensohnii
Sphagnum magellanicum
Sphagnum nitidum
Sphagnum papillosum
Sphagnum riparium
Sphagnum russowii
Sphagnum squarrosum
Sphagnum steerei
Sphagnum subsecundum
Sphagnum teres
Sphagnum warnstorfii
Tomenthyphnum nitens
Tomenthypnum nitens
Tortella tortuosa
Tortula ruralis

1.11 Liverwort List

Scientific Name	***Common Name***
Aneura pinguis	
Barbilophozia kunzeana	
Cephalozia lunulifolia	
Conocephalum conicum	
Gymnocolea inflata	
Lepidozia reptans	Little hands liverwort
Lophocolea heterophylla	
Lophozia bicrenata	

Lophozia ventricosa
Marchantia polymorpha
Mylia anomala
Ptilidium ciliare
Ptilidium pulcherrimum
Tetralophozia setiformis

Appendix G:

Assessing River Values
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Methodology and Results

1. Assessing River Values—Methodology and Results

1.1 Outstandingly Remarkable Values

An "outstandingly remarkable value" is defined in section 1(b) of the Wild and Scenic Rivers Act (U.S. Government 1968) as a unique, rare, or exemplary feature that is significant at a comparative regional or national scale. While the spectrum of resources that may be considered is broad, outstandingly remarkable values must be directly river-related. They should:

1. Be located in the river or on its immediate shore lands (within one-half mile on either side of the river);
2. Contribute substantially to the functioning of the river ecosystem; and/or
3. Owe their location or existence to the presence of the river.

The following eligibility criteria are offered to foster greater consistency within the Federal river-administering agencies. They are intended to set minimum thresholds to establish outstandingly remarkable values and are illustrative but not all-inclusive. If utilized in an agency's planning process, these criteria may be modified to make them more meaningful in the area of comparison, and additional criteria may be included.

1.1.1 Scenic Values

The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features and/or attractions. When analyzing scenic values, additional factors—such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed—may be considered. Scenery and visual attractions may be highly diverse over the majority of the river or river segment.

1.1.2 Recreation Values

Recreational opportunities are or have the potential to be popular enough to attract visitors from throughout or beyond the region of comparison or are unique or rare within the region. Visitors are willing to travel long distances to use the river resources for recreational purposes. River-related opportunities could include but are not limited to sightseeing, wildlife observation, camping, photography, hiking, fishing, and boating. Interpretive opportunities may be exceptional and attract or have the potential to attract visitors from outside the region of comparison. The river may provide or have the potential to provide settings for national or regional usage or competitive events.

1.1.3 Wildness Values

The value or character of wildness represents vestiges of primitive America. Wild rivers may be characterized as being untrammelled,

natural, and undeveloped; and provide opportunities for solitude or a primitive and unconfined type of recreation.

1.1.3.1 Untrammeled

Unhindered and free from modern human control or manipulation.

1.1.3.2 Natural

Ecological systems are substantially free from the effects of modern civilization.

1.1.3.3 Undeveloped

Substantially without permanent improvements or modern human occupation.

1.1.4 Geologic Values

The river or the area within the river corridor contains one or more example of a geologic feature, process, or phenomenon that is unique or rare within the region of comparison. The feature(s) may be in an unusually active stage of development, represent a "textbook" example, and/or represent a unique or rare combination of geologic features (e.g., erosion, volcanic, glacial, or other geologic structures).

1.1.5 Fish Values

Fish values may be judged on the relative merits of fish populations or habitat, or a combination of these river-related conditions.

1.1.5.1 Populations

The river is nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance is the presence of wild stocks and/or Federal or State listed (or candidate) threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of "outstandingly remarkable."

1.1.5.2 Habitat

The river provides exceptionally high quality habitat for fish species indigenous to the region of comparison. Of particular significance is habitat for wild stocks and/or Federal or State listed (or candidate) threatened, endangered, or sensitive species. Diversity of habitats is an important consideration and could, in itself, lead to a determination of "outstandingly remarkable."

1.1.6 Wildlife Values

Wildlife values may be judged on the relative merits of terrestrial or aquatic wildlife populations or habitat, or a combination of these conditions.

1.1.6.1 Populations

The river, or area within the river corridor, contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species considered to be unique, and/or populations of Federal or State listed (or candidate) threatened, endangered, or sensitive species. Diversity of species is an important consideration and could, in itself, lead to a determination of "outstandingly remarkable."

1.1.6.2 Habitat

The river, or area within the river corridor, provides exceptionally high quality habitat for wildlife of national or regional significance, and/or may provide unique habitat or a critical link in habitat conditions for Federal or State listed (or candidate) threatened, endangered, or sensitive species. Contiguous habitat conditions are such that the biological needs of the species are met. Diversity of habitats is an important consideration and could, in itself, lead to a determination of "outstandingly remarkable."

1.1.7 Cultural Values

The river or area within the river corridor contains archaeological sites or areas significant to traditional cultures. Examples might be American Indian burial grounds, petroglyphs, the oldest known human use site in a region, or streams that support traditional agriculture, subsistence fishing, or religious ceremonies.

1.1.8 Historic Values

The river or area within the river corridor contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare or one-of-a-kind in the region. Many such sites are listed on the National Register of Historic Places. A historic site(s) and/or features(s) is 50 years old or older in most cases.

1.1.9 Prehistoric Values

The river, or area within the river corridor, contains a site(s) where there is evidence of occupation or use by Native Americans. Sites must have unique or rare characteristics or exceptional human interest value(s). Sites may have national or regional importance for interpreting prehistory; may be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; and/or may have been used by cultural groups for rare sacred purposes. Many such sites are listed on the National Register of Historic Places, which is administered by the National Park Service.

1.1.10 Other Values

While no specific national evaluation guidelines have been developed for the "other similar values" category, assessments of additional river-related values consistent with the foregoing guidance may be developed—including but not limited to hydrology, paleontology, and botany resources.

1.2 Methodology

1.2.1 Analysis Area

River segments considered for review included the perennial main stem reach for a unique watershed. A systematic inventory of main stem river and stream segments was completed using the United States Geological Survey (USGS) National Hydrological Data and the Alaska State Anadromous Streams Catalog. A total of 45 river segments (approximately 400 river miles) were identified for review of potential "outstandingly remarkable values." The analysis area was delineated by a one-half-mile buffer around the identified river segments.

1.2.2 Outstandingly Remarkable Value Attributes and Measurements

A review of available information was conducted to identify attributes which may be used to quantify the outstandingly remarkable values listed in the previous text. Though many attributes were considered, only those with information readily available for the Refuge were included. Table G-1 demonstrates the attributes and measurements used to quantify these values on each river segment.

1.3 Selecting Rivers with Outstandingly Remarkable Values

Each attribute was compared across all rivers and given a score from zero to four. To determine the individual attribute scores, the Jenks optimization method (Jenks 1967) was used. Scores were totaled for each value category and river. Rivers with regionally significant values were determined by identifying rivers with exceptional category and/or total scores (table G-2 through G-8).

1.4 Reference

Jenks, George F. 1967. "The Data Model Concept in Statistical Mapping," International Yearbook of Cartography 7: 186-190.

Table G-1. Attributes and Measurements Used To Conduct Outstandingly Remarkable Value Assessment

Category: Cultural/Historic/Prehistoric		
	Attribute	Measurement
	Cultural/prehistoric sites	Number of sites
	Historic sites	Number of sites
Category: Fish and Wildlife		
	Attribute	Measurement
	Biological diversity	Number of fish species
	Refuge habitat	Percent of habitat on Refuge
	River habitat	Miles of river
	Terrestrial habitat	Corridor acres
	Unfragmented habitat	Low miles of transportation Features such as roads and snowmachine trails
Category: Wildness		
	Attribute	Measurement
	Wilderness	Acres of designated wilderness
	Opportunities for solitude	Low number of road crossings and developed sites
	Untrammeled/natural	Low miles of roads, seismic lines, and utility corridors
	Pristine	Low number of contaminated sites
Category: Recreation		
	Attribute	Measurement
	Access opportunities	Developed recreation sites
	Hiking opportunity	Miles of trails
	Recreation opportunity	Miles of river
	Viewing opportunity	Miles of roads
	Sportfishing value	Number of anglers

Table G-2. Kenai River Evaluation

River Name: Kenai			**River Score:** 45
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	51	4
Historic	Number of sites	18	4
		Total Category Score:	8
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	10	3
Refuge habitat	% of river on Refuge	26	2
River habitat	Miles of river	19.92	3
Terrestrial habitat	Corridor acres	11,388	3
Unfragmented habitat	Low miles of transportation features	12.78	2
		Total Category Score:	13
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation Sites	8	4
Hiking	Miles of trails	6.55	1
River recreation	Miles of river	19.92	3
River viewing	Miles of roads	12.78	4
Sportfishing	Number of anglers	81,300	4
		Total Category Score:	16
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	10	0
Pristine	Low number of contaminated sites	0	4
Untrammeled/natural	Low miles of roads, seismic lines, utilities	19.8	1
Wilderness	Acres designated	4,208	3
		Total Category Score:	8
		Total River Score	**45**

Table G-3. Moose River Evaluation

River Name: Moose			**River Score:** 44
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	6	3
Historic	Number of sites	3	2
		Total Category Score:	5
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	16	4
Refuge habitat	% of river on Refuge	100	4
River habitat	Miles of river	46.16	4
Terrestrial habitat	Corridor acres	25,174	4
Unfragmented habitat	Low miles of transportation features	9.12	2
		Total Category Score:	18
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation Sites	4	3
Hiking	Miles of trails	35.76	1
River recreation	Miles of river	46.16	4
River viewing	Miles of roads	5.14	2
Sportfishing	Number of anglers	1,853	2
		Total Category Score:	12
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	6	1
Pristine	Low number of contaminated sites	0	4
Untrammeled/natural	Low miles of roads, seismic lines, utilities	26.74	0
Wilderness	Acres designated	12,837	4
		Total Category Score:	9
		Total River Score	**44**

Table G-4. Russian River Evaluation

River Name: Russian			**River Score:** 37
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	5	3
Historic	Number of sites	4	2
		Total Category Score:	5
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	8	3
Refuge habitat	% of river on Refuge	50	2
River habitat	Miles of river	12.62	2
Terrestrial habitat	Corridor acres	6,219	2
Unfragmented habitat	Low miles of transportation features	0.6	3
		Total Category Score:	12
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation sites	1	1
Hiking	Miles of trails	0	0
River recreation	Miles of river	12.62	2
River viewing	Miles of roads	0.6	1
Sportfishing	Number of anglers	69,864	4
		Total Category Score:	8
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	1	3
Pristine	Low number of contaminated sites	0	4
Untrammeled/natural	Low miles of roads, seismic lines, utilities	0.65	2
Wilderness	Acres designated	5,820	3
		Total Category Score:	12
		Total River Score	**37**

Table G-5. Killey River Evaluation

River Name: Killey			**River Score:** 37
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	0	0
Historic	Number of sites	1	1
		Total Category Score:	1
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	6	2
Refuge habitat	% of river on Refuge	96	4
River habitat	Miles of river	32.77	3
Terrestrial habitat	Corridor acres	16,721	4
Unfragmented habitat	Low miles of transportation features	0	4
		Total Category Score:	17
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation sites	0	0
Hiking	Miles of trails	0	0
River recreation	Miles of river	32.77	3
River viewing	Miles of roads	0	0
Sportfishing	Number of anglers	0	0
		Total Category Score:	3
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	0	4
Pristine	Low number of contaminated sites	0	4
Untrammeled/natural	Low miles of roads, seismic lines, utilities	0	4
Wilderness	Acres designated	16,721	4
		Total Category Score:	16
		Total River Score	**37**

Table G-6. Swanson River Evaluation

River Name: Swanson			**River Score:** 36
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	4	2
Historic	Number of sites	0	0
		Total Category Score:	2
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	6	2
Refuge habitat	% of river on Refuge	93	4
River habitat	Miles of river	47.8	4
Terrestrial habitat	Corridor acres	27,083	4
Unfragmented habitat	Low miles of transportation features	93.54	0
		Total Category Score:	14
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation sites	3	3
Hiking	Miles of trails	101.36	4
River recreation	Miles of river	47.8	4
River viewing	Miles of roads	27.8	4
Sportfishing	Number of anglers	5,838	2
		Total Category Score:	17
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	110	0
Pristine	Low number of contaminated sites	13	0
Untrammeled/natural	Low miles of roads, seismic lines, utilities	108.4	0
Wilderness	Acres designated	4,186	3
		Total Category Score:	3
		Total River Score	**36**

Table G-7. Fox River Evaluation

River Name: Fox			**River Score:** 35
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	0	0
Historic	Number of sites	0	0
		Total Category Score:	0
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	10	3
Refuge habitat	% of river on Refuge	75	3
River habitat	Miles of river	30.6	3
Terrestrial habitat	Corridor acres	15,593	3
Unfragmented habitat	Low miles of transportation features	0	4
		Total Category Score:	16
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation sites	0	0
Hiking	Miles of trails	0	0
River recreation	Miles of river	30.6	3
River viewing	Miles of roads	0	0
Sportfishing	Number of anglers	0	0
		Total Category Score:	3
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	0	4
Pristine	Low Number of contaminated sites	0	4
Untrammeled/natural	Low miles of roads, seismic lines, utilities	0	4
Wilderness	Acres designated	15,593	4
		Total Category Score:	16
		Total River Score	**35**

Table G-8. Chickaloon River Evaluation

River Name: Chickaloon			**River Score:** 34
Value: Cultural			
Attribute	Measure	Data	Score
Cultural/prehistoric	Number of sites	0	0
Historic	Number of sites	1	1
		Total Category Score:	1
Value: Fish and Wildlife			
Attribute	Measure	Data	Score
Biological diversity	Number of fish species	12	3
Refuge habitat	% of river on Refuge	100	4
River habitat	Miles of river	67.66	4
Terrestrial habitat	Corridor acres	35,582	4
Unfragmented habitat	Low miles of transportation features	23.43	0
		Total Category Score:	15
Value: Recreation			
Attribute	Measure	Data	Score
Access	Developed recreation sites	1	1
Hiking	Miles of trails	0	0
River recreation	Miles of river	67.66	4
River viewing	Miles of roads	4.98	2
Sportfishing	Number of anglers	0	0
		Total Category Score:	7
Value: Wildness			
Attribute	Measure	Data	Score
Opportunities for solitude	Low number of road crossings, development	3	2
Pristine	Low number of contaminated sites	0	4
Untrammeled/Natural	Low miles of roads, seismic lines, utilities	25.96	1
Wilderness	Acres designated	17,937	4
		Total Category Score:	11
		Total River Score	**34**

Table G-9. Comparison of River Values Evaluation

River Name (Total Score)	Kenai (45)		Moose (44)		Russian (37)		Killey (37)		Swanson (36)		Fox (35)		Chickaloon (34)	
	Data	**Score**	**Data**	**Score**	**Data**	**Score**	**Data**	**Score**	**Data**	**Score**	**Data**	**Score**	**Data**	**Score**
Value: Cultural														
Cultural sites	51	4	6	3	5	3	0	0	4	2	0	0	0	0
Historic sites	18	4	3	2	4	2	1	1	0	0	0	0	1	1
Value: Fish and Wildlife														
Biological diversity	10	3	16	4	8	3	6	2	6	2	10	3	12	3
Refuge habitat	26	2	100	4	50	2	96	4	93	4	75	3	100	4
River habitat	19.92	3	46.16	4	12.62	2	32.77	3	47.8	4	30.6	3	67.66	4
Terrestrial habitat	11,388	3	25,174	4	6,219	2	16,721	4	27,083	4	15,593	3	35,582	4
Unfragmented habitat	12.78	2	9.12	2	0.6	3	0	4	93.54	0	0	4	23.43	0
Value: Recreation														
Access	8	4	4	3	1	1	0	0	3	3	0	0	1	1
Hiking	6.55	1	35.76	1	0	0	0	0	101.36	4	0	0	0	0
River recreation	19.92	3	46.16	4	12.62	2	32.77	3	47.8	4	30.6	3	67.66	4
River viewing	12.78	4	5.14	2	0.6	1	0	0	27.8	4	0	0	4.98	2
Sportfishing	81,300	4	1,853	2	69,864	4	0	0	5,838	2	0	0	0	0
Value: Wildness														
Solitude	10	0	6	1	1	3	0	4	110	0	0	4	3	2
Pristine	0	4	0	4	0	4	0	4	13	0	0	4	0	4
Untrammeled	19.8	1	26.74	0	0.65	2	0	4	108.4	0	0	4	25.96	1
Wildness	4,208	3	12,837	4	5,820	3	16,721	4	4,186	3	15,593	4	17,937	4

Appendix H:

Preparers

Name/Title	Expertise/Function	Degree(s)	Experience (Years)
Refuge Staff			
Robin West, Refuge Manager	Refuge Management, Core Team Member	BS Wildlife Sciences	Fish & Wildlife Management (28)
Jim Hall, Deputy Refuge Manager	Refuge Management, Core Team Member (Through December 2007)	AS Wildlife Technology BS Public Administration / Conservation Law Enforcement	Fish, Wildlife, and Land Management (22)
Doug Staller Deputy Refuge Manager	Refuge Management, Core Team Member (June 2008 - present)		
Claire Caldes, Refuge Operations Specialist	Refuge Management, Oil and Gas Liaison, Extended Team Member	BA Wildlife Science	Fish & Wildlife Management (29)
John Morton, Supervisory Biologist	Wildlife Biology, Core Team Member	BS Wildlife Ecology; MS, Wildlife Science PhD Wildlife Science	Wildlife Biology (19)
Bill Kent, Supervisory Park Ranger	Visitor Services, Core Team Member (Through December 2007)	BS Outdoor Recreation / Park Management	Public Use/Visitor Services, Law Enforcement, Facility Management (30)
Janet Schmidt Supervisory Park Ranger	Visitor Services, Core Team Member (December 2008 - present)		Public Use/Visitor Services, Law Enforcement, Facility Management (30)
Art Tovar, Supervisory Facilities Manager	Facilities Management, Extended Team Member	Master of Business Administration BS Occupational Education	Facilities Management, Maintenance (18)
Doug Newbould, Supervisory Fire Management Officer	Fire Management, Extended Team Member	BS Natural Resources Management	Natural Resources Planning and Management (22)
Mark Laker, Supervisory Biometrician	Geographic Information System (GIS), Extended Team Member	BS Marine Biology MS Fisheries Biology	Fish & Wildlife Management (15) GIS (10)
Rick Johnston, Park Ranger / Pilot	Visitor Services & Lands, Extended Team Member	BS Outdoor Recreation / Park Management MS Forest Resources Recreation Management	Public Use / Visitor Services, Law Enforcement, Wilderness Management (30)

Name/Title	Expertise/Function	Degree(s)	Experience (Years)
Region 7 Planning Staff			
Pete Wikoff, Natural Resources Planner	Team Leader (December 2008 – Present)	BS Forest Management Science Master of Business Administration	Resource Planning (15) Resource Management (14)
Rob Campellone, Natural Resources Planner	Team Leader, Core Team Member (Through December 2008)	BS Environmental Science MS Forest Resources Planning & Management	Natural Resources Planning and Management (13)
Brian Glaspell, Social Scientist	Social Sciences, Core Team Member (Through July 2007)	PhD Recreation / Wilderness Management MS Natural Resources Management BS Geography	Social Aspects of Public Land and Natural Resource Management (12)
State of Alaska			
Brad Palach, Alaska Dept. of Fish and Game, Natural Resource Specialist	Liaison with State of Alaska, Core Team Member	BA Justice	Fish and Wildlife Management (22)
Brandon McCutcheon, Alaska Dept. of Natural Resources, Natural Resource Specialist	Liaison with State of Alaska, Core Team Member	BS Natural Resources Management	Natural Resources Management and Planning (12)
Sara Taylor, Alaska Dept. of Natural Resources, Natural Resource Specialist	Liaison with State of Alaska, Core Team Member (Through August 2008)	BS Environmental Sciences	Wildlife Biology (8) Biometry (2) Resource Management (3)
Joy Biedermann, Alaska Dept. of Natural Resources, Natural Resource Specialist	Liaison with State of Alaska (August 2008 to Present)	B.S. Natural Resources/Wildlife Ecology J.D. Law	Natural Resource Planning and Management (1) Law (12)

Appendix I:

Mailing List

Agencies, businesses, elected officials, individuals, and organizations on the mailing list for the Kenai National Wildlife Refuge.

Agencies (Federal)

U.S. Arctic Research Commission
U.S. Department of the Interior
- Bureau of Indian Affairs
- Bureau of Land Management
- Fish and Wildlife Service
- Geological Survey
- Minerals Management Service
- National Park Service
- Office of the Solicitor

U.S. Army Corp of Engineers
U.S. Coast Guard
U.S. Department of Commerce
U.S. Environmental Protection Agency
U.S. Department of Agriculture
- Forest Service

National Oceanic and Atmospheric Admin
National Marine Fisheries Service

Agencies (State)

Alaska Board of Fish
Alaska Board of Game
Alaska Bureau of Environmental Conservation
Alaska Department of Community and Economic Development
Alaska Department of the Environment
Alaska Department of Fish and Game
Alaska Department of Natural Resources
Alaska Department of Transportation and Public Facilities

Businesses

4 W Air
A & M Fisheries
AAA Alaska Outfitters Inc.
Agrium US Inc
AK Drift Boaters Kenai River Excursions
Alaska Action Anglers
Alaska Adventures Unlimited
Alaska Air Carriers Assoc
Alaska Angler Publications
Alaska Draggers Assoc
Alaska Drift Boaters
Alaska Fish Finders
Alaska Fishing Express
Alaska Fresh Seafood's Inc.
Alaska Game Fisher
Alaska Ground Fish Data Bank
Alaska Guides & Irenes Lodge
Alaska Land and Sea Services
Alaska OCS Region
Alaska Oil And Gas Association
Alaska Outdoor Services
Alaska Outdoors, LLC
Karluk Lodge
Kenai Air Alaska
Kenai Cache Tackle & Guiding
Kenai Chamber of Commerce
Kenai Fjords Tours Inc
Kenai King Drifters
Kenai Mountain Tour Company
Kenai Peninsula Hike'n Lunch Tours
Kenai River Pro Guide Association
Kenai River Sport Fishing
Kenai Riverbend Resort
Kenai Watershed Forum
Ketchum Air Service Inc
Kings Around
Kinnetic Laboratories Inc
Kodiak Adventures
Kodiak Air Service
Kodiak Island Charters
Kodiak Outdoor Adventures
Kodiak Safaris Inc
Kodiak Western Charters
Kodial Audubon Society

Alaska Rainbow Lodge
Alaska Rainbow Unlimited
Alaska River Adventures
Alaska Rivers Company
Alaska Saddle & Carriage
Alaska Salmon Connection, LLC
Alaska Science & Technology
Alaska Sealife Center
Alaska Sport Fishing Association
Alaska Summer Safaris
Alaska Travel Adventures
Alaska Trophy Outfitters
Alaska Trophy Safari's
Alaska Troutfitters
Alaska Unlimited Fishing
Alaska West Air Inc
Alaska Wilderness Expeditions
Alaska Wilderness Outfitters
Alaska Wilderness Outfitting Co.
Alaska Wildland Adventures
Alaska Wildtrek Co
Alaskan Widespread Fishing Adventures
Alaska's Finest
Alaska's Fish & Float
Alpengirl, Inc
Alpine Alternatives
Angle 45 Adventure
Angler's Edge
Arctic Treks
Aurora Charters
Ballards Farm
Bechtel Group Inc
Beluga Lake Float Plane Service
Bering Straits Costal Management Program
Best Hikes
BIA DECRM K.K'EIT
Big Dipper Fish Magnet Charters
Big Reid Guide Service
Big-Un's Guide Service
Birch, Horton, Bittner & Cherot
Blue Mountain Audubon Society
Branham Adventures
Broken Point Fisheries
C & C Wilderness Adventures
Laine's Guide Service
Lake Country Lodge
Lenny DiPaolo's Guide Service
LILCO
Lockhart Construction
Long Live the Kings
Mackey Lake Company
Mactec Engineering & Consulting
Manns Charter Service
Many Rivers Alaska
Marathon Oil Company
Maritime Enterprises
Mark Glassmaker's Fishing
Mark's Guide Service
Marlow Guided Fishing
Mavrik Air
McClure's Rustic River Retreat
Mfer's Guide Service
Mindy's Outdoor Adventures
Mr. Funwyzer Charters
Mt. Spirit Adventures
Munsey's Bear Camp
Mystic Waters Fishing
Nature Alaska Tour
NEA/NEA-Alaska
Nine Lives Charters
Nin Ridge Guides
Ninilchik Chamber of Commerce
Ninilchik Saltwater Lodge
North Pacific Fishery Management Council
Northern Alaska Environmental Ctr
Northern Excursions
Northlite
Northwind Aviation
ORCA Fish Guides/Hunters
Outdoor Enterprises
Outdoor Writers Association of America
PENCO Alaska
Peninsula Sled Dog & Racing Assoc
Poetry in Motion
Princess Tours
Program Dept.
PSDA
PSDRA

Camp Fire Alaska Council
Canoe Alaska, Inc.
Capitol Information Group
Capt. Bligh's Beaver Creek Lodge & Guide
Center for Alaskan Coastal Studies
Centeral Emergency Services
Chevron North American Exploration Co.
Chevron Texaco Energy
Chignik Aiways Inc
Chip Cove Fisheries
Chuck Thomas Professional Sportfishing
Chugach Alaska Corporation
Chugach Electric Association
CIRI Land and Resources
Class Act Guide Service
Clearwater Air Inc
Conoco Inc
Cook Inlet Pro Sport Fishing Association
Cub Air
Cultural Dynamics
Cy's Sporting Goods
D & G Enterprises
Dave Duncan & Sons
Dowl Engineers
Eagle Adventures
Earthjustice
Entrix Inc
Environmental Audit Incorporated
Exxon Company USA
Facilities Management, Inc
Far West, Inc
Fish Doctor Guide Service
Fish Happens Guide Service
Fish on With Gary Kernan
Fishing Unlimited Lodge
Forsi Consulting Group
Foundation for North American Wild Sheep
Fox Island Charters
Freebird Charters
Freebird Guide Service
GCI
Get up and Go Tours
Glacier Guides Inc
God's Guided Hands
QuikFish Guide Service
R W's Fishing
Rainbow King Lodge, Inc
Randa's Guide Service
Rendezvous Outfitter Guides
Resurrection Bay
River & Sea Outfitters
RJ Charters
Rock Rest Adventures
Rod Benders
Sholiton Enterprises
Silent Run Drift Boat Guide Service
Silver Bullet Kenai River Guide Service
Siwash Safaris Inc
Smokin Joe's
Snug Cove Fisheries, Inc
Solid Rock Bible Camp
Sonosky, Chamberson Sachse & Miller
Southwest Alaska Municipal Conference
Spenard Building Supply
Spirdon Bear Camp
Sport Fishing Safaris of Alaska
Springer And Associates
Stan's AK
Starlite, Inc
Stephan Braund and Associates
Stewart's Fly Shop
Strieby's Guide Service
Sugarloaf Packing & Transporting
Szabo Marine Services
Tall Tale Chargers
Tawan Trading Company
Telonics Inc
Tesoro Alaska Petro
Tesoro To Go Administrative Office
The Last Frontiersman
Tom's Guide Service
Tony & Sons Bush TranSporters
Tower Rock Lodge
Trail Ridge Aire, Inc
Trek America
Tuugak Charters
Ultima Thule Outfitters
U-Hook'Em Driftboat Guide Service

Great Alaka Safaris
Great Totem Charters
Grizzly Charters
Grubstake Griff's Guides
H.C. Price Co
Halliburton Geophysical Services
Harry Gaines Kenai River
Harts E&P
Hickel Investment Inc
Higher Ground Baptist Bible Camp
Highlands Holding Company
Homer Chamber of Commerce
Ingram Air Service
Island Air Service
Jimmie Jack Charters
Joe's Alaskan Fishing Adventures
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Lawlor
Lazar
Lockhart
Lockwood
Lofstedt
Logan
Lohse
Lonnie
Lons
Loomis
Loomis
Lori Landstrom
Loshy
Lotscher
Lousberg
Lout
Lovin
Lowe
Lowry
Lusk
Luster
Luttrell
Lye
Lyons
Maas
Macauly-Waite
Macek
Machida
Mack

John H.
Larry
Robert
Pamela
Carol
Janet
Yvonne
Jack
John
Darrell Allen
Eric
Billy
Matt
Richard
Kathy
Lucien C.
Debra L.
Shelly
Roger R.
Carl
Phillip
Jon
Dalke
Wade
Steve
Ann
Ken
Silvio & Tracey
Bud
Carl
Larry
David Lee
Ed
Ed
Jill
Darol
David
John
Milli
Traci
Karl
Joseph E.
Mike
Robert
Russ
Rob
Mackie
Alan
Shawn
Richard
Lewis
Lewis
Lewis
Lewis, SR/WA
Libhuman
Lidle
Liebelt
Lillwhite
Lindeman
Lindgren
Lindow
Lindsey
Link
Link
Liska
Liston
Little
Little
Locandro
Locke
Locker, Jr. DDS
Lockett
Marcella
Marcuson
Marienhoff
Marina
Marlow
Marriccini
Marrs
Marrs
Marsh
Marshall
Marsters
Marsters
Martel
Martin
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Martin
Martin
Martinson
Maslowski
Mason
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Massengill
Mather
Mathewson
Mathison
Matthews
Dianne
Glynn & Sharon
John
Samuel Michael
Joseph
Felix
Michelle
Barbara
Ed
Pat
Mark
Julie A.K.
Rick
Phil
Elaine
Bob
Kate
Allan
Len
Kevin A
Thomas
Ron
Brenda
Michael
Bruce
Laurence
Dan
Kevin
Jack
Jackie
Richard
Steve
Kirk
Mack
Tim
Sam
Sam
Mike
John & Mildred
William
Sharon
Eleanor
Don
Finlay
Patrick
Roger
Brad
Tyler
Jim
Jeff
MacLean
Macsurak
Madden
Madrid
Maes
Maguire
Maher
Mahoney
Mahoney
Mahoney
Mahoric
Maier
Main
Majerus
Majors
Maker
Mallek
Mallory
Malmquist
Malone
Malone
Malston
Manka
Manns
McCurtain
McDaniel
McDowell
McDowell
McFarland
McGahan
McGahan
McGee
McGhee
McKenzie
McKinley
McLain
Mclande
McLane
McLay
McLeod
McLeod-Everette
McMullen
McNamara
McRae
McShea
Meeks
Meiklejohn
Meinhold
Meitner
Melchior

Mike
Fran
Terry
Shauna
Gail
Jack
Bill
Mike
Scott
Sandra
Vivian
Barbara
Michael
David
John
Kenneth
Bruce
Steve
Tom
Lonnie & Glynda
Ronald
Jim
John
Lloyd
Michael R.
Norbert
Pete
Dick
Jeff
Ralph
Shelley
Rober
John
Cody
Tim
Kari
Julie
Matthew
Donald
Richard
Christopher
Frank
Ephim
Bret
James
Jeff
Mark
Roy
Russell
Steve
Matz
Mauer
Maul
Maxwell
Mayo
Mays
Mazoch
McBride
McBride
McCafferty
McCain
McCane
McCann
McCargo, Jr.
McCarthy
McCaskey
McClenahen
McClure
McCollum
McCown
McCoy
Miller
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Millett
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Milner-Waski
Minnich
Mishko
Mishler
Moffatt
Mohn
Moilanen
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Mondor
Monfor
Monteferrante
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Larry
Bruce
John
Tom
Jim
L.A.
Steven
David
Michael
Mitch
Daniel
Peggy
Mr & Mrs
Don
Charles
Anne
Arvin
Bill
Charles
Dr. E.H.
Earl & Della
Frank
Fritz & Cindy
Gerald
Grant
James
Leonard
Gary S.
Mike
The Honorable Lisa
Robert
John
Nelle
Curt
Frank
Shirley
David
Mr/Mrs
Tim
Dan
John
Mark
Brad
Peter
Marie
Phil & Peggy
Wesley
Andre
Larry
Mike
Merculieff
Merrell
Merrick
Merriman
Mery
Metz
Meyer
Michael
Michard
Michaude
Michel
Michielsen
Middlemiss
Middleton
Miknich
Miller
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Mundorf
Munoz
Munsey
Murkowski
Murphy
Murray
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Musgrave
Mustain
Mycroft
Myers
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Nabholz
Nagel
Nash
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Nason
Nault
Nauta
Navarre

Tom
Pat
Kevin D.
Rocky
Mindee
Jamin
Keith
Mel
Roger
Ron
John
Russ
Bob
Paul & Carol
Chris
Matt
Carolyn
Peter
Howard
Norman J.
Peggy
Russell
Darren
William
Patrick
Jamie
Patrick
Carol
Phillip A.
Arthur
Michael
Mike
Errol Neil
Juanita J.
Kevin
Michael
Dennis
Joe
Tom
John
Terry
Pamela F.
Stephen
Tom
Marty
John
Warren
Oluf & Celestine
Sid
Charles
Moore
Moran
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Moseley
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Moss
Mowrey
Muegge-Vaughn
Mueller
Mulanax
Mullan
Mullen
Nogg
Nolan
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Nolden
Nollner
Norman
Norr
North
Northup
Novy
Nugent
Nundahl
O'Brien
O'Brien
O'Meara
O'Neil
O'Neil
O'Reilly
Ogle
Ohman
Oldow
Olendorff
Olendorff
Olsen
Olson
Olson
Omlid
Omlid
Orr
Tim
Dr. Patrick
Mark
Hal
Bruce
Dee & Hugh
Eric & Dawn
Kristen
Marion
Ruth & J
William & Lois
Stan
Hiram
Andrea & Steven
Mark
Lori
Gregory H.
Kelly
Lyman
Wassilia
Joe
Les
John
Mike
Helen
Tom
Jean M.
John
J.R.
Jim
Rick
R. Michael
Stan & Linda
Reubin
William
Jim
Ed
Theodore M.
Al
Paul
Mr & Mrs
Mike
Bob
Joseph
Steven H.
Marvin
Robert
Andy
Donna
Jerry I.
Navarre
Nearing
Necessary
Neece
Nelson
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Newcomer
Newgren
Newman
Newton
Nibbler
Nichols
Nichols
Nickolai
Nicks
Nicolini
Nielsen
Nielsen
Nienhueser
Noble
Nogg
Paskievitch
Patee
Patterson
Patterson
Paul
Pavlas
Payne
Peace
Pearce
Pearson
Pease, Jr.
Pedersen
Pedersen
Pelech
Penner
Penney
Perkins
Perrins
Peters
Petersen, MD
Peterson
Peterson
Peterson

Stewart
D.L.
Dean
Chris & Tom
Eric
Scott
George
Dana & Theresa
Thaddeus
Ken
Andrew
Arden E.
Gary
Jed
Mona
Tom
Les
Dan
Christopher
Lawrence
Tom
Mark
Pamela
Bill
Jim
Ken
Denny
Matt
Walter
David
Kathy
Mark
Kenneth
Willian L.
Michael
Rand
Thomas
Kevin
Clifford
Dave
Virginia
Dan
Kenneth
Scott
Michael
Martoin
Peter & Bernadi
Craig
Dennis
David
Osgood
Oskolkoff
Osmar
Overhuls
Overson
Overton
Oviatt
Owen
Owens
Owsichek
Page
Page
Pahl
Painter
Painter
Painter
Palmer
Pankoski
Papouchis
Papp
Paragi
Parr
Parsons
Popp
Posey
Post
Potnode
Potter
Potthast
Powell
Powell
Powers
Pratt
Prazak
Price
Price
Prijatel
Proescholdt
Pulis
Pullman
Purdy
Quick
Quinn
Quist
Rabbe
Radvansky
Raiskums
Ralston
Randa
Rankin
Leah J.
Raymond
William W.
James
Clarence
Greg
Annette
Robert
Steve
Kenelm
Arnold
Sharon
Alvin
Rodney G.
Gary
Frank
James & Tonya
Jeesa
Carol
Steve
Joe
Stephen
George
Simon
Don
David
David
Jeffery
Tim
Penny
Beth
Anton
David
Charles H.
Lavonne
Peter & Joan
Craig, Harley & Sam
Rick
Katie
David
Dale
James
Jim
Jim & Muriel
Bob & Tilde
Brent
Margaret
Jill & Bruce
Francis
Steve
Peterson
Peterson
Peterson
Petluska
Petty
Pfaffe
Pfitzner
Pfutzenreuter
Phelps
Philip
Phillips
Phillips
Pierce
Pilch
Pinard
Pinkerton
Playle
Playle
Podraza
Poitry
Polanco
Pollack, III
Pollard
Pollock
Poole
Poolen
Pooler
Poor
Pope
Rennick
Renwick
Reutov
Rhode
Rhodes
Rhyneer
Ricca
Rice
Rice
Rich
Richards
Richardson
Richardson
Richardson
Richardson
Richey
Richey
Riedel
Rife
Rifugiato
Rinehart

Bobby & Wendy
Mark
Ned & Diane
Wally
John
James A.
Jim
Karol
Pete
Donna
R. Russell
Daniel E.
Diamond, Jason & Tor
Susan
Mark
Michael
Richard
Adam
Brett
Doug
Steve
Adam
Mark
Alan
Randy & Tyrell
David
Tom
Byron
Joe
Joyce
Kurt
Ann
Timothy L
Anne
Raymond
Gary
Jody
Jerry
Robert
Del
Ed
Pamela
Doug
B
Garner
Wendy
Arthur & Heather
Francine
Amanda
Frank
Raquel
Rasmussen
Rasmussen
Rasmussen
Ratti
Ray
Ray, Jr
Raymer
Raynor
Rea
Redick
Rediske
Redmond
Reece Lamson
Reeff
Rees
Reger
Reid
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Reifenstuhl
Reimer
Reiser
Reitter
Renner
Roseneau
Rosin
Ross
Ross
Ross
Rotter
Rowe
Rowlette
Roy
Royce
Rozelle
Rozkydal
Ruehle
Ruffner
Ruppert
Russell
Russell
Ruzicka
Sachu
Sackett
Sailors
Saks
Salom
San Miguel
Sanders
William
Steve
Peggy
Chris
Pete
Wayne A.
Donna
Kenneth
Mary
Ricky
Gordon
Mark
Steve & Judy
Greg
Chuck & Justin
Vern
Stan
Mike
Dave
George
Richard
Trish
Benjamin E.
Erick & Tyler
Howard G.
Karl
Lynn
Bill
Rachel
Jimmie
John
Steve M.
Robert
Susan
Max
Arthur
Douglas
Ken
Jill
Larry
Craig
Douglas Lee
Chris
Jack
Don
Rodney
Mitch
Reed
Arthur & Jan
James
Ritchie
Rittenhouse
Robel
Roberts
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Robillard
Robinson
Robinson
Roczicka
Rodgers
Roelfs
Rofoli
Rogde
Rogers
Rogers
Rohrer
Rolfe
Romig
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Root
Rose
Rosenblum
Rosenbruch
Schoen
Schoonmaker
Schuh
Schulmeister
Schwab
Schwartz, Jr
Schwartz
Schwartz
Schweiger
Schweiger
Schweitzer
Scott
Scranton
Scroggs
Seagren
Seaman
Seavey
Secord
See
Segura

Phil
Gordon
John
Terry
James
Will J.
Walter
Bruce N.
Bill
David
Thomas
Regina
Steven
Joseph
Al
Jocelyn
Frank & Janice
Dennis
Richard A.
Harold
Bruce
Fred
Jerome/Johanna
Larry
Barbara
Paul T.
Rich
Gary J
Ken
Judy
Edward & Billy
John & Pauline
Jason
Michael
Donald
April
Bobbie
Allan
Michael
Dan & Kelly
Jacob
Earl
Claude
William
Rita
Hal
Rick
Richard
Allen
Annette
Sanders
Sandy
Santora
Sappah
Sarafin
Satathite
Sather
Sattelberg
Savage
Savage
Savage
Savchuk
Scales
Schaaf
Schadle
Scheffler-O'Neill
Scheibe
Schell
Schenker
Schetzle
Schirmers
Schmidt
Schmidt
Schmidt
Schmitt
Schnell
Silver
Silvers
Simeon
Simeonoff
Simmons
Simmons
Sintek
Sipes
Sisson
Skaaren
Skibo
Skinner
Skinner
Skipwith
Skretting
Skura
Slater
Slemp
Smagge
Smalley
Smerigilo
Smeriglio
Smith
Smith
Mark R.
Marlin & Karel
Jerome
Jeff
Larry
Stan
Charles
Mir Ali
Paul A.
Larry
Tom
Gregory
Sherry
Bob
Guff
Kent
Don
John
Robert
Cindy
Stuart
James
Curt
Earl
Bill
Gail
Sean
Martha
Merrill
Walter & Margaret
Page
Vicki
Richard
Pete
Ted
Henry
Deidre
Bruce
Mike
Nick & George
Mark
Bob
Bob
Marti
Richard
Karen
Ed & Shirley
Matt
Jeffrey
Bradley
Seidl
Sejnoha
Selby
Selinger
Semmens
Senner
Seville
Seyedbagheri
Shadura II
Shaker
Shanahan
Shannon
Sharp
Shavelson
Sherman
Sherman
Shields
Shima
Shipley
Shogan
Sholiton
Showalter
Shuey
Shumaker
Shuster
Siemen
Sigler
Sikes
Sikorski
Sill
Spencer
Spilman
Spjut
Sprague
Spraker
Springer
St. Louis
St. Pierre
Stacy
Stadnicky
Stahl
Standish
Stanford
Steckel
Steckle, Jr.
Steen
Steger
Steinberger
Stephan
Stevens

Caryn	Smith
Charles	Smith
Dan	Smith
Donald	Smith
Eric	Smith
Eugene	Smith
Larry	Smith
Lou	Smith
Matthew	Smith
Nathan	Smith
Raymond	Smith
Stanley	Smith
Terry	Smith
Kenneth	Soik
Don	Soileau
Ron	Somerville
Jon	Sorensen
Jerry	Spade
John	Sparaga
Robert	Sparks
Drew	Sparlin
Andrew	Spaulding
Mike	Spaulding
Stephen F.	Speck
Jim S.	Spehler
Tim	Sturm
Larry	Suiter
Sharon	Sullivan
T.	Sullivan
Tom	Sullivan
Tom	Sumey
Willie	Suter
Mark	Svabik
Aaron	Swain
Ernest A.	Swalling
Clare	Swan
Kandall	Swedberg
Mike	Sweeney
Maria & Larry	Sweppy
John Stanley	Swiss
John Tyler	Swiss
Nick	Szabo
Andrew	Szczesny
Joseph	Szczesny
Kevin	Tabler
John & Jennifer	Tabor
Duane	Tachick
Melvin	Tachick
Robert	Tachick
Roger J.	Tachick

Michael	Stevens
Tim	Stevens
Douglas	Stewart
Sam	Stewart
W.B.	Stewart
Roland	Stickney
Norman	Stiles
Eric	Stirrup
Eric	Stocklinger
Dale	Stockton
Bill	Stockwell
Dusty & Jeff	Stoddard
James	Stogsdill
John	Stolz
Brenda	Stoops
Cameron	Stormes
Bruce	Storrs
Peter	Stortz
Linda	Story
Casey	Stout
Kurt	Strausbaug
Heath	Strausbaugh
Neil	Strausbaugh
Kathi	Strawa
Greg	Streveler
Jerry	Strieby
Jerry	Stroebele
Silver	Stroer
Lisa	Stroh
Debbie	Strong
Gordon	Thompson
Michael	Thompson
Craig	Thomsen
Eleanor	Thomson
Scott	Thorsell
Don & Theresa	Thurston
Peg	Tileston
Mary	Timm
Don	Tirrell
Gary	Titus
Kimberly	Titus
Connie	Tobin
William	Tobin
Lee	Todd
Robert D.	Toll
Katherine	Toloff
Thomas Anthony	Toloff
Stanley	Tomkiewicz
Jim	Toney
Randy	Toppen

John
Nozuma
Bruce
Nick
Alan & Treece
Doris J.
Gary
Ivan
Jim
Ronald
Jim
Fred
Linda
Billy
Neil
Steven
Ave
Tom
Allan & Anita
Jennifer
Chuck
Diana
Renetta R.
Threasa
Dorothy
Danny
William
Howard
Doug
Harold
Jim
Joseph
Larry
Charlotte
Bud
Charles
Wade E.
VIncent A.
Larry
Tamara
T. Greg
Steve
Tyland
Jean-Louis
James & Susan
Randy
Terry
Kim
Linda
Gene
Taft
Takeuchi
Talbot
Tanape
Tappan
Taylor
Taylor
Taylor
Taylor
Teel
Teeny
Telleen
Temple
Templeton
Thagard, Jr
Thaw
Thayer
Thibodeau
Thiel
Thiermann
Thomas
Thomas
Thomas
Thomas
Thompson
Vale
Vallee
Valley
Van Patten
Van Raden
Van Raden
Van Raden
Van Ray
Van Winkle
Vandenlos
Vandergaw
Vanderhyde
Vanderhyde Jr.
Vanderlinden
Vanderpool
Vane
Vanek
Vanlier
VanMalderen
Vari
Vasko
Vaught
Verney
Vida
Vik
John
Paul
Mary J.
James
Bob
Joe
John
Frank
Will
J W
Joseph
Susan
Jeff
Raymond
Steve
Michael
Gary
Jean
Paul
Carl & Leona
Alice J.
Carol
Ashley & Gayle
Peter
William L.
Charles
Judith
David
Henrietta
Gregorii & Olga
Kenneth
Richard
John C.
Oscar
Charles
Dennis
Donald A.
Edgar
Bruce
Robert
David
Melinda
Vince
L J Osky
Mark R.
Ron
Charles
Joyce
Raymond
Ralph
Toppenberg
Torrence
Toutonghi
Towers
Tracey
Trefran
Trent
Tretikoff
Troyer
Truesdall
Trujillo
Truskett
Tubbs
Tucker
Tuenstrup
Tuhy
Turner
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Turner
Tyner
Tysinger
Udd
Udelhoven
Ukatish
Ulich
Underwood, Jr
Ungermann
Urban
Vaden
Vaisenberg
Warren
Warrington
Waski
Watsjold
Watson
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Watson
Wayburn
Webb
Weber
Webster
Webster
Webster
Weeda
Weigner
Weilbacher
Weir
Weldon
Weldon
Wellborn

Chester
R. D.
Branden
Sandra
Linda
Joe
Dennis W.
Scott
Dale
Dan
Harriet
Tom
J.
Franklin D
Meryl
Chuck
John & Theresa
Merle
Michael L.
Ronald B.
Todd
Willard H
Kelly
Joe
Walter
Christopher
Margaret
Sue-Ellen
Frank
Lance
Raymond
Scot
Randy
Beverly
Curt
Fred
Henny
Henry
Walt
Walter
Charles
Dan
Philip
Eugene
Myrna
Priscilla
Henry J.
Thomas W
Matt
Meryl W
Vincent
Vincent
Volk
Vozar
Vrem
Wackler
Wade
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Wagner
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Wagoner
Wainwright
Waldron
Walford
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Walter
Wamsganz
Wannamaker
Want
Ward
Warner
Williams
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Willman
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Winegarden
Winn
Winslow
Witt
Wnerth
Wohl
Wojtusik
Wolfanger
Wolfe
Wolford
Jim
Steve
Mark
James
Ione
Robin
William O.
Michelle
Dan
Paul
Danny
Larry & Connie
Kathleen & Thomas
Carl H.
Dr. John R.
Marie Car & Joshua
Raymond
Richard
Bill
Doug
Chris
Susan
Dave
Mike
Randall
Wayne
Ken
Bruce
Gerald
Nick
Bonnie
John
Bill
Dave
Bob
Iris
Douglas
Cheryl
Ronald
Stephen
Karen
Dan
Jeremy
Craig
Nancy M.
M.
Luella J.
Chuck
John
Jo
Wells
Wendt
Wenger
Werba
Werthman
West
West
Weston
Wetzel
Wharton
Whatley
Wheat
Whitaker
White
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Whitney
Whittaker
Whittington-Evans
Wiedman
Wilder
Wiley
Wilk
Wilken
Wilkinson
Willard
Willard
William
Williams
Williams
Woodin
Woodruff
Wostman
Wotzka
Wrate
Wright
Wright
Wtulich, PhD
Wuestenfeld
Wurst
Yancey
Yarnes
Yeaton
Yerkes
Yezierski
Young
Young
Yount

Maiku
Rick
William
Ray & Ingrid
Robert L.
Wolgott
Wood
Wood
Woodard
Woodbury
John
Ken
E.
Robert
Richard
Adrian
Paul
Lori
Orlando
Ralph
Zabielski
Zafren
Zahn
Zeller
Ziehmer, Sr
Zimmer
Zimmerman
Zirkle
Zuniga
Zusman

Elected Officials: Federal

Senator Mark Begich
Senator Lisa Murkowski
Representative Don Young

Elected Officials: State

Governor Sean Parnell
Senator Thomas Wagoner
Representative Kurt Olson

Governments (Local)

Akhiok City Council
Aleutians East Borough
Annette Island Natural Resource Center
Bristol Bay Borough
City & Borough of Sitka
City of Akhiok
City of Clarks Point
City of Craig
City of Homer
City of Kenai
City of Nulato
City of Ouzinkie
City of Port Heiden
City of Ruby
City of Scammon Bay
City of Seldovia
City of Seward
City of Soldotna
Dillingham Police Dept.
Kachemak City Council
Kenai Borough Coastal District
Kenai Peninsula Borough
Kodiak Island Borough
Lake & Peninsula Borough
Larsen Bay City Council
Municipality of Anchorage
North Slope Borough
Old Harbor City Council
Port Lions City Council
Seldovia City Council
Seward City Council

Libraries

Akiachak School/Community Library
Akiak School/Community Library
Alaska State Library
Anchorage Law Library
Anchorage Municipal Libraries
ARLIS
Carnegie Museum of Natural History
National Conservation Training Center
Northern Illinois University Libraries
Rasmuson Library
Soldotna Public Library
Z.J. Loussac Library

Media

AK Women's Environmental Network
Alaska Magazine
Alaska Outdoor Journal
Anchorage Daily News
Cordova Times
Homer News
Juneau Empire
KBBI AM 890 Homer
KFSK Public Radio
KIMO 13 News
KJNP Radio
KMBQ Corporation
Kodiak Daily Mirror
KSKA FM
Petroleum News
Seattle Times
Seward Phoenix Log
The Associated Press
Wolf Magazine

Native Corporations

Afognak Native Corporation
Afognak Joint Venture
Akhiok-Kaguyak Inc
Alaska Federation of Natives
Allakaket Tribal Council
Allakaket Village Council
Braxling Family Trust
Bristol Bay Native Association
Bristol Bay Subsistence Advisory Council
Cook Inlet Keeper
Cook Inlet Tribal Council
Copper River Native Association
English Bay Village Council
English Bay/Port Graham Advis Comm
Iliamna Village Council
Karluk IRA Council
Kasigluk Traditional Council
Kenaitze Indian Tribe (IRA)
Kenaitze Indians of Alaska
McGrath Native Village Council
Nanwalek Village Council
Native Village of Chickaloon
Native Village of Old Harbor
Ninilchik Native Association, Inc
Ninilchik Traditional Council
Old Harbor Tribal Council
Ouzinkie Tribal Council
Port Graham Village
Port Graham Village Council
Ruby Traditional Council
Salamatoff Native Association
AHTNA Incorporated
Akiachak Limited
Aleut Corporation
Chignik Lagoon Native Corporation
Chitina Native Corporation
Chugach Alaska Corporation
Cook Inlet Region Inc
Dineega Corporation
Doyon, Limited
English Bay Corporation
Kenai Natives Association
Kenai Natives Association Inc
Koniag Inc
Kuitsarak Inc
Kuskokwim Corporation
Kuskokwim Native Corporation
Kwethluk Incorporated
Native Village of Port Lions
Native Village of Tyonek
Natives of Kodiak Inc
Ninilchik Native Association
Old Harbor Native Corporation
Ouzinkie Native Corporation
Point Possession Inc
Port Graham Corporation
Port Graham Traditional Council
St. Mary's Native Corporation
Tozitna Limited
Tyonek Native Corporation
Seldovia Village Tribal Council

Organizations

Alaska Airmen's Association, Inc
Alaska Bird Observatory
Alaska Bowhunters Association
Alaska Bureau of Wildlife Enforcement
Alaska Center for The Environment
Alaska Chapter of the Foundation of North America
Alaska Chapter Wilderness Watch
Alaska Conservation Alliance
Alaska Conservation Foundation
Alaska Dept. of Community & Economic Development
Alaska Federation of Natives
Alaska Friends of the Earth
Alaska Institute for Sustainable
Alaska Natural Heritage Program
Alaska Oceans Network
Alaska Outdoor Council
Alaska Public Lands Information Ctr.
Alaska Quiet Rights Coalition
Alaska Wilderness League
Alaska Wilderness Recreation & Tourism
Alaska Wildlife Alliance
Albemarle Environmental Association
Alliance for Survival
American Canoe Association
American Fisheries Society
American Rivers
American Wildlands

Anchorage Audubon Society
Animal Protection Institute
Animal Switchboard
Arctic Audubon Society
Audubon Alaska
Bering Sea Council of Elders
Big Horn Audubon Society
Boone & Crockett Club
Bristol Humane Society
Coalition To Protect Animals
Cook Inlet Aquaculture Assoc
Cooper Landing Community Hall
Cooper Landing Floating & Fishing
Defenders of Wildlife
Earthjustice
East Jersey Trout Unlimited
Ecology & Environment, Inc.
Environmental Defense Fund
Foundation for N. American Wild Sheep
Friends in Unity With Nature
Friends of Animals Inc
Greater Kenai Chamber of Commerce
Int'l Assoc of Fish & Wildlife Agencies
Kachemak Heritage Land Trust
Kenai Historical Society Inc
Kenai Visitory & Cultural Center
Knik Canoers, and Kayakers
Kodiak Brown Bear Trust
Kodiak Historical Society
Kodiak Regional Aquaculture Assoc.
Massachusetts Audubon Society
National Conservation Training Center
National Rifle Association
National Wildlife Federation
National Wildlife Federation - Alaska
National Wildlife Refuge Association
North Peninsula Chamber of Commerce
Northern SE Regional Aquaculture Association
PCFFA
Peninsula Sled Dog Racing Assoc.
Port Graham Village Council
Resource Development Council for AK
SCI
Seldovia Native Association, Inc.
Sierra Club

Schools

Alaska Pacific University
Anna Tobeluk Memorial School
Anthony Andrews School
Colorado State University
Community Christian School
Cook Inlet Academy
Cordova High School
Earth & Environmental Science
Edinbord School
Environment & Nat Resource Institute
Haines Borough Schools
Homer Jr. High School
Houghtaling Elementary
Institute for Environmental Learning
Institute of Arctic Biology
Kalifonsky Academy
K-Beach Elementary School
Kenai Peninsula Borough School District
Kenai Peninsula College
Kwethluk School Community Library
Lake and Peninsula School District
Memorial University
Meshik School
Mountain View Elementary School
National Outdoor Leadership School
North Star Elementary
Redoubt Elementary School
Sand Point School
Sears Elementary School
Soldotna Elementary School
South High School
Temple University
The Northern Engineer
Tustemena Elementary School
UAA ISER
UAF 4-H Youth Development
University of Alaska-Anchorage
University of Alaska-Fairbanks
University of Alaska-Southeast
University of California
University of Idaho
Water Resources Center
Waywood Elementary School
Williams College Mystic SeaPort

Appendix J:

Glossary

Glossary

Adequate snow cover	Snow cover of a sufficient depth to protect underlying vegetation and soil (50 CFR 36.2).
air-taxi operator/transporter	A person who transports people, equipment, supplies, harvested fish and wildlife products, or other personal property by means of aircraft for compensation or with the intent or agreement to receive compensation; a transporter who provides commercial transportation services by means of aircraft. Must have a special use permit to operate on a national wildlife refuge.
allowed	Activity, use, or facility is allowed under existing National Environmental Policy Act (NEPA) analysis, a specific compatibility determination, and compliance with all applicable laws and regulations of the Service, other Federal agencies and the State of Alaska.
not allowed	Activity, use, or facility is not allowed.
alternatives	Different ways to resolve issues, achieve refuge purposes, meet refuge goals, and contribute to the National Wildlife Refuge System mission. Alternatives provide different options to respond to major issues identified during the planning process.
No-Action Alternative	In the context of a comprehensive conservation plan, the current management direction. With this alternative, no change from the current comprehensive conservation plan would be implemented.
Preferred Alternative	A proposed action in the NEPA document for the comprehensive conservation plan identifying the alternative that the Service believes best achieves planning unit purposes, vision, and goals; helps fulfill the Refuge System mission; maintains and, where appropriate, restores the ecological integrity of each refuge and the Refuge System; addresses the significant issues and mandates; and is consistent with principles of sound fish and wildlife management.
Appropriate Management Response	Encompasses all of the response actions necessary to manage a wildfire or a wildland fire use event for the duration of the event. A range of tactical options, from monitoring to intensive suppression, is available to the fire manager when implementing Appropriate Management Response.

archaeological resource	Any material remains of past human life or activities that are of interest to the scientific study of historic or prehistoric peoples and their cultures. Materials which are capable of providing an understanding of past human behavior, cultural adaptation, and related topics through the application of scholarly or scientific techniques.
authorized	Activity, use, or facility allowed upon issuance of a special-use permit or other authorization.
big-game guide	A person who is licensed by the State of Alaska to provide services, equipment, or facilities to a big-game hunter in the field. A big-game guide accompanies or is present with, personally or through an assistant, the hunter in the field. Must have a special use permit to operate on a national wildlife refuge.
big-game outfitter	A person who provides for compensation or with the intent to receive compensation, services, supplies, or facilities to a big-game hunter in the field. The outfitter does not accompany nor provide an assistant to the hunter in the field. Must have a special use permit to operate on a national wildlife refuge.
big six	The Refuge Improvement Act designates six priority public uses of the Refuge System, referred to as the "big six:" hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation. All six of these activities are designated as "wildlife-dependent" recreation.
biological diversity	The variety of life, including the variety of living organisms, the genetic differences among them, and the communities in which they occur (USFWS, 602 FW 1.6).
biological integrity	Biotic composition, structure, and functioning at the genetic, organism, and community levels consistent with natural conditions, including the natural biological processes that shape genomes, organisms, and communities (USFWS, 602 FW 1.6).
campsite hardening	Actions undertaken to increase the durability of a campsite through manipulation, such as placing gravel on a place to pitch a tent or trails within the campsite. Does not include facilities normally associated with campgrounds, including outhouses, picnic tables, etc.

commercial recreational uses	Recreational uses of lands, waters, and resources for business or financial gain; includes guided recreational fishing, guided recreational hunting, other guided recreation, and air-taxi services.
commercial visitor service	Any service or activity made available for a fee, commission, brokerage, or other compensation to persons who visit a refuge, including such services as providing food, accommodations, transportation, tours, and guides.
compatible use	A proposed or existing wildlife-dependent recreational use or any other use of a refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge (USFWS, 603 FW 2 2.6).
compatibility determination	A written determination signed and dated by the refuge manager and the Service regional chief signifying that a proposed or existing use of a national wildlife refuge is a compatible use or is not a compatible use. The director of the Service makes this delegation through the regional director (USFWS, 603 FW 2 2.6).
consumptive use	Use of a refuge resource that removes the resource from the refuge (e.g., killing an animal to eat, catching and keeping fish, harvesting berries or plants, or removal of mineral or other specimens).
cultural resources	Fragile nonrenewable properties, including any district, site, building, structure, or object significant in American history, architecture, archaeology, engineering, or culture. These resources are significant for information they contain or the associations they have with past people, events, or life ways (USFWS 1992).
ecological integrity	The integration of biological integrity, natural biological diversity, and environmental health; the replication of natural conditions (USFWS, 602 FW 1.6).
ecosystem	A biological community functioning together with its environment as a unit.
environmental health	Abiotic (the nonliving factors of the environment, including light, temperature, and atmosphere) composition, structure, and functioning of the environment consistent with natural conditions, including the natural abiotic processes that shape the environment (USFWS, 602 FW 1.6).

environmental impact statement	A detailed written statement, required by section 102(2)(C) of the National Environmental Policy Act (NEPA), analyzing the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).
goal	A descriptive, open-ended, and often broad statement of desired future conditions that conveys purposes but does not define measurable units (USFWS, 620 FW 1.6).
guide	Any person who has a special-use permit to provide a commercial visitor service for hire on a refuge. This term does not generally apply to air-taxi operators who only provide transportation services.
habitat	The physical and biological resources required by an organism for its survival and reproduction; these requirements are species-specific. Food and cover are major components of habitat and must extend beyond the requirements of the individual to include a sufficient area capable of supporting a viable population.
incidental uses	Recreational or public uses of refuge lands, waters and/or resources that are secondary to, or of less importance than, the primary recreational use a visitor is participating in. An incidental use may or may not support a primary use.
issue	Any unsettled matter that requires a management decision (e.g., a Service initiative, opportunity, resource management problem, a threat to the resources of the unit, conflict in uses, public concern, or the presence of an undesirable resource condition) (USFWS, 602 FW 1.6).
“leave no trace” principles	Principles of outdoor recreation designed to minimize effects on the natural environment and other visitors. These principles are: (1) plan ahead and prepare, (2) travel and camp on durable surfaces, (3) dispose of waste properly, (4) leave what you find, (5) minimize campfire impacts, (6) respect wildlife, and (7) be considerate of other visitors (http://www.lnt.org, accessed May 11, 2004).
national wildlife refuge	A designated area of land, water, or an interest in land or water within the National Wildlife Refuge System; does not include coordination areas. Find a complete listing of all units of the Refuge System in the current Annual Report of

	Lands Under Control of the U.S. Fish and Wildlife Service (USFWS 2004).
native species	A species, subspecies, or distinct population that occurs within its natural range or natural zone of potential dispersal (i.e., the geographic area the species occupies naturally or would occupy in the absence of direct or indirect human activity or an environmental catastrophe). This definition recognizes that ecosystems and natural ranges are not static; they can and do evolve over time. Thus a species may naturally extend its range onto (or within) a refuge and still be considered native.
navigable waters	Under Federal law, for the purpose of determining ownership of submerged lands beneath inland water bodies not reserved at the date of statehood, navigable waters are waters used or susceptible to being used in their ordinary condition as highways of commerce over which trade and travel are, or may be conducted, in the customary modes of trade and travel on water. In situations where navigability and the ownership of submerged lands are disputed, the final authority for determining navigability rests with the Federal courts.
National Environmental Policy Act	This act, promulgated in 1969, requires all Federal agencies to disclose the environmental effects of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and must prepare appropriate NEPA documents to facilitate better environmental decision-making (from 40 CFR 1500). The law also established the Council on Environmental Quality to implement the law and to monitor compliance with the law.
nonconsumptive uses	Recreational activities (e.g., hiking, photography, and wildlife observation) that do not involve the taking or catching of fish, wildlife, or other natural resources.
noncommercial recreational uses	Recreational uses of lands, waters, and resources not for business or financial gain, including recreational fishing and hunting, boating and floating, camping, hiking, photography, and sightseeing.
non-native species	A species, subspecies, or distinct population that has been introduced by humans (intentionally or unintentionally) outside its natural range or natural zone of potential dispersal.

objective	A concise statement of what we want to achieve, how much we want to achieve it, when and where we want to achieve it, and who is responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring refuge accomplishments, and evaluating the success of strategies. (USFWS, 602 FW 1.6).
oil and gas unit	A unit is composed of a group of leases covering all or part of an accumulation of oil or gas. The lessees agree to operate the leases as a single entity, under approved plans of exploration and development.
ordinary high-water mark	The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).
prospectus	The document that the Service uses in soliciting competition to award permits for commercial visitor services on a refuge.
public	Individuals, organizations, and groups; officials of Federal, state, and local government agencies; Indian tribes; Native organizations; and foreign nations. Public may include anyone outside the core planning team. It includes those who may or may not have indicated an interest in Service issues and those who do or do not realize that Service decisions may affect them.
public involvement	A process that offers affected and interested individuals and organizations opportunities to become informed about, and to express their opinions on, Service actions and policies. In the process, these public views are studied thoroughly and are thoughtfully considered in shaping decisions for refuge management.
purposes of the refuge	The purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit (USFWS, 602 FW 1.6).
quality recreation program	A refuge quality recreation program promotes safety of participants, other visitors, and facilities; reliable and

	reasonable opportunities for the public to experience wildlife; refuge goals and objectives; resource stewardship and conservation; public understanding and increased public appreciation of America's natural resources and the Service's role in managing and protecting these resources; compliance with applicable laws and regulations and responsible behavior; accessibility and availability to a broad spectrum of the American people; facilities that blend into the natural setting; and the use of feedback from visitors to help define and evaluate programs (USFWS, 605 FW 1.6, in draft).
record of decision (ROD)	A concise public record of a decision prepared by the Federal agency, pursuant to NEPA, that contains a statement of the decision, identification of all alternatives considered, identification of the environmentally preferable alternative, a statement whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted (and if not, why they were not), and a summary of monitoring and enforcement where applicable for any mitigation (40 CFR 1505.2).
recreation guide	A commercial operator who accompanies clients on the refuge for photography, sightseeing, or other activities not related to hunting or fishing, for either day or overnight trips.
recreational fishing	Taking or attempting to take for personal use, not for sale or barter, any fish by hook and line held in the hand or attached to a pole or rod that is held in the hand or is closely attended.
recreational hunting	Taking or attempting to take for personal use, not for sale or barter, a game animal (as defined by the regulatory agency) by any means allowed by the regulatory agency.
recreational fishing or hunting guide	A commercial operator who accompanies recreational fishing or hunting clients on the refuge for day or overnight trips. Must have a special use permit to operate on the refuge.
refugia	Areas where a species or community of species have survived after their extinction in surrounding areas.
scoping	An early and open process with the public for determining the range of issues and the significant issues related to a proposed action (40 CFR 1501.7).

special use permit	A U.S. Fish and Wildlife Service authorization required for all commercial uses of refuge lands and waters.
step-down management plan	A plan that provides specific guidance on management subjects (e.g., habitat, public use, fire, safety) or groups of related subjects. It describes strategies and implementation schedules for meeting comprehensive conservation plan goals and objectives.
subsistence uses	The customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter or sharing for personal or family consumption; and for customary trade (from Section 803 of the Alaska National Interest Lands Conservation Act).
unguided visitor	A visitor who arranges, organizes, and conducts his or her own trip without the assistance of a guide.
use day	A period of one calendar day (24 hours), or portion thereof, for each entity using a resource. When employed as a measure of human use, it is called a visitor, visitor use day, or client use day.
visitor contact station	A staffed or unstaffed facility where the public can learn about the refuge and its resources.
vision statement	A concise statement of the desired future condition of the planning unit, based primarily on the System mission, specific refuge purposes, and other relevant mandates (USFWS, 602 FW 1.6).
wilderness	An area essentially undisturbed by human activity, together with its natural ecosystem.
wildland fire use	the management of naturally ignited wildland fire to accomplish resource management objectives for specific areas.
wildlife-dependent recreation	A use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation. These are the six priority public uses of the Refuge System, as established in the National Wildlife Refuge System Administration Act, as amended. Wildlife-

dependent recreational uses, other than the six priority public uses, are those that depend on the presence of wildlife.

References

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