U.S. Fish & Wildlife Service

Kenai National Wildlife Refuge Skilak Wildlife Recreation Area Revised Final Management Plan

May 2007

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Rd.
Anchorage, Alaska 99503-6199

IN REPLY REFER TO
NWRS707-183

JUN _ 6 2007

Dear Reader,

Enclosed is the Revised Final Management Plan and Decision Notice – a Finding of No Significant Impact – for the Skilak Wildlife Recreation Area, Kenai National Wildlife Refuge, U.S. Fish and Wildlife Service (Service). This revised plan, which supersedes the January 2007, plan has been prepared to implement certain provisions of the Kenai Refuge's Comprehensive Conservation Plan and incorporates, updates, and modifies where appropriate, guidance provided in previous Skilak-related planning documents. This plan will guide management of wildlife viewing, interpretation, and photography; and incorporates my recent decision to provide consistency in regulations between the Service and the State of Alaska pertaining to the area's administrative boundaries and hunting opportunities.

Sincerely,

Thomas O. Melius

Thomas O. Melius
Regional Director

Enclosure

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Kenai
National Wildlife Refuge

Skilak Wildlife Recreation Area

Revised Final Management Plan

May 2007

Prepared by
U.S. Fish and Wildlife Service

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Chapter 1: Introduction

This chapter identifies the purpose for developing the Skilak Wildlife Recreation Area (Skilak WRA) Management Plan; provides information on the events that have led the U.S. Fish and Wildlife Service (Service) to undertake this planning effort; public involvement in the planning process; and the final decision of the Service's Alaska Regional Director.

1.1 Purpose for Action

The purposes of this final management plan are:

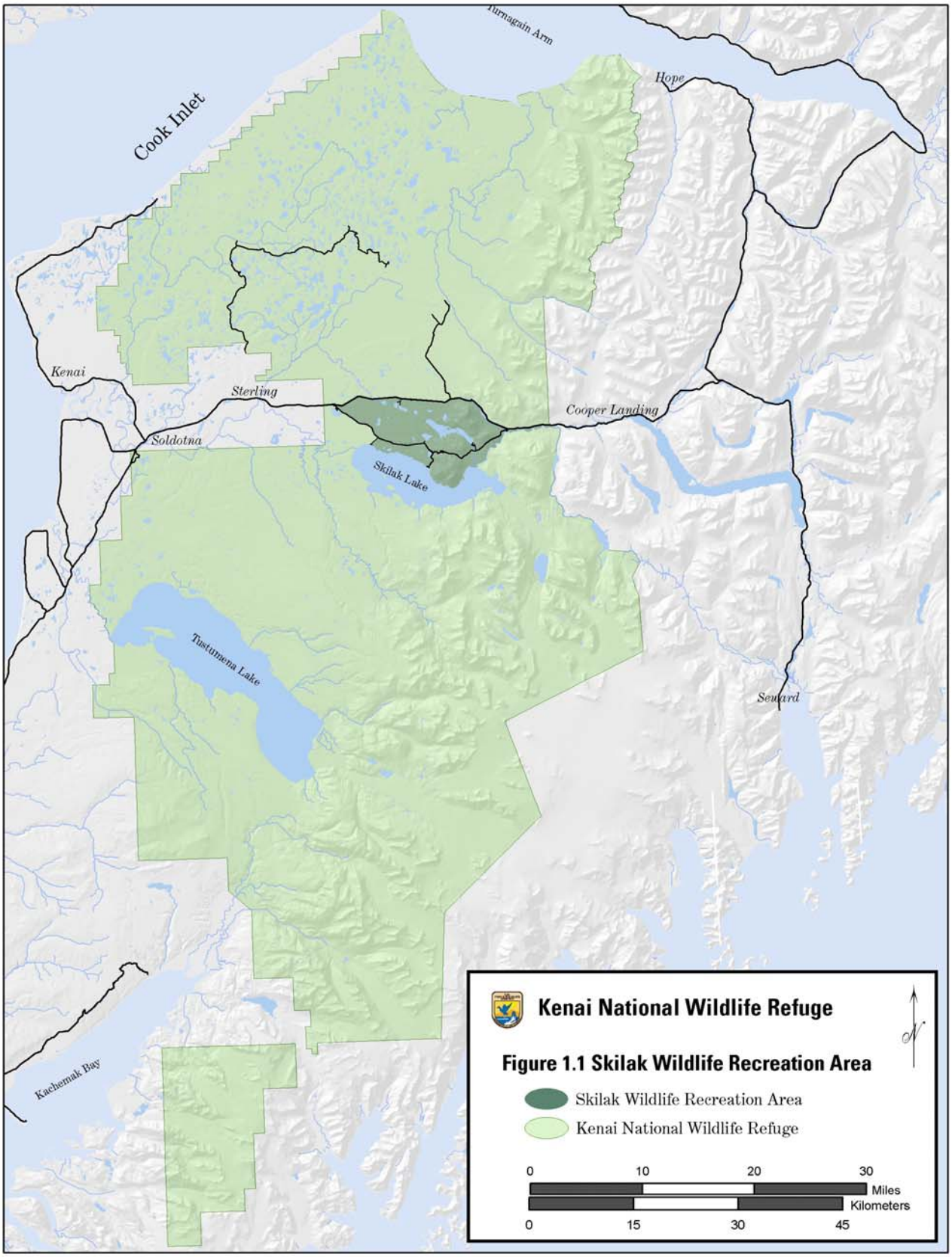
1. To describe wildlife viewing, interpretation, and photography opportunities within the Skilak WRA;
2. To identify development of compatible facilities and programs to facilitate wildlife viewing, interpretation, and photography opportunities within the Skilak WRA; and,
3. To identify other wildlife-dependent recreation opportunities that do not conflict with #1 & #2 above.

1.2 Background

The Refuge Administration Act, as amended, establishes wildlife-dependent recreational uses (hunting, fishing, wildlife observation, photography, environmental education, and interpretation) as priority general public uses of the Refuge System, and that if found compatible with refuge purposes, should receive enhanced and priority consideration in refuge planning and management over other general public uses.

The 1.98 million acre Kenai National Wildlife Refuge (Kenai NWR) (Figure 1.1) is unique among Alaskan refuges in that it includes wildlife-oriented recreation, interpretation, and environmental education among the major purposes for which the refuge was established as identified in Section 303(4) of the Alaska National Interest Lands Conservation Act (ANILCA) of 1980.

Section 304(g) of ANILCA directs the Secretary of the Interior "to prepare, and from time to time, revise, a comprehensive conservation plan…for each refuge (in Alaska)…". Kenai Refuge's Comprehensive Conservation Plan was developed in 1984. The planning process involved several years of data collection and analysis. The general public and various federal, state, and local agencies participated in the process, helping


Turnagain Arm
Cook Inlet
Hope
Kenai
Sterling
Cooper Landing
Soldotna
Skilak Lake
Tustumena Lake
Seward
Kachemak Bay
Kenai National Wildlife Refuge
Figure 1.1 Skilak Wildlife Recreation Area
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0
10
20
30
Miles
Kilometers
0
15
30
45

to identify issues and provide comments on Service proposals. In 1985, the U.S. Fish and Wildlife Service Alaska Regional Director signed the Record of Decision to begin implementation of the plan. The Comprehensive Conservation Plan directed the Service to establish a special area within the refuge that would be managed to increase opportunities for wildlife viewing, interpretation and photography:

> *"The entire refuge would remain open to hunting and trapping, except for areas where public safety is a concern (i.e., campgrounds, the headquarters/visitor center in Soldotna, etc) and in the Skilak Loop Special Management Area, where special restrictions on hunting and trapping apply. This area…would be managed to provide enhanced opportunities for wildlife viewing."* (Kenai NWR Comprehensive Conservation Plan)

To fulfill management direction identified in the Comprehensive Conservation Plan, the Service developed a species management plan for the area in December 1986. The plan identified specific goals for providing wildlife viewing and interpretation opportunities, and hunting and trapping opportunities were restricted so wildlife would become more abundant, less wary, and easily viewed. The Service worked closely with the Alaska Department of Fish and Game (ADF&G) to develop regulatory proposals that prohibited trapping, allowed taking of small game by archery, and provided a moose hunt by special permit. In 1987, the Alaska Board of Game approved these regulations that provided a framework for achieving the wildlife population objectives for enhanced wildlife viewing opportunities.

To further support development of wildlife viewing, environmental education, and interpretation opportunities in the Skilak area, the Service adopted a contractor's recommendation (Land Design North, Inc) to name it the Skilak Wildlife Recreation Area, and in 1988, developed a public use facilities step-down management plan for the area. The Service worked to implement the plan over a 17 year period as funding permitted.

In March 2005, the Board of Game adopted regulations providing for the use of firearms to hunt small game and fur animals in the Skilak WRA. In September 2005, the Board delayed implementation of the authorization until July 2007, supporting efforts of the Service to prepare a Skilak WRA Management Plan.

1.3 Public Involvement

Scoping (Identification of Issues)

The planning process began in November 2005 with distribution of a planning update and "issues workbook" to approximately 2,500 individuals, businesses, agencies, and organizations on the Kenai Peninsula and in the city of Anchorage. The workbook contained a combination of multiple-choice and open-ended questions that provided a forum for respondents to identify aspects of refuge management or other issues that concerned them. The Service also hosted public open house meetings in the towns of Soldotna and Cooper Landing, and in the city of Anchorage; and invited members of the public to provide comment in any other format (e.g., email, fax, phone) that suited them. In addition, the Service met with representatives from the State of Alaska Department of Natural Resources and Department of Fish and Game on

December 8, 2005 to solicit their input on issues to consider in the plan. Over 220 responses were submitted, and many of the responses identified more than one issue for consideration. Three issue statements were identified through analysis of public comments. The issue statements described the primary values and uses the planning team focused on to develop management alternatives identified in the draft plan. These issue statements were:

- How can facilities that support wildlife viewing, interpretation and photography be enhanced while preserving the natural character of the Skilak WRA while minimizing impacts to visitors who prefer less development?
- How can trailhead and campground interpretation be enhanced while maintaining the natural character of the Skilak WRA?
- How can the Service address demand for expanded road maintenance and recreation support facilities while maintaining the natural character of the Skilak WRA?
- How can the Service address hunting-related opportunities within the Skilak WRA without conflicting with the area's priority intended uses?

Public Review and Comment of the Draft Plan

The Service completed the Skilak WRA Draft Management Plan and Environmental Assessment in October 2006. Approximately 2,500 copies were distributed to individuals, businesses, agencies, and organizations that had expressed an interest in receiving Kenai NWR planning-related documents. Notices of availability were distributed to radio stations, television stations, and newspapers on the Kenai Peninsula and in the city of Anchorage. An electronic version of the plan was made available on the Kenai NWR planning website, and a Skilak email address was created to facilitate public comment on the draft plan. Presentations were made to the Alaska Board of Game and the Friends of Alaska National Wildlife Refuges.

The draft plan and environmental assessment were made available for public review and comment during a 30-day period ending November 17, 2006. The plan described three alternatives, including the Service's preferred alternative, for managing wildlife viewing, interpretation, photography and other wildlife-dependent recreation opportunities. The accompanying environmental assessment described the environmental and social consequences of implementing the alternatives. Eighty-one responses were received by mail, email, and telephone before the deadline. The majority of responses came from private citizens located in the greater Soldotna-Kenai area. Sixteen non-governmental organizations, one federal agency, two local businesses, and the State of Alaska also responded. Just over half of all respondents expressed support for or opposition to a specific alternative. Of those, the majority supported the Service's Preferred Alternative or a modified version of it.

Summary of Substantive Comments

Substantive comments centered on four themes: firearm use and hunting, Skilak Loop Road maintenance, threats to wildlife and wildlife corridors, and facilities.

Firearm Use and Hunting Opportunities

The single most common opinion expressed among the responses was support for retaining existing firearm restrictions. Respondents who favored continuing to restrict firearms expressed concern that wildlife viewers and other non-consumptive users needed a place where they could recreate free from the perceived dangers associated with hunting. A few respondents indicated

their concern that calls to expand hunting in the Skilak WRA would lead to expanded hunting opportunities contrary to a wildlife viewing area. Respondents who favored relaxing firearm restrictions and/or expanding hunting opportunities typically suggested that conflicts with other users were unlikely because hunting takes place in the fall and winter when non-consumptive recreation use is low. Most advocates of expanded hunting called for limited expansion in the form of small game opportunities and smaller buffer zones, although a few called for virtually unrestricted hunting.

Skilak Loop Road Maintenance
Maintenance of the Skilak Loop Road was the second-most prevalent topic in respondent's comments. Most respondents who commented on this topic were strongly opposed to paving the road. They suggested that paving would encourage drivers to travel at unsafe speeds and collisions with wildlife and other vehicles would result. A few respondents worried that the Service would restrict use of the road if it were to take over management responsibility from the State of Alaska. Among the respondents that explicitly supported paving, half suggested the Service should consider speed control measures such as speed bumps or increased speed limit enforcement. The main reason given for supporting paving was decreased wear and tear on vehicles and trailers.

Threats to Wildlife and Wildlife Corridors
Respondents who expressed concerns about wildlife impacts typically suggested that one or more formal "wildlife movement corridors" be identified – one west of Skilak Loop Road to the refuge's westernmost boundary, and one along the north shore of Skilak Lake. They suggested facilities development should be limited or prohibited in these areas to minimize adverse impacts to wildlife. They cited the vital location of the Skilak WRA within the larger Kenai Peninsula region, and the potential cumulative impacts to wildlife from current and future developments and recreation facilities.

Facilities
A relatively small proportion of respondents commented specifically on visitor facilities. Among those that did, opinions regarding the collection of visitor facilities and upgrades proposed in the draft plan tended to be negative. Most of those respondents felt that proposed facilities were unnecessary or too numerous. A few suggested management resources should be aimed at improved maintenance of existing infrastructure rather than building more.

1.4 Decision

On December 7, 2006, the Alaska Regional Director signed a Decision Notice – A Finding of No Significant Impact – for the Skilak WRA based on the environmental assessment completed for the draft plan and comments received during the public review period (Appendix A). On May 11, 2007, the Regional Director signed an amended Decision Notice and Finding of No Significant Impact for the Skilak WRA (Appendix B) adopting changes to the administrative boundaries and hunting sections of the plan which are fully consistent with regulations adopted by the Alaska Board of Game.

Chapter 2: Existing Conditions

This chapter describes the physical, biological, and social settings of the Skilak WRA prior to implementation of this plan.

2.1 Physical Environment

2.1.1 Landforms

The Kenai NWR is located in south-central Alaska on the Kenai Peninsula. Three major landforms are present on the Refuge: the Kenai Lowlands, the Kenai Mountains, and the Tustumena Benchlands. The Kenai Lowlands and Kenai Mountains are found within the boundaries of the Skilak WRA.

The west and central portions of the Skilak WRA lie within the Kenai Lowlands which fall within the Cook Inlet Basin ecoregion. This landform consists of ground moraine and stagnant ice terrain with low ridges, hills, muskeg, lakes, and ponds. Relief ranges from 50 to 250 feet. The eastern portion of the Skilak WRA lies within the Kenai Mountains which fall within the Chugach-St. Elias Mountains ecoregion. The Kenai Mountains rise to 3,000 feet in the Skilak WRA and over 6,000 feet elsewhere on the refuge.

2.1.2 Air Quality

Kenai Refuge, including the Skilak WRA, is designated a Class II air quality area under the Clean Air Act. Class II areas allow some incremental increase in pollution over base-line concentrations. Air quality in the Skilak WRA is generally excellent; however, vehicles using the Skilak Loop Road during dry periods stir up dust which deteriorates air quality. In addition, exhaust from these vehicles degrades air quality along the road corridor, particularly during periods of high public use.

2.1.3 Geology and Soils

Two geologic terranes are found within the Skilak WRA: Tertiary rock found within the Kenai Lowlands (or western and central portions of the area) known as the Alaska Peninsular terrane, and Mesozoic rock found in the Kenai Mountains (or eastern portion of the area) known as the Chugach-Prince William terrane.

The Alaska Peninsular terrane is covered by glacial deposits consisting of siltstone, fine sandstone, and shale. Lowland soils are mantled by glacial deposits that vary in texture and are overlain by well-drained to poorly drained silt loams. Depression areas, such as muskeg, are usually covered by peat soils produced by the slow decomposition of organic materials. Sloped areas are vulnerable to erosion, especially if vegetation is removed. The Mesozoic rock of the Chugach-Prince William terrane is mostly greywacke, a marine sandstone derived from igneous rock, with lesser amounts of basalt, radiolarian chert, and limestone.

2.1.4 Water Resources

Lentic systems (i.e., lakes, ponds, and wetlands) and lotic systems (i.e., streams and rivers)

account for more then 4,630-acres or approximately 10% of the Skilak WRA. Aquatic and riparian habitats associated with these systems contain unique plant communities and other distinguishing features. Riparian habitats account for only 5% of Kenai Refuge but they account for some of the most valuable habitat for wildlife. Approximately 199 species use riparian habitats on the Refuge during some cycle of their lives, and 139 vertebrate species use them specifically for breeding (USFWS 1985). The following provides a short assessment of lentic and lotic systems in the Skilak WRA.

Lentic Systems

The Skilak WRA contains seventeen lakes totaling approximately 3,490-acres (8%) (Table 2.1). Three lakes immediately adjacent to the Skilak WRA are also commonly used by wildlife: Bottenintnin Lake, Skilak Lake, and Watson Lake. These lakes amount to 24,831-acres.

Lakes within the Skilak WRA remain frozen from November to May, and summer water temperatures rarely exceeds 68 degrees F. Skilak Lake freezes for shorter periods of time due to its size but does not get as warm as the smaller lakes in summer because much of its inflow is glacial meltwater. Cold water temperatures and low light levels common in northern latitude ecosystems severely limit productivity. High oxygen content, lack of pollution, and physical diversity balances these limitations. The net results are conditions that favor the reproduction and early growth of anadromous fishes.

Table 2.1: Lakes

Name	Size (Acres)		Name	Size (Acres)
Blizzard Lake	57		Marsh Lake	110
Bottenintnin Lake	262		Mox Lake	45
Chatelain Lake	118		Pack Lake	33
Egumen Lake	82		Petersen Lake	92
Engineer Lake	225		Rock Lake	19
Hidden Lake	1,597		Skilak Lake	24,512
Hiker’s Lake	61		Unnamed Lake	21
Kelly Lake	146		Unnamed Lake	13
Lower Jean Lake	113		Upper Ohmer Lake	20
Lower Ohmer Lake	116		Watson Lake	58

Wetland habitats are defined by periodic saturation or coverage of the soil by water. Wetlands account for only 3% of Kenai Refuge but they are valuable habitat for wildlife contributing to the survival and reproductive success of 96 vertebrate species (USFWS 1985). Wetlands account for 1,140-acres (2.6%) in the Skilak WRA.

Lotic Systems

The Skilak WRA contains nine streams and/or rivers totaling approximately 19-miles in length

(Table 2.2). These streams, in addition to transporting water from lake to lake, provide access for anadromous fish, and reproduction and rearing habitat for resident fish. The productivity of these systems in subarctic regions is very fragile and dependent on high water quality, proper water temperature, clean stream gravel, and nutrient cycling (driven by the annual return of anadromous fish from the sea).

Wildlife species found in riparian habitats include brown bear, black bear, moose, caribou, river otter, beaver, muskrat, wood frog, bald eagle, common snipe, red-necked phalarope, and a variety of goldeneyes, grebes, gulls, loons, mergansers, sandpipers, swallows, yellowlegs, and terns.

Table 2.2: Streams and Rivers

Name	Length (Miles)		Name	Length (Miles)
Hidden Creek	2.7		Ohmer Creek	1.7
Hidden Lake Inlet	0.2		Unnamed 1	0.6
Jean Creek	3.1		Unnamed 2	0.4
Kenai River	7.3		Unnamed 3	1.8
Moose River, East Fork	1.7			

2.2 Biological Environment

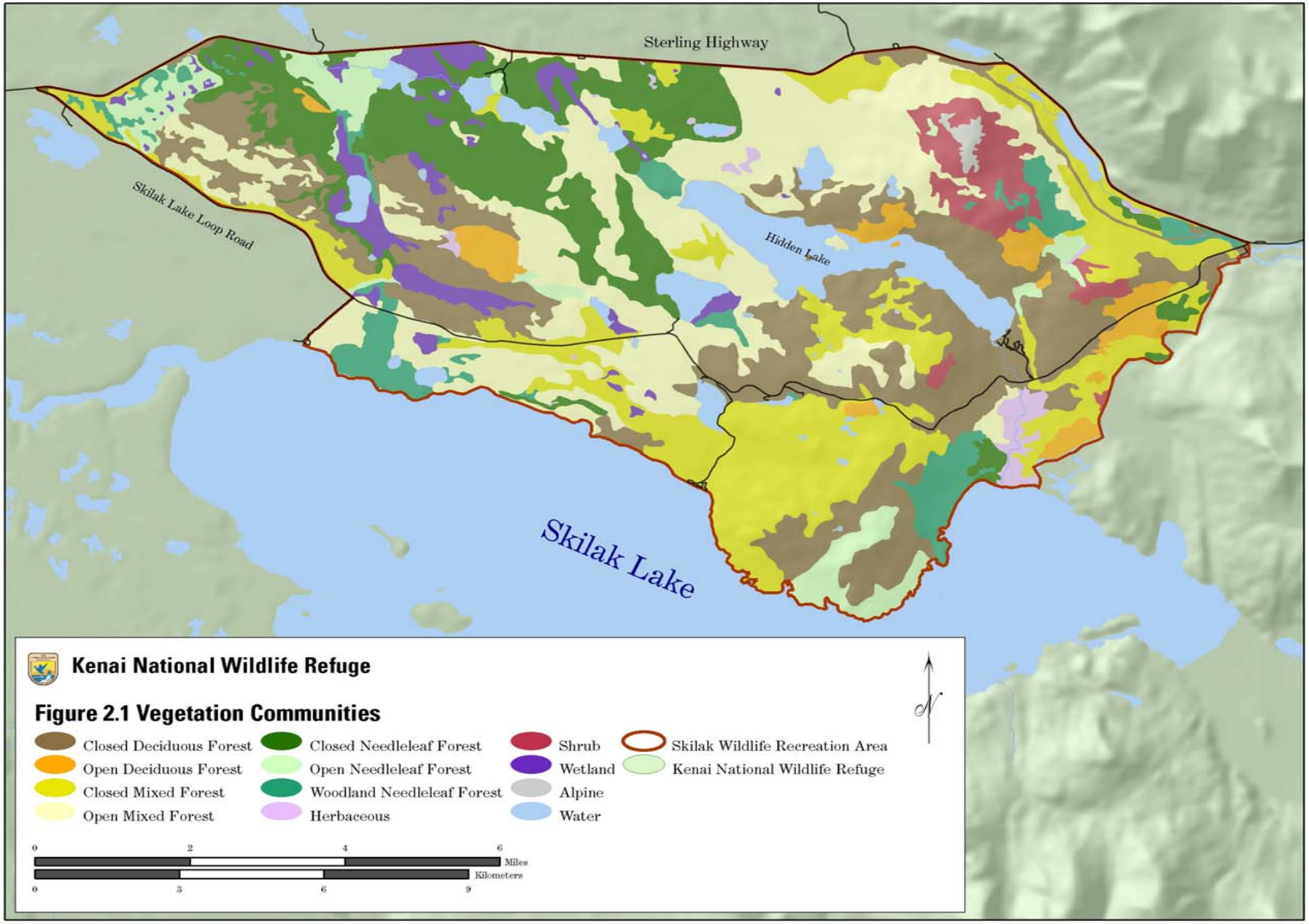
2.2.1 Vegetation

Community Types

Vegetative communities cover approximately 39,368-acres (89.4%) of the Skilak WRA. The remaining 4,630-acres (10.6%) are water resources. Forested habitats dominate the landscape accounting for approximately 37,438-acres or 95% of all vegetative cover. Other vegetative communities, including shrub, herbaceous, and alpine communities make up approximately 1,930-acres (5%).

The following vegetative communities (Viereck, et al., 1992) are found in the Skilak WRA (Figure 2.1 & Figure 2.2):

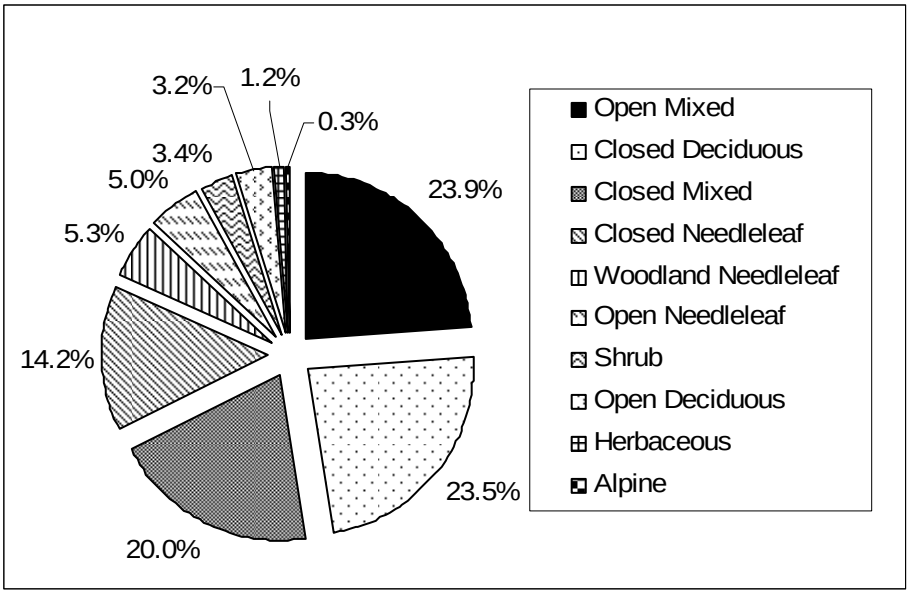
Mixed Forests – Mixed forests consist of needleleaf and deciduous trees. In the Skilak WRA, mixed forests consist of white spruce (*Picea glauca*), black spruce (*Picea mariana*), quaking aspen (*Populus tremuloides*), and paper birch (*Betula papyrifera*). These forests account for approximately 17,272-acres (43.9%). Open mixed forests (25-59% canopy cover) account for 9,417-acres (23.0%). Closed mixed forests (60-100% canopy cover) account for 7,855-acres (20.0%). Mixed forests are typically found in the east and central sectors of the area with a fairly


Sterling Highway
Skilak Lake Loop Road
Hidden Lake
Skilak Lake
Kenai National Wildlife Refuge
Figure 2.1 Vegetation Communities
Closed Deciduous Forest
Open Deciduous Forest
Closed Mixed Forest
Open Mixed Forest
Closed Needleleaf Forest
Open Needleleaf Forest
Woodland Needleleaf Forest
Herbaceous
Shrub
Wetland
Alpine
Water
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0 2 4 6
Miles
Kilometers
0 3 6 9
N

large continuous portion found south of the Skilak Loop Road from the Rock Lake area to the Lower Skilak Lake Campground.

Deciduous Forests – Deciduous forests consist of broadleaf trees. In the Skilak WRA, deciduous forests consist of quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), and black cottonwood (*Populus balsamifera trichocarpa*). These forests account for approximately 10,534-acres (26.8%). Open deciduous forests (25-59% canopy cover) account for 1,278-acres (3.2%). Closed deciduous forests (60-100% canopy cover) account for 9,256-acres (23.5%). Deciduous forests are typically found in the south-east sector of the Skilak WRA, but a significant portion is also found in the western sector north of the Skilak Loop Road.

Figure 2.2: Vegetation Classification



Needleleaf Forests – Needleleaf forests consist of coniferous trees. In the Skilak WRA, needleleaf forests consist of white and black spruce. These forests account for approximately 9,632-acres (24.5%). Open needleleaf forests (25-59% canopy cover) account for 1,972 (5.0%). Closed needleleaf forests (60-100% canopy cover) account for 5,591-acres (14.2%), and woodland needleleaf forests (10-24% canopy cover) account for 2,069-acres (5.3%). The majority of the acreage is found in the north-west sector of the Skilak WRA.

Shrub – Shrub communities contains two distinct vegetation categories: Closed Tall Scrub and Open Low Scrub. This community type accounts for approximately 1,330-acres (3.4%). Closed Tall Scrub is dominated by Sitka alder (*Alnus effers*) and/or willow (*Salix spp.*), and is typically found in wet meadows and near streams. Open Low Scrub primarily consisting of bog birch (*Betula glandulosa),*dwarf arctic birch (*Betula nana),*bog blueberry *(Vaccinium uliginosum*), and mountain cranberry *(Vaccinium vitis-idaea*) can be found at higher elevations on Hideout Mountain.

Herbaceous – Herbaceous communities are dominated by bluejoint reedgrass *(Calamagrostis efferson)* but also includes various sedges (*Carex spp.).* This community type is typically found along flood plains and edges of lakes or drained wetlands. It accounts for approximately 465-acres (1.2%) primarily along Hidden Creek.

Alpine – Alpine communities are dominated by arctic willow (*Salix arctica*), dwarf arctic birch (*Betula pubescens)*, and several species of grasses, sedges, and lichens. The highest elevations in the Skilak WRA support alpine tundra. This community type, found only on Hideout Mountain, accounts for approximately 135-acres (0.3%).

Habitat Disturbance

Approximately half of the forested areas on the Kenai Lowlands (refuge-wide) are in various stages of succession largely due to lightening strikes and human-caused fire, but also, as a result of management activities such as mechanical crushing and prescribed fire use. More than 11,000-acres (29.5%) of the Skilak WRA, and an additional 5,000-acres immediately adjacent to it, have been managed since 1978 (Figure 2.3, Table 2.3).

Wildfire – The 1947 Skilak Lake Fire, which was started by a road construction crew, burned approximately 310,000-acres in GMU 15A which included 24,945-acres in the Skilak WRA. In 1963, a 400-acre wildfire burned in the vicinity of Engineer Lake, and in the early and mid-1990s, two wildland fires, the Pothole Lake and Hidden Creek fires, burned approximately 7,000-acres (18.7%) of the Skilak WRA.

Vegetation Crushing and Prescribed Fire – In 1970, the Refuge purchased three 40-ton Letourneau timber crushers. From 1974 to 1978 the crushers were used to manage approximately 7,000-acres in the northern portion of the Refuge. They were transferred to ADF&G in 1983. Over the next four years, approximately 4,000-acres were crushed in and adjacent to the Skilak WRA by ADF&G. All but 600-acres were subsequently burned by the Refuge using prescribed fire. ADF&G surplused the Letourneau tree crushers in 1988, marking the end of large scale mechanical manipulation on Kenai Refuge (USFWS 1996).

Spruce Bark Beetle Infestation – Kenai Refuge has historically suffered periodic infestations of spruce bark beetle (*Dendroctonus rufipennis*). Dendrochronology studies have shown evidence of regional bark beetle outbreaks in the 1760s, 1780s, 1810s, 1850s, 1870s, 1910s, 1970s, and 1990s. Approximately 850-acres (2.2%) have been impacted by spruce bark beetle in the Skilak WRA.

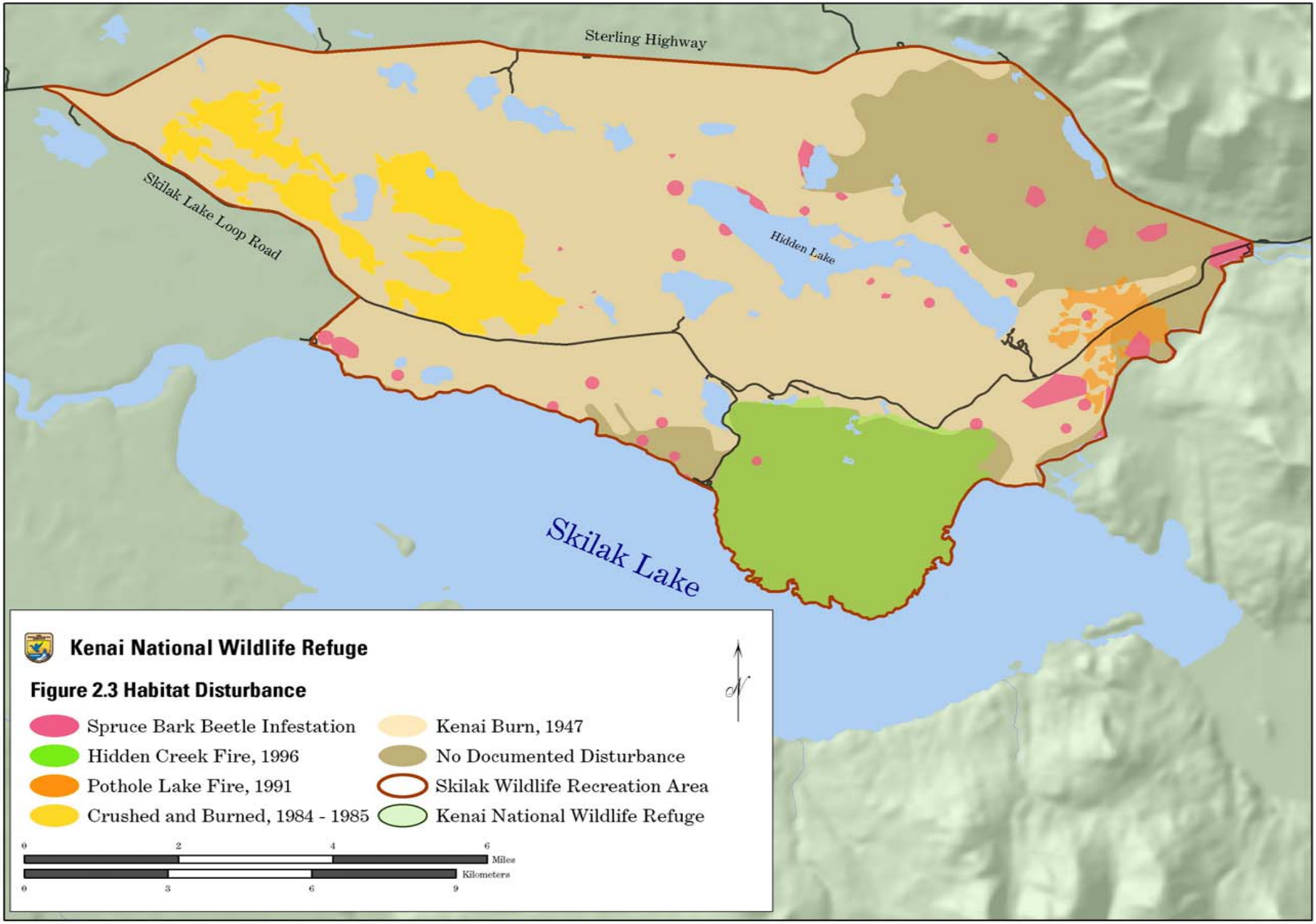

Sterling Highway
Skilak Lake Loop Road
Hidden Lake
Skilak Lake
Kenai National Wildlife Refuge
Figure 2.3 Habitat Disturbance
Spruce Bark Beetle Infestation
Hidden Creek Fire, 1996
Pothole Lake Fire, 1991
Crushed and Burned, 1984 - 1985
Kenai Burn, 1947
No Documented Disturbance
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0 2 4 6
Miles
Kilometers
0 3 6 9
N

Table 2.3: Habitat Modifications

Name	Treatment Type	Treatment Year	Acres	% of Forest Cover
Mystery Creek Vegetation Management Area	Mechanical Crushing	1978	4,300	Adjacent to SWRA
Skilak WRA Vegetation Management Area (Unit 1)	Mechanical Crushing	1984	1,225	3.3%
Skilak WRA Vegetation Management Area (Unit 2)	Mechanical Crushing	1985	1,972	5.3%
Skilak WRA Vegetation Management Area (Unit 1)	Prescribed Fire	1986	Same as above	Same as above
Lily Lake Vegetation Management Area	Mechanical Crushing	1986	700	Adjacent to SWRA
Skilak WRA Vegetation Management Area (Unit 2)	Prescribed Fire	1987	Same as above	Same as above
Lily Lake Vegetation Management Area	Prescribed Fire	1987	Same as above	Adjacent to SWRA
Unit 3 Pothole Lake Fire	Wildland Fire	1991	1,800	4.8%
Unit 4 Hidden Creek Fire	Wildland Fire	1996	5,200	13.9%
Throughout Skilak WRA	Bark Beetle Infestation	Ongoing	842	2.2%
Total			**16,039**	

Forest Age Classes

Natural processes and management actions have influenced forest succession throughout the Skilak WRA. As a result, the Skilak WRA contains a diversity of forest age classes ranging from early seral (<20 years old) to climax forests (141-180 years old) (Figure 2.4, Table 2.4). A short description of forest age classes follows:

Mature Forests – Forest communities of this age class are dominated by trees that are 41-60 years old. They are the product of forest succession resulting from the 1947 Skilak Lake Fire. Mature forests, which account for approximately 24,945-acres (63.3%), dominate the Skilak WRA and consist of a diversity of deciduous, needleleaf, and mixed forest communities. Although it is the dominate age class throughout the area, its continuity is disrupted at specific locations in the western, central, and eastern sectors where additional fire events have occurred and habitat management actions have been implemented.

Wildlife species found in this age class include black bear, coyote, lynx, porcupine, red-backed vole, red squirrel, wolf, dark-eyed junco, gray jay, great horned owl, spruce grouse, and a variety of woodpeckers, chickadees, warblers, and thrushes. Approximately 66 wildlife species are thought to use this age class for breeding (USFWS 1985).

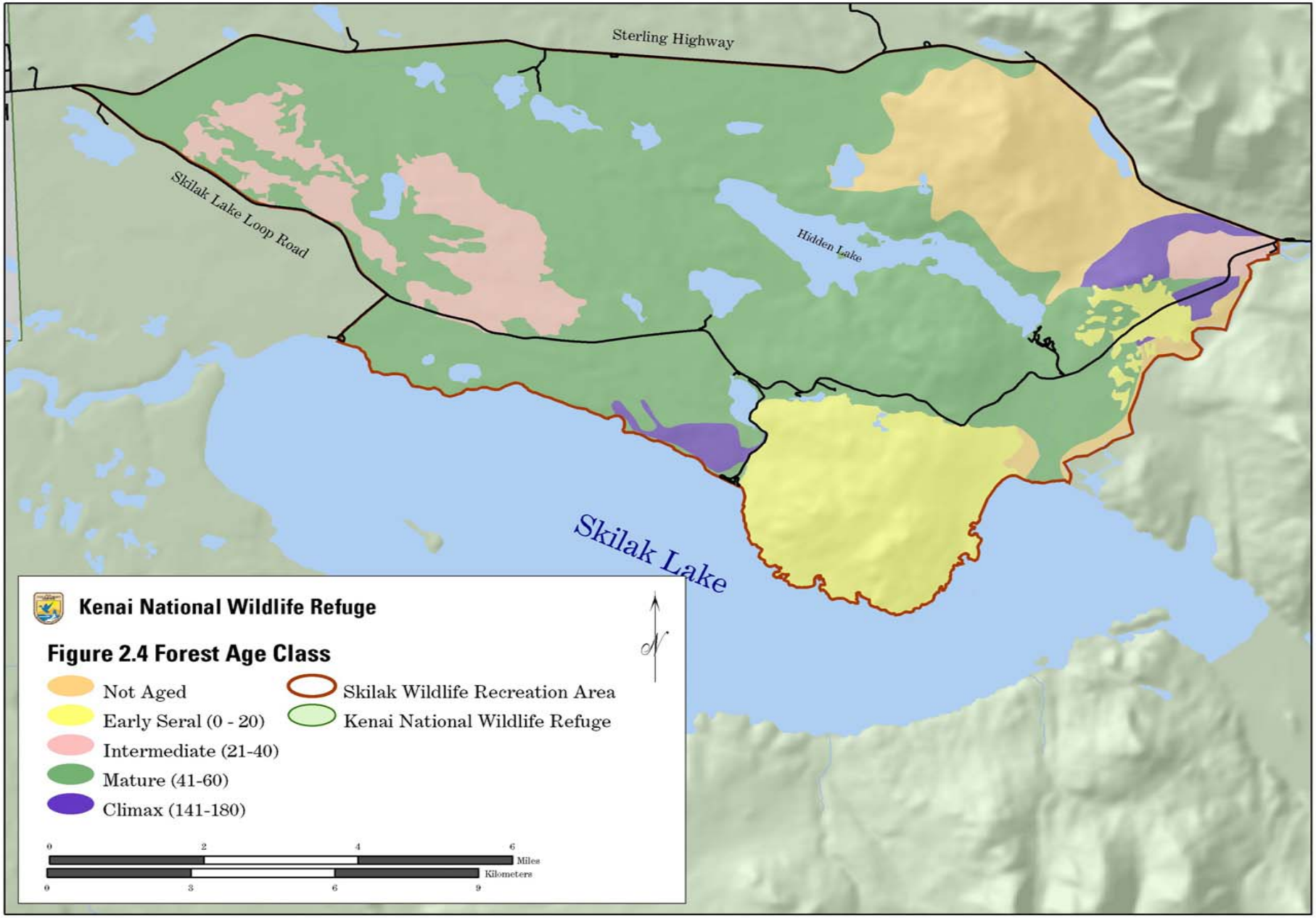

Sterling Highway
Skilak Lake Loop Road
Hidden Lake
Skilak Lake
Kenai National Wildlife Refuge
Figure 2.4 Forest Age Class
Not Aged
Early Seral (0 - 20)
Intermediate (21-40)
Mature (41-60)
Climax (141-180)
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
N
0
2
4
6
Miles
Kilometers
0
3
6
9

Table 2.4: Forest Age Class

Forest Age Class	Acres	% of Skilak WRA	Diversity Index[1]	% of All Species
Not Aged	4,855	12.4	n/a	n/a
Early Seral Stage (<20 years old)	5,160	13.1	39	19.6
Intermediate Stage (21-40 years old)	3,320	8.4	47	23.6
Mature Stage (41-60 years old)	24,945	63.3	66	33.1
Climax Stage (141-180 years old)	1,100	2.8	68	34.1
Total	**39,380**	**100%**	**-**	**-**

Early Seral Stage Forests – Forest communities of this age class are dominated by trees that are less than 20 years old. They are the product of forest succession resulting from the Pothole Lake and Hidden Creek wildland fires. Early seral stage forests, which account for approximately 5,160-acres (13.2%) in the eastern and central sectors of the Skilak WRA, are deciduous forest communities.

Wildlife species found in this age class include black bear, brown bear, coyote, lynx, masked shrew, moose, red-backed vole, snowshoe hare, wolf, spruce grouse, and a variety of woodpeckers, sparrows, thrushes, flycatchers, and warblers. Approximately 39 wildlife species are thought to use this age class for breeding (USFWS 1985).

Intermediate Stage Forests – Forest communities of this age class are dominated by trees that are 21-40 years old. They are the product of forest succession resulting from vegetation management activities conducted in the mid-1980s. Additional acreage of this age class can be found in the vicinity of the Sterling Highway and Skilak Loop Road intersection (East Entrance). Intermediate stage forests make up approximately 3,320-acres (8.4%) in the Skilak WRA and consist of a diversity of deciduous and mixed forest communities.

Wildlife species found in this age class include black bear, brown bear, coyote, lynx, moose, red-backed vole, short-tailed weasel, wolf, and a variety of woodpeckers, sparrows, thrushes, flycatchers, and warblers. Approximately 47 wildlife species are thought to use this age class for breeding (USFWS 1985).

Climax Forests – Forest communities of this age class are dominated by trees that are 141-180 years old. Climax forests make up approximately 1,100-acres (2.8%) in the Skilak WRA. This age class can be found in the vicinity of the Sterling Highway and Skilak Loop Road intersection (East Entrance) consisting of closed deciduous and mixed forest communities. It can also be found along

[1] Diversity Index is the total number of species using the habitat for breeding purposes.

the Skilak Loop Road where deciduous, mixed, and needleleaf forest communities occur. An additional stand is located in the central sector of the area west of the Upper Skilak Campground access road below Lower Ohmer Lake. This stand is a closed mixed forest community.

Wildlife species found in this age class include black bear, coyote, masked shrew, red squirrel, wolf, black-capped chickadee, spruce grouse, and a variety of woodpeckers and warblers. Approximately 68 wildlife species are thought to use this age class for breeding (USFWS 1985).

Not Aged – Approximately 5,420-acres (12.4%) of the eastern sector has not been aged. Much of this area is identified as shrub and alpine communities found on Hideout Mountain. Other portions of this area consists of deciduous, needleleaf, and mixed forest communities.

2.2.2 Wildlife

Due to the location of the Skilak WRA situated between the Kenai Lowlands, Kenai Mountains, and Skilak Lake, the diversity of habitats and relatively undisturbed condition of the area, many if not most, of the 199 vertebrates common to Kenai Refuge are also thought to inhabit the Skilak WRA. A short assessment of species common to the area and/or those that could be affected by the management action follows.

Megafauna

Black bears (Ursus americanus)

Habitat – Black bears are found in all forested habitats on Kenai Refuge, though they are most abundant in intermediate stage forests (21-40 years old) (USFWS 1985). Although they prefer forested and shrubby areas, they will also use wet meadows, ridgetops, burned areas, and riparian areas (Pelton 1987). They prefer wet over dry sites, and timbered over open areas (Unsworth 1989). Forest habitats dominate the landscape in the Skilak WRA accounting for approximately 37,438-acres. Intermediate stage forests account for 3,320-acres (8.9%), and mature forests resulting from the 1947 Skilak Lake Fire accounts for 24,945-acres (62.3%).

Population – The black bear population for the Kenai Peninsula is estimated at 3,000 bears (Del Frate 2002). Although the population is believed to be stable, fewer moose in the 1969 burn area and loss of habitat through continuing human encroachment will probably result in declining population numbers (Del Frate 2002). In GMU 15A, bear densities are estimated at 205 bears/1000 km squared (or 1 bear per 1,205 acres) for mature forests resulting from the 1947 Skilak Lake Fire (Schwartz and Franzmann 1991). As such, mature forests in the Skilak WRA may support up to 20 bears. Although the black bear population for the Skilak WRA is unknown, numerous sightings and encounters with visitors indicate their use of the area.

Brown Bears (Ursus arctos)

Habitat – Brown bears use 8,800 square kilometers (2,175,000 acres) or 37.7% of the Kenai Peninsula (Jacobs 1989). Human activities associated with development are altering important brown bear habitat on the peninsula. The infrastructure associated with this growth fragments habitat for bears, which need large, undeveloped areas for viability. Kenai Refuge provides the largest continuous, homogenous block of brown bear habitat on the peninsula. Habitat use varies seasonally in response to food availability (Jacobs 1989; Schoen 1994). Meat obtained from moose, caribou,

and rodents is an important food source during spring and summer. Salmon are a critical resource from the time they arrive in summer to the time bears den in the fall (Hilderbrand et al. 2000).

Defense of Life and Property (DLP) – Human encroachment into brown bear habitat has led to a significant increase in the number of bears killed to protect life and property. Over 150 brown bears have been killed in DLP on the Kenai Peninsula since statehood. For the 17-year period from 1973 through 1989, a total of 38 (2.4 per year) DLP deaths were recorded. The rate of DLP deaths more than doubled during the 7-year period from 1990 thorough 1996, when a total of 40 (5.7 per year) bear deaths were recorded (ADF&G 2000). Five DLP deaths have occurred within the boundaries of the Skilak WRA over the last 25 years.

Population – The Kenai Peninsula brown bear population is listed as a "Species of Special Concern" (ADF&G 2000). Although there is no statistically reliable estimate of the Kenai Peninsula population, extrapolation from other regions with assumed similar bear densities has been attempted. Jacobs (1989) provided an initial estimate of 150-250 bears. ADF&G biologists later increased the estimate to 277 for management purposes (Del Frate 1993). Although the brown bear population in the Skilak WRA is unknown, numerous sightings and encounters with visitors indicate their use of the area.

Caribou (Rangifer tarandus)

Habitat – The Kenai Lowlands Caribou Herd is the only caribou herd on the Kenai Peninsula that migrates between summer calving grounds and winter ranges. The herd summers in GMU 15A typically where poorly drained meadows, sedge bogs, and muskeg habitats are found. In October, they migrate to winter in the Moose River drainage including portions of the Skilak WRA. Their winter range encompasses 291 square miles (ADF&G et al 2003). They are often observed through the month of April in black spruce forests located in the western portion of the Skilak WRA.

Population – Caribou were extirpated from the peninsula by 1912. In 1966, a population of 29 caribou (3 males and 26 females) was released at Watson Lake in the vicinity of the present day Skilak WRA. By 1993, the herd numbered 66 animals (ADF&G et al 1994). The population continued to increase steadily from 96 animals in 1995-96 to a peak of 140 during spring 1999. The population has declined slightly since then and is now estimated at 135 animals (Selinger 2005).

Moose (Alces alces)

Habitat – Moose inhabit white and black spruce forests mixed with birch and willow, riparian communities, and herbaceous bogs. Habitat preference varies with season. In spring and summer moose can be found in open plant communities where forage is abundant, such as riparian communities, bogs, and early seral stage forests. During winter, moose prefer forested areas below 3,500 feet and move into denser, needleleaf forests as the winter progresses. Ideal winter range is composed of needleleaf trees taller than 18 feet with a canopy cover of 75% or greater (Timmermann, H.R. 1988). The use of needleleaf forests has been suggested for both predator avoidance (Stephens and Peterson 1984) and thermal protection (VanBallenberghe and Peek 1971). Moose distribution in winter is limited by the availability of woody food plants and by snow conditions.

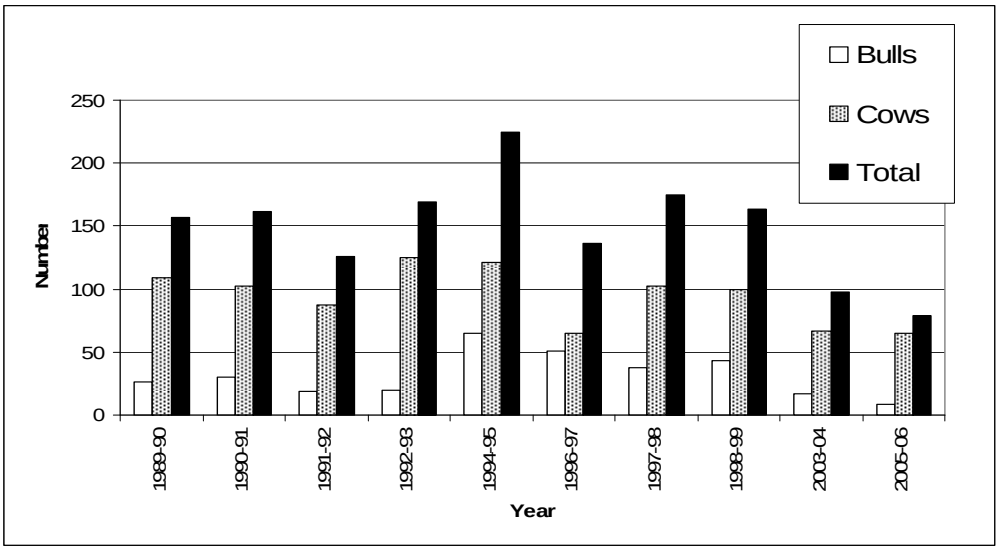
Habitat quality has declined throughout most of GMU 15A as forest succession resulting from the 1947 Skilak Lake fire transitions from an intermediate to mature age class. Approximately 85,000-acres of intermediate stage forests resulting from a 1969 wildland fire in GMU 15A continues to provide browse for most of the moose wintering in the area. In the Skilak WRA summer habitat includes early and intermediate stage deciduous and mixed forests and riparian habitats associated with lentic and lotic systems. Early seral stage deciduous and mixed forests amount to 5,499-acres (11.7%) and intermediate stage deciduous and mixed forests amount to 3,184-acres (8.5%). Winter range (i.e., closed needleleaf forests with 50-100% canopy cover) amounts to 5,591-acres (14.2%).

Roadkills – According to State Trooper records, 57 moose were killed by vehicle collisions on the Sterling Highway in the Skilak WRA (i.e., between MP 58-75) from 1998 – 2005 or on average over 8 moose per year. Most collisions (63%) have occurred on either side of the East Fork of the Moose River in the vicinity of Egumen Lake (MP 69-71; n=20) and Bottenintnin Lake (MP 73-75; n=16). An interagency effort to address roadkills along the Sterling Highway is currently underway.

Population – In 1982, 3,000 moose were estimated in GMU 15A (Selinger 2004). Estimations made in 1987 and 1990 indicated a stable population trend in the range of 3,014-3,850 animals (Selinger, 2004). The population exhibited a declining trend through the 1990s, probably mainly due the result of forest succession in the 1969 burn. In 1995, the moose population estimate for GMU 15A was 1,780 animals (USFWS 1996) and 2,097 in 2001 (Selinger 2004).

In the Skilak WRA, moose surveys are conducted every other year when survey conditions allow. Lack of complete snow cover prevented surveys from taking place in 1999-2000, 2000-01, or 2002-03. Survey data show moose numbers have varied over time (Figure 2.5).

Figure 2.5: Moose Composition in the Skilak WRA during Surveyed Years



Wolf (Canis lupus)

Habitat – Wolves are habitat generalists which do not require a specific habitat type for survival. Wolf habitat is based largely on the density of prey species found in a given habitat. To maintain wolf habitat, viable, robust ungulate populations must be present.

Population – Wolves were exterminated on the Kenai Peninsula by 1915. Wolves remained absent from the Kenai Peninsula for about 50 years (except for a few rare sightings) until they naturally recolonized in the late 1960s. The wolf population on Kenai Refuge reached about 90 animals in the 1970s. In the early 1980s, it was estimated at 82 with 60% of it located in GMU 15A. From the 1980s to the early 1990s, average wolf pack territory size in the northern half of the Refuge ranged from 180 to 850 square kilometers, and wolf density averaged about 13 wolves per 1,000 square kilometers. The refuge likely supports an estimated 80-99 wolves in at least five to seven packs in GMU 15A. The number of wolves using the Skilak WRA is unknown.

Fur Animals

ADF&G categorizes a number of species as fur animals. The following fur animals are found within the Skilak WRA:

Beaver (Castor canadensis)

Habitat – Beaver require stable aquatic habitat that provides adequate water, a channel gradient of less than 15%, and quality food species present in sufficient quantity (Allen 1983). Lakes 20-acres in surface area with irregular shorelines provide optimum habitat for Beaver. All of the lakes in the Skilak WRA are over 20-acres in size except one and are thought to support beaver. Intermittent streams or streams that have major fluctuations in discharge have little year-round value.

Population – Population density and trends have not been measured and are poorly understood in most areas on the Kenai Peninsula, though Beaver numbers are thought to vary dependent upon habitat quality or predator abundance. Incidental observations and the trend in nuisance beaver

complaints indicate that beaver populations peaked about 1984 and have remained relatively stable (Spraker 2001). Although the beaver population in the Skilak WRA is unknown, numerous sightings indicate their use of the area.

Coyote (Canis latrans)

Habitat – Coyotes are habitat generalists which do not require a specific habitat type for survival. Coyote habitat is based largely on the density of prey species found in a given habitat. Smaller mammals such as snowshoe hares, porcupines, and red-backed voles make up the majority of a coyote's diet on the Kenai Peninsula. There is little evident overlap in food habits between coyotes and wolves because the latter rely primarily on moose.

Population – Coyotes are thought to have colonized the Kenai Peninsula during the same period wolves were absent (1915-1965). Red fox were abundant prior to 1930 according to long-time Kenai residents, however they quickly disappeared as coyotes established and rapidly increased during the 1930s (Spraker 2001). Today, coyotes are found throughout the Kenai Peninsula at varying density levels dependent upon habitat quality or prey abundance, but generally, they are believed to be widely distributed and abundant (Spraker 2001). Although the coyote population in the Skilak WRA is unknown, sightings indicate their use of the area.

Lynx (Lynx canadensis)

Habitat – Lynx are cyclically abundant in the forest habitats of the Kenai Peninsula. They require a mix of early and late stage habitats to meet their food and cover needs. Early successional stage habitats provide lynx with a prey base, while mature forests provide denning space and cover. Lynx can also be found in intermediate stage forests when hare are numerous (Heinselman 1973). Early seral stage mixed forests on the Refuge, particularly within GMU 15A, appear to have a higher carrying capacity for snowshoe hares (*Lepus americanus*) which are lynx primary prey. In the Skilak WRA, there are approximately 4,958-acres (13.2%) of early seral stage mixed, deciduous, and woodland needleleaf forests, and 17,026-acres (45.5%) of mature mixed, deciduous, and woodland needleleaf forests.

Population – Lynx populations usually fluctuate in a cycle with snowshoe hare populations, peaking about every 9 to 10 years (USFWS 1994). Between 1977 and 1982, 25 lynx were estimated to reside in the northern part of the Refuge. By 1987, densities had risen in some areas three-fold after a lynx trapping closure in 1984 (USFWS 1988). In the late 1980s to early 1990s, lynx showed a preference for areas burned by the 1947 Skilak Lake Fire, particularly areas that included mature forest remnants. Lynx density increased noticeably during the mid-1990s in response to an increase in the abundance of snowshoe hares. Harvest records

indicate lynx density remained high from 1997-98 to 1999-00 (Spraker 2001). Although the lynx population in the Skilak WRA is unknown, routine sightings indicate their presence in the area.

Red Fox (Vulpes vulpes)
Habitat – Although red foxes can survive in many habitats, they prefer areas with a mixture of plant communities (Ables 1971).

Population – Red fox were abundant prior to 1930 according to long-time Kenai residents, however they quickly disappeared as coyotes established and rapidly increased during the 1930s (Spraker 2001). Although the red fox population in the Skilak WRA is unknown, it is generally believed to be rare or absent from the area.

Red Squirrel (Tamiasciurus hudsonicus)
Habitat – Red squirrel inhabits needleleaf forests and mixed forests, and occasionally can be found in deciduous forests. They require mature needleleaf trees, preferably white spruce, as a source of cones and seed (DeGraaf 1986, Brink 1964). There are approximately 16,951-acres (45.2%) of potential habitat for red squirrel in the Skilak WRA including 6,319-acres (16.9%) of mature needleleaf forests and 10,632-acres (28.4%) of mature mixed forests. White spruce is found in well-drained soils typical of uplands areas in the Kenai Lowlands and at higher elevations on Hideout Mountain. Black spruce dominates poorly drained sites throughout the Kenai Lowlands.

Population – Although the red squirrel population for the Skilak WRA is unknown, numerous sightings along trails indicate their extensive use of the area.

Small Game
ADF&G categorizes a number of species as small game. The following small game species are found within the Skilak WRA.

Common Snipe *(*Gallinago gallinago)
Habitat – Snipe are found in lentic and lotic systems, primarily bogs, ponds, and riparian habitats that contain sedges, rushes, and willows. The Skilak WRA consists of 4,630-acres (10.6%) of lake, pond, and wetland habitat, and 19-miles of rivers.

Population – Although the snipe population in the Skilak WRA is unknown, sightings are common in the area.

Ruffed Grouse (Bonasa umbellus)
Habitat – Ruffed grouse occupy a variety of plant communities across its distribution range, however, they seem to have higher survival rates in mixed forests than in pure needleleaf forests (Barber et al 1989). Throughout most of their range, ruffed grouse prefer pure stands of quaking aspen if those stands have a mix of age classes (Gullion 1972) or quaking aspen mixed with other deciduous or needleleaf trees. Newly regenerated aspen stands provide nesting cover for up to 10 years, while 10 to 25-year old aspen are good for overwintering and breeding. Stands over 25 years provide nesting cover and food (Perala 1977). The Skilak WRA consists of 17,272-acres (43.9%) of mixed forests and 10,534-acres (26.8%) of deciduous forests. Early seral stage deciduous forests

account for 1,689-acres (4.5%) and more than 8,000-acres of deciduous forests are older than 25 years.

Population – Between 1995 and 1997, 232 ruffed grouse were transplanted from Interior Alaska and released, in part, one mile from the refuge boundary by ADF&G. Within a year of introduction, broods had been spotted at Lily Lake and along the Skilak Loop Road (Steen 1997). The ruffed grouse population in the Skilak WRA is unknown. Sightings, although uncommon, indicate their use of the area.

Sandhill Crane (Grus canadensis)

Habitat – In the northern part of its range, sandhill cranes inhabit sedge meadows and wetland communities that contain adequate emergent vegetation for nest building (Melvin 1990). The single most important factor regulating sandhill crane populations is habitat availability. Nesting effort and success, as well as survival of young, correlate directly with the amount and quality of nesting habitat (Sharp 1992). In the Skilak WRA, wetlands account for 1,140-acres (2.6%).

Population – Population estimates and trends have come from direct counts of wintering and migrating birds. The total population estimate for the species is 652,000 to 715,000 birds. The number of sandhill cranes using the Skilak WRA is unknown. Sightings, although uncommon, indicate their use of the area.

Snowshoe Hare (Lepus americanus)

Habitat – Snowshoe hares occupy needleleaf and mixed forests in all stages of succession, but early seral forests that have dense understories foster peak abundance. Deciduous forests are usually occupied only in early successional stages (Grange 1965). The presence of understory cover is the primary determinant of habitat quality and is more significant than food availability (Carreker 1985) or species composition (Litvaitis 1990). The Skilak WRA consists of 9,639-acres (25.7%) of needleleaf forests and 17,289-acres (46.1%) of mixed forests in various stages of succession. Early seral stage deciduous forests account for 1,689-acres (4.5%). The condition of the understory in these forest communities has not been analyzed.

Population – Snowshoe hare populations undergo cycles that range from 7 to 17 years between population peaks. The average time between peaks is approximately 10 years. The period of abundance usually lasts for 2 to 5 years followed by a population decline. Based on population density studies conducted by the Refuge in 1984, average adult hare densities were 2.5 adults per square mile in GMU 15A. GMU 15A appears to have a higher carrying capacity for snowshoe hare than other portions of the Refuge. Hare populations increased in the early-1990s and remained stable in the area until 1998 (Spraker 2001) when densities declined to 1.0 adult per square mile. Although the snowshoe hare population in the Skilak WRA is unknown, sightings indicate their use of the area.

Spruce Grouse (Falcipennis canadensis)

Habitat – Spruce grouse, a native species to the Kenai Peninsula, can be found in needleleaf-dominated forest habitats. Over most of its range, it uses dense, early successional stage needleleaf forests (<30 years old) that have well-developed middle canopies. Their association with needleleaf forests may be less close during periods of dispersal and migration. There are approximately 9,632-acres (24.5%) of needleleaf forests in the Skilak WRA with some 1,290-acres (13.4%) of it in early successional stage.

Population – Although the spruce grouse population for the Skilak WRA is unknown, sightings along the Skilak Loop Road and trails indicate their use of the area.

Waterfowl (Anatidae)

Species – Ten species of ducks have been identified in the Skilak WRA including four species of dabbling ducks (American Widgeon (*Anas Americana)*, Northern Pintail (*Anas acuta)*, Mallard (*Anas platyrhynchos)*, and Green-winged Teal (*Anas crecca*)) and six species of diving ducks (Barrow's Goldeneye (*Bucephala islandica)*, Common Goldeneye (*Bucephala clangula*), Common Merganser (*Mergus merganser)*, Red-breasted Merganser (*Mergus serrator)*, Surf Scoter (*Melanitta perspicillata)*, and Bufflehead (*Bucephala albeola)*). Dabbling ducks, which are typically migratory species, are abundant during the breeding season. Diving ducks, most of which are year round residents, are common during the non-breeding season but less so during the breeding season.

Habitat – Dabbling ducks are commonly found on small ponds and wetlands in the Skilak WRA, and diving ducks are more common on deeper lakes.

Willow Ptarmigan (Lagopus lagopus)

Habitat – Willow ptarmigan are common in areas with patches of dense vegetation, especially where willow or birch shrubs are abundant (Weeden 1965). They are also found in sedge-willow marshes, in meadows, and along road and forest edges (Campbell et al 1990).

Population – The willow ptarmigan population in the Skilak WRA is unknown. Sightings, although uncommon, indicate their use of the area.

Birds

Kenai Refuge provides a mosaic of habitats for over 150 species of birds or approximately 32% of all bird species identified in Alaska. At least 76 species have been recorded in the Skilak WRA and 87% of those species are known to breed locally (USGS website). Over half of the birds recorded in the Skilak WRA are migratory birds which spend only a portion of their life cycle in the area. Twenty-five species are year-round residents (Brown 1999). A short assessment of the most common bird families follows:

Gulls and Terns (Laridae)
Species – Three species of gulls and one tern have been identified in the Skilak WRA: Bonaparte's Gull (*Larus Philadelphia)*, Mew Gull (*Larus canus)*, Glaucous-winged Gull (*Larus glaucescens*), and Arctic Tern (*Sterna paradisaea)*. These species are migratory birds that are abundant during the breeding season.

Habitat – Gulls and terns are found in riparian habitats and black spruce bog forests in the Skilak WRA. Glaucous-winged gull rookeries occur on various islands in Skilak Lake.

Raptors (Accipitridae)
Species – Five species of raptors have been identified in the Skilak WRA: Bald Eagle (*Haliaeetus leucocephalus*), Northern Goshawk (*Accipiter gentiles)*, Northern Harrier (*Circus cyaneus)*, Red-tailed Hawk (*Buteo jamaicensus*), and Sharp-shinned Hawk (*Accipiter striatus)*. These species are residents or short-distance migrants that are common during the breeding season.

Habitat – Bald eagles are regularly found in riverine systems, particularly along the Kenai River where salmon and other fish species are readily available. Three Bald Eagle nests are present in the Skilak WRA. Northern Goshawks use a wide variety of forest ages, structural conditions, and successional stages including transitional zones from bog to forest and forest to shrubland. Riparian zones and mosaics of forested and open areas are important hunting habitats, and climax stands are typically used for nesting. Sharp-shinned hawks occur primarily in coniferous forests, but are also found in woodland needleleaf forests. Northern harriers prefer sloughs, wet meadows, and shrublands, and hunt in large forest openings.

Sandpipers (Scolopacidae)
Species – Six species of sandpipers have been recorded in the Skilak WRA: Red-necked Phalarope (*Phalaropus lobatus)*, Spotted Sandpiper (*Actitis macularia)*, Least Sandpiper (*Calidris minutilla)*, Common Snipe (*Gallinago gallinago)*, Greater Yellowlegs (*Tringa melanoleuca)*, and Lesser Yellowlegs (*Tringa flavipes)*. These species are migratory birds that are abundant during the breeding season.

Habitat – Sandpipers are found in riparian habitats and black spruce bog forests in the Skilak WRA.

Sparrows and Juncos (Emberizidae)
Species – Eight species of sparrows and juncos have been recorded in the Skilak WRA: Fox Sparrow (*Passerella iliaca)*, American Tree Sparrow (*Spizella arborea)*, Slate-colored Junco (*Junco hyemalis)*, Lincoln's Sparrow (*Melospiza lincolnii)*, Savannah Sparrow (*Passerculus sandwichensis)*, White-crowned Sparrow (*Zonotrichia leucophrys)*, Song Sparrow (*Melospiza melodia)*, and Golden-crowned Sparrow (*Zonotrichia atricapilla)*. These species are migratory birds that are abundant during the breeding season.

Habitat – Sparrows and juncos are found in all forest communities and age classes in the Skilak WRA.

Thrushes (Turdidae)
Species – Five species of thrushes have been identified in the Skilak WRA: Gray-cheeked thrush (*Catharus minimus),* Varied Thrush (*Ixoreus naevius)*, Swainson's Thrush (*Catharus ustulatus)*, Hermit Thrush (*Catharus guttatus)*, and American Robin (*Turdus migratorius)*. These species are migratory birds that are common during the breeding season.

Habitat – Thrushes are found in all forest communities and age classes except black spruce bogs and riparian habitats in the Skilak WRA.

Waterbirds (Gaviidae, Podicipedidae, and Phalacrocoracidae)
Species – Six species of waterbirds have been identified in the Skilak WRA: Pacific Loon (*Gavia pacifica)*, Common Loon (*Gavia immer)*, Red-throated Loon (*Gavia stellata*), Double-crested Cormorant (*Phalacrocorax auritus)*, Horned Grebe (*Podiceps auritus)*, and Red-necked Grebe (*Podiceps grisegena)*. These species are migratory birds that are common during the breeding season.

Habitat – Waterbirds are found in lake systems throughout the Skilak WRA.

Woodpeckers (Picidae)
Species – Three species of woodpeckers have been identified in the Skilak WRA: Hairy (*Picoides villosus)*, Downy (*Picoides pubescens)*, and Three-toed woodpeckers (*Picoides tridactylus)*. These species are year-round residents that are common throughout the year.
Habitat – Woodpeckers are found in all forest communities of all age classes in the Skilak WRA.

Wood Warblers (Parulidae)
Species – Seven species of wood warblers have been identified in the Skilak WRA: Townsend's Warbler (*Dendroica townsendi)*, Myrtle Warbler *(Dendroica coronata)*, Orange-crowned Warbler (*Vermivora celata)*, Yellow Warbler (*Dendroica petechia)*, Wilson's Warbler (*Wilsonia pusilla*), Blackpoll Warbler (*Dendroica striata)* and Northern Waterthrush (*Seivrus noveboralensis*). These species are migratory birds that are common during the breeding season.

Habitat – Wood warblers are found in all forest communities and age classes except black spruce bog forests and riparian habitats in the Skilak WRA.

Fish
Fish are an important resource on the Kenai Peninsula and in the Skilak WRA. Not only are various fish species found in the Skilak WRA attractive to anglers for recreational fishing, they also provide an important food source for some of the wildlife that inhabit the region.

Anadromous Fish
Waters within the Skilak WRA contain several species of anadromous fish. Anadromous fish are those species of fish that migrate upriver from the ocean to reproduce in freshwater. In the Skilak WRA, these include Chinook (*Oncorhynchus tshawytscha*), coho (*Oncorhynchus kisutch*), sockeye (*Oncorhynchus nerka*), and pink (*Oncorhynchus gorbuscha*) salmon as well as Dolly Varden (*Salvelinus malma Walbaum*). Anadromous fish are found in the Kenai River, as well as Skilak and

Hidden Lakes. In addition, several lakes attached to the east fork of the Moose River are spawning grounds for coho and sockeye salmon.

Resident Fish

The Kenai River and most lakes in the Skilak WRA contain populations of resident fish. Resident fish are those fish species that remain in freshwater systems (streams, rivers, or lakes) throughout their lives. In the Skilak WRA, important resident fish species include rainbow trout (*Oncorhynchus mykiss*), lake trout (*Salvelinus namaycush*), and Dolly Varden. Rainbow trout are found in the Kenai River and in many lakes, such as Hidden, Engineer, and Peterson Lakes. Lake trout are found in the Kenai River and larger lakes, such as Skilak and Hidden Lakes. There are several species of resident fish found in the Skilak WRA, such as sculpins (*Cottus spp*.) stickleback (*Gasterosteidae*) and whitefish (*Coregonus*), which have no recreational significance, but are important food sources for other fish and wildlife.

Many of the isolated lakes in the Skilak WRA are not very productive biologically for resident fish. Because of the low biological productivity, populations of resident fish remain sparse and growth is slow. In the lakes and river systems containing anadromous fish, resident fish often grow at a faster rate because of the high amount of food available from spawning salmonids. Resident fish, such as rainbow trout and Dolly Varden, gorge themselves on salmon eggs and spawned out salmon flesh. These fish reach much larger sizes than the same species located in isolated lakes in the Skilak WRA.

Both anadromous and resident fishes are attractive to recreational anglers in the Skilak WRA. The resident populations, because of their low levels and slow growth, warrant especially careful management to protect them from excessive harvesting. Some of the lakes can support recreational fishing naturally; others cannot. Controlling factors seem to be lake depth, which must be sufficient to prevent freezing to the bottom in winter, and the availability of suitable reproductive habitat for resident fish.

2.3 Human Environment

2.3.1 Brief History of the Area

The Skilak Lake area has been occupied by humans for at least 5,000 and possibly 9,000 years. The earliest inhabitants were big game hunters, pursuing caribou and sheep in the highlands. By about 1000 BC people were living along the rivers and had a mixed economy based on hunting and salmon fishing. The river corridor and Skilak and Kenai Lakes have been major transportation corridors across the Kenai Peninsula for hundreds if not thousands of years.

Russian explorers and traders established trading outposts along the shores of Cook Inlet beginning in 1786. By 1794 there were forts at English Bay, Kasilof River, Kenai River and on the north Forelands. No more than 150 Russians ever occupied the area but the economic system centered on furs established during this time remained intact after the sale of Alaska to the U.S. in 1867.

In 1848, the mining engineer Petyr Doroshin explored Skilak Lake and the upper Kenai River for gold. Although he found traces of it he discouraged further development as unprofitable. An American named Stone searched the Skilak Lake area in 1868. In 1884, Joseph Cooper opened a

trading post at present day Cooper Landing. Gold was found in commercial quantities on the upper Kenai River in 1895 by Charles Sickles and James Stetson (McMahan and Buzzell 1986). By 1910-11, the Kenai River from Cooper Landing to Skilak Lake was claimed for dredging operations. Dredging was attempted until 1914 but with little success (Buzzell 1985). Mining activity peaked in 1910 and tapered off rapidly (McMahan and Buzzell 1986).

After WWI the economy shifted from mining to a mixed based on summertime mining, big game guiding, fur farming, winter trapping, and other activities. Fishing and gardening were important subsistence pursuits. The first homestead applications were filed in 1915 (McMahan and Buzzell 1986; Buzzell 1985). The Skilak Lake area was the focus of these families economic and social activities and an elaborate annual subsistence routine developed to use local resources. World War II brought a huge influx of new people and recreational development. The Skilak Military Recreation Site at the outlet of Skilak Lake was built in the early 1940's. It was eventually turned over to the U.S. Fish and Wildlife Service in 1958. Also during the 1950's, the Seward Army Recreational Center maintained temporary camps on Hidden Lake.

The Kenai River corridor has always been a major travel route across the Kenai Peninsula. Surveying for the Sterling Highway began in 1946 (McMahan and Buzzell 1986). Actual construction began in 1947 and the road was graveled in 1948. Though graveled the road was only passable in good weather. A portion of the original highway is now the Skilak Loop Road located in the Skilak WRA. At first the road was too poor to encourage much traffic and had little impact on the area between Sterling and Cooper Landing. In the mid-1950s, oil companies began to explore the northern part of the Peninsula along the Swanson River. Increasing development led to road improvements and the present highway was paved in 1956.

2.3.2 Local Population

Kenai NWR lies within the Kenai Peninsula Borough, which is comprised of the Kenai Peninsula, Cook Inlet, and a large, mostly unpopulated area, northeast of the Alaska Peninsula. The total population of the Borough was 50,980 in 2004 (Alaska Department of Commerce, Community, and Economic Development). The twin cities of Kenai and Soldotna, along with nearby Sterling, form the population center of the Borough. The Borough also includes the cities of Homer and Seward as well as numerous smaller communities along the road system and several villages accessible only by boat or aircraft

The population of the Kenai Peninsula Borough is dwarfed by that of the Municipality of Anchorage, which is only three hours by road and 15-20 minutes by air from Kenai Refuge. Anchorage is the largest city in Alaska, home to 277, 498 people in 2004, or about 43% of the total state population (Alaska Department of Commerce, Community, and Economic Development). The Anchorage population has grown by nearly 100,000 since the first Kenai Refuge Comprehensive Conservation Plan was completed in 1985. At the same time, continuous road improvements have made travel between Anchorage and the Kenai Peninsula more convenient.

2.3.3 Summary of Current Use

The Skilak WRA is one of the most heavily used areas, if not *the* most heavily used area, of Kenai NWR due to its close proximity to population centers, easy access, and diversity of public use facilities provided in a natural setting. Recreational choices range from passive to active recreation

and occur throughout the area during all seasons of the year. In the spring, summer, and fall, recreation activities include archery hunting, camping, freshwater sport fishing, hiking, nature photography, sightseeing, and wildlife viewing. During the winter, recreation activities include cross-country skiing, snowshoeing, and wildlife viewing. Most visitors participate in several activities while using the area.

2.3.4 Public Use Access

Access to the Skilak WRA is facilitated by two developed roads into and around the area: the Sterling Highway and the Skilak Loop Road. Most visitors approaching from the east enter the Skilak WRA from the Sterling Highway via the Skilak Loop Road at MP 58. Soldotna, Kenai, and Homer residents generally use the Skilak Loop Road west entrance at MP 75. Visitors can access the "backcountry" of the Skilak WRA via a number of developed trails, or they can embark on a cross country journey off-trail through a variety of habitats. Boaters can access the area via the Kenai River or Skilak Lake; pilots can land their aircraft on Hidden Lake, Bottenintnin Lake, and/or Skilak Lake; and canoeists can explore a number of lakes accessible from campgrounds and the Bottenintnin Day Use Area.

Roads

Sterling Highway

The Sterling Highway is a two lane, paved highway that runs east to west for nearly fifteen (15) miles along the northern border of the Skilak WRA. It has a speed limit of 55 mph and is a major route for intrastate commerce and travel. In recognition of its spectacular scenery, rich cultural heritage, diverse recreational opportunities, archeological importance, wildlife, and natural beauty the Sterling Highway from MP 37 to the Skilak Lake Loop Road near MP 75 is designated a state scenic byway.

According to Alaska Department of Transportation (ADOT) traffic figures, in 1996, 2,367 vehicles passed through the Skilak WRA using the Sterling Highway on average each day (863,955 vehicles per year). In 2004, 3,280 vehicles passed through the Skilak WRA using the Sterling Highway on average each day (or 1,197,200 vehicles per year). The Sterling Highway provides access to a number of Skilak WRA facilities.

Access roads originating from the Sterling Highway include: Kelly/Peterson Lake Campground Access Road (0.93 mile) and Watson Lake Campground Access Road (0.43 mile).

Skilak Loop Road

The Skilak Loop Road is a two lane, gravel road that runs east to west through the southern portion of the Skilak WRA. It is 18.8 miles in length and has a speed limit of 35 mph. It is the main artery into the Skilak WRA. According to ADOT traffic figures, in 1996, 210 vehicles passed through the Skilak WRA using the Skilak Loop Road on average each day (76,650 vehicles per year). In 2004, 398 vehicles passed through the Skilak WRA using the Skilak Loop Road on average each day (145,270 vehicles per year). The road provides access to the majority of facilities located within the Skilak WRA.

The Skilak Loop Road, and the access roads leading into Hidden Lake, and Upper and Lower Skilak campgrounds, are state roads. Campground access roads are gravel except for the access road to

Hidden Lake Campground which is paved. The ADOT is responsible for maintenance of these roads. ADOT maintenance is performed in accordance with district-wide priorities. Due to budget reductions, the Skilak Loop Road receives sporadic maintenance. When road conditions become intolerable and ADOT has not responded to requests for maintenance, Refuge maintenance crews grade or plow the road to ensure visitor safety.

Access roads adjoining the Skilak Loop Road include: Bottenintnin Lake Day Use Area (0.36 mile), Lower Skilak Lake Campground (1.3 miles), Engineer Lake Campground (0.30 mile), Upper Skilak Lake Campground (2.4 miles), Hidden Lake Campground (1.5 miles), and Jim's Landing (0.20 mile).

Trails

Trails are one of the most effective ways for visitors to observe wildlife in a boreal forest setting where vegetation is often thick and difficult to see and/or bushwhack through. The Skilak WRA has eleven (11) designated hiking trails totaling 19.5-miles in length (Table 2.5). There is an additional 1-mile spur trail originating from the Seven Lakes Trail that provides access to the northern shore of Hidden Lake.

Table 2.5: Trails

Name	Vegetative Communities and Age Classes	Length (one-way)
Bear Mountain	Closed deciduous forest, open mixed forest, closed tall scrub; mostly 20-39 yrs old, some >60 yrs old	0.8
Burney's	Closed deciduous forest, closed mixed forest; <39 yrs old	0.6
Egumen Lake	Open needleleaf forest; <19 yrs old	0.3
Hidden Creek	Open needleleaf forest, woodland needleleaf forest, closed deciduous forest, dry forb herbaceous; <39 yrs old	1.3
Hideout Mountain	Closed deciduous forest, open mixed forest, closed tall scrub; <15 yrs old	0.75
Kenai River (East)	Closed needleleaf forest, closed deciduous forest, open deciduous forest, closed mixed forest; <39 yrs old	2.8
Kenai River (West)	Open deciduous forest, closed mixed forest, closed tall scrub; <39 yrs old	2.3
Seven Lakes	Closed needleleaf forest, open mixed forest; <39 yrs old, some >60 yrs old	4.4
Seven Lakes Spur	Open mixed forest; <39 yrs old, some >60 yrs old	1.0
Skilak Lookout	Closed deciduous forest, closed mixed forest; <39 yrs old	2.0
Skyline	Open deciduous forest, closed mixed forest, closed tall scrub; >60 yrs old	1.9
Vista	Closed mixed forest; <39 yrs old	1.5

Trails provide opportunities for visitors to access every vegetative community in the Skilak WRA except wetland and alpine communities which are susceptible to human-related impacts. Access to a diversity of habitats increases one's chances of viewing a wide variety of wildlife. Six (6) trails provide access to closed deciduous forests, five (5) trails provide access to closed and open mixed forests, and five (5) trails provide access to herbaceous and tall scrub communities. Only four (4) trails pass through portions of needleleaf communities where opportunities for viewing wildlife are limited; one of which is the short 0.3 mile trail to Egumen Lake. Because there are few designated hiking trails throughout Alaska, particularly in boreal forest settings, the number of trails and diversity of habitats within the Skilak WRA makes it a unique destination point for hiking and wildlife viewing.

Rivers and Lakes

Rivers and lakes provide access to large portions of the Skilak WRA where scenic/wildlife viewing can be enjoyed. The most popular river on the refuge (and possibly throughout the entire state) for outdoor recreation activities is the Kenai River. The river flows eighteen (18) river miles from Kenai Lake to Skilak Lake, and then on for another fifty (50) river miles before entering into the Cook Inlet. It flows for nearly twelve (12) river miles through Kenai Refuge; seven of which, as the eastern boundary of the Skilak WRA. Users typically put their crafts in at the Cooper Landing boat launch (Sterling Highway MP 48), Sportsman's Lodge (Sterling Highway MP 55), or Jim's Landing (Skilak Loop Road MP 58) and float to either Jim's Landing or through the Kenai River Canyon to Skilak Lake. Crafts are towed, motored or paddled (*note: paddling rafts or other small crafts is not advised due to high wind conditions on the lake*) around Skilak Lake to the Upper Skilak Lake Campground boat launch. Nearly 7,000 crafts and 25,000 visitors floated the upper river section for either fishing or scenic viewing pleasure in 2004. Nearly 2,000 visitors floated through the Kenai River Canyon to Skilak Lake that same year with nearly two thirds of them specifically doing so for scenic viewing purposes.

2.3.5 Public Uses and Related Facilities

Overview

The Skilak WRA contains a wide variety of public use facilities that directly or indirectly provide services for a multitude of outdoor recreation opportunities year-round including cross country skiing, fishing, hunting, photography, snowshoeing, and scenic and wildlife viewing (Figure 2.6, Table 2.6). Construction and/or rehabilitation of these facilities began in the late 1980's as directed by the Refuge's Public Use Facilities Step-Down Management Plan as funding was available.

Current Uses and Facilities

<u>Administrative Facilities</u>

One (1) administrative facility is located in the Skilak WRA; a 600-square foot log cabin at MP 13.5 along the Skilak Loop Road which is used for seasonal employee housing, and storage of maintenance equipment and supplies during the summer.

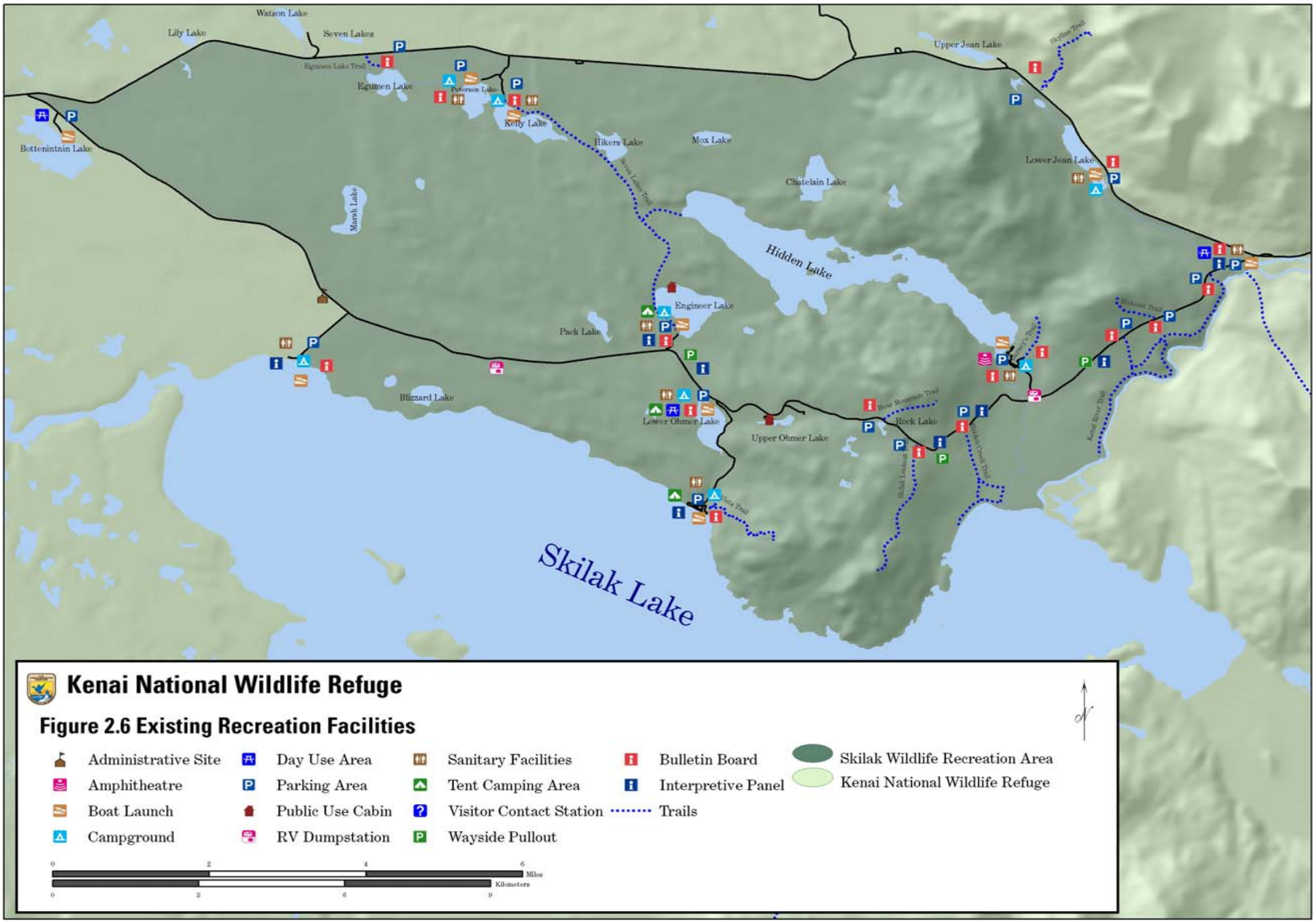

Kenai National Wildlife Refuge
Figure 2.6 Existing Recreation Facilities
Administrative Site
Amphitheatre
Boat Launch
Campground
Day Use Area
Parking Area
Public Use Cabin
RV Dumpstation
Sanitary Facilities
Tent Camping Area
Visitor Contact Station
Wayside Pullout
Bulletin Board
Interpretive Panel
Trails
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
Miles
Kilometers
Skilak Lake
Hidden Lake
Watson Lake
Lily Lake
Seven Lakes
Egumen Lake
Poferson Lake
Kelly Lake
Hikers Lake
Mox Lake
Chatelain Lake
Upper Jean Lake
Lower Jean Lake
Bottenintnin Lake
March Lake
Engineer Lake
Pack Lake
Blizzard Lake
Lower Ohmer Lake
Upper Ohmer Lake
Rock Lake

Table 2.6: Access to Public Use Facilities

Facility Type	Sterling Highway	Skilak Loop Rd.	Total
Administrative	0	1	1
Boat Launches	4	7	11
Bulletin Boards / Kiosks	7	14	21
Cabins	0	2	2
Campgrounds	4	5	9
Campsites (“Walk-in”)	0	14	14
Day Use Area	0	3	3
Interpretive Sites	0	9	9
Parking Areas	5	13	18
Sanitary Facility Sites	5	8	13
Signs	7	12	19
Trails	2	9	11
Viewing Facilities	0	1	1
Visitor Contact Station	1	0	1
Wayside Pullout	0	3	3

Boating and Boat Launches

There are eleven (11) boat launches in the Skilak WRA. Nine (9) of these are located in campgrounds (Table 2.7) and two (2) are located in day-use areas (i.e., Bottenintnin Lake and Jim’s Landing). Boat launches vary in construction from simple, one vessel-capable gravel or dirt ramps, to concrete, two vessel-capable ramps. Motorboat use is allowed on all lakes within the Skilak WRA, Skilak Lake, and the Kenai River downstream of Skilak Lake; some lakes have a “no wake” restriction to minimize disturbance to water birds. Canoes, rafts, and kayaks are unrestricted on all waterbodies. Personal watercraft (i.e., jet skis) are not allowed on any waters within the Refuge.

Cabins

Two public use cabins are available by reservation only: Upper Ohmer Lake and Engineer Lake cabins. These 800-square foot cabins were built in 2004 – 2005. Approximately 341 visitors have used these cabins since their construction in August 2004.

Campgrounds

There are nine (9) campgrounds containing ninety-three (93) vehicle sites in the Skilak WRA (Table 2.7). Eight (8) campgrounds have potable water available and two (2) campgrounds have a user fee associated with them.

Table 2.7: Campgrounds and Boat Launches

Location	MP	Number of Sites	Potable Water	Boat Launch	Fee (per night)
Engineer Lake	9.4	3	Yes	Gravel	Free
Hidden Lake	3.6	44	Yes	Concrete	$10.00
Kelly Lake	67.0 (Sterling Highway)	3	Yes	Gravel	Free
Lower Jean Lake	60.0 (Sterling Highway)	3	Yes	Gravel	Free
Lower Ohmer Lake	8.5	4	No	Gravel	Free
Lower Skilak Lake	13.6	14	Yes	Concrete	Free
Peterson Lake	67.0 (Sterling Highway)	4	Yes	Gravel	Free
Upper Skilak Lake	8.4	15	Yes	Concrete	$8 - $10.00
Watson Lake	71.0 (Sterling Highway)	3	Yes	Gravel	Free

Campsites (Backcountry & Walk-In)

There are fourteen (14) “walk-in” campsites located at two (2) campgrounds: Lower Ohmer Lake Campground (4 sites) and Upper Skilak Lake Campground (10 sites). The Lower Ohmer Campground walk-in campsites have defined gravel pads containing campfire rings and concrete picnic tables. These sites are accessible via a short foot path from the parking area. The Upper Skilak Campground walk-in campsites are located along a loop trail beginning at the parking lot. Amenities are the same as the ones at Lower Ohmer Lake. A gull/cormorant colony on a rock outcropping in Skilak Lake is an added attraction at this site.

Although the majority of camping occurs at campgrounds and designated “walk-in” sites associated with campgrounds, “backcountry” camping is allowed and occurs at undesignated sites along trails (particularly the Kenai River and Seven Lakes trails), gravel bars along the Kenai River, the shoreline of Skilak Lake, and islands in Hidden Lake. Although some of these undesignated campsites show signs of impact, the impact is not believed to be detrimental to refuge resources at this point in time, and as such, have not been treated to ensure resource protection.

Commercial Services

Commercial (or guided) services are provided in the Skilak WRA. These services are typically associated with sport fishing on the Kenai River, but hiking and tour guides also provide services. Guides authorized to offer their services must obtain a special use permit from the Refuge and are subject to the requirements of the permit’s general and special conditions. Permitted guides operating on the upper and lower Kenai River utilize the boat ramps at Jim’s Landing, and the Upper and Lower Skilak campgrounds. Other permitted guides use various hiking trails and campgrounds. There are approximately sixty (60) permittees using the facilities and resources in the Skilak WRA.

Day Use Areas

There are three (3) day use areas located within the Skilak WRA: Bottenintnin Lake, Jims' Landing, and Lower Ohmer Lake. Bottenintnin Lake is primarily used by canoeists and cross-country skiers, and Jims' Landing is primarily used as a takeout for those floating the Upper Kenai River. Lower Ohmer Lake day use area was created in 2006 and is associated with a campground. Each site has a boat ramp. Jims Landing and Lower Ohmer Lake have sanitary facilities. All day use areas have bulletin boards/kiosks associated with them except Bottenintnin Lake.

Environmental Education & Interpretation Facilities

Environmental Education and Interpretation facilities consists of a variety of structures (e.g., bulletin boards, kiosks, and panels) which are used to provide information on wildlife and their habitats, resource management practices, and other information which increases visitor knowledge about the Refuge.

Amphitheater

One (1) 50-seat amphitheater is located at the Hidden Lake Campground. Interpretive programs are offered from June thru August.

Birdhouse Bulletin Boards

Small informational structures, or birdhouse bulletin boards, are located at all eleven (11) trailheads in the Skilak WRA (Table 2.8).

Table 2.8: Birdhouse Bulletin Boards (BBB), Interpretive Panels (IP), and Kiosks (K)

Location	Type		Location	Type
Bear Mountain Trail	BBB		Kenai River Trail (West)	BBB, IP
Burney's Trail	BBB		Lower Jean Lake Campground	K
Egumen Lake Trail	BBB		Lower Ohmer Lake Campground	K
Engineer Lake Campground	K		Lower Skilak Campground	K, IP
Engineer Lake Wayside	IP		Peterson Lake Campground	K
Hidden Creek Trail	BBB		Pothole Lake Fire Wayside	IP
Hidden Creek Wayside	IP		Seven Lakes Trail (Engineer Lake & Kelly Lake)	BBB
Hidden Lake Campground	K, IP		Skilak Lookout Trail	BBB
Hideout Mountain Trail	BBB		Skyline Trail	BBB
Jim's Landing Day Use Area	K, IP		Vista Trail	BBB
Kelly Lake Campground	BBB		Upper Skilak Lake Campground	K, IP
Kenai River Trail (East)	K, IP		West Entrance	K

Interpretive Panels
There are thirty-four (34) interpretive panels located at nine (9) sites within the Skilak WRA (Table 2.8).

Kiosks
Large information structures, or kiosks, are located at seven (7) campgrounds, one (1) day use area, one (1) trailhead, and the West Entrance (Table 2.8).

Environmental Education & Interpretation Programs
Environmental education (EE) is an education process that deals with the interrelationships among the natural world and its man-made surroundings. It is experienced-based and interdisciplinary in nature. It is a continuous, lifelong process that provides citizens with the basic knowledge and skills necessary to individually and collectively encourage positive actions for achieving and maintaining a sustainable balance between humans and their environment (North American Association for Environmental Education). Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource (National Association of Interpretation).

Refuge staff and interns conduct a number of environmental education programs throughout the Skilak WRA including "The Role of Fire in Alaska" where students hike the Hidden Creek Trail to explore a re-vegetating burn site, and "Leave No Trace" where students learn the seven (7) Leave No Trace principles through hands-on activities on the Seven Lakes Trail. Environmental education programs typically are conducted in the spring and fall. The following is a representation of the number of participants attending all Refuge EE programs: 1,863 (2003); 2,276 (2004); 2,630 (2005).

Refuge staff and interns interpret refuge resources to citizens with the desire to intrigue and motivate them so that they will go on to learn more about and take actions to protect those resources. Each summer, interpretive programs are offered at the Hidden Lake and Upper Skilak Lake campgrounds. Additional interpretive programs are offered through "Discovery Hikes" on Burney's and Vista trails. Examples of subject matter include "Bear Safety" and "Survivor: Techniques and Strategies to Help You Survive in the Alaskan Outdoors." The following is a representation of participants attending all Refuge Interpretive Programs: 1,457 (2003); 1,274 (2004); 1,174 (2005).

Outreach Materials and Media for Visitor Orientation
The Refuge provides flyers and brochures that identify the location of public use facilities including cabins, points of interest, and common wildlife species. In addition, the Refuge, through a cooperative effort with the Alaska Natural History Association, produces "Refuge Reflections" – a newspaper-style publication that provides more comprehensive information on facilities and recreational opportunities throughout the Refuge including the Skilak WRA.

Fishing
Fishing occurs on the Kenai River and on every lake in the Skilak WRA that has harvestable populations (Table 2.9). Highly sought after species include sockeye salmon, Coho salmon, kokanee, and lake trout.

Table 2.9: Sport Fish by Location

Waterbody	Coho	Sockeye	King	Pink	White-fish	Rainbow Trout	Lake Trout	Dolly Varden	Artic Grayling	Lnose Sucker	N. Pike
Egumen	X	X				X					X
Engineer	X					X		X			
Hidden Creek	X	X						X			
Hidden Lake	X	X					X	X			
Kelly	X					X					
Kenai	X	X	X	X	X	X		X	X		
L. Jean	X	X				X		X	X	X	
L. Ohmer						X					
Peterson	X	X				X				X	
Skilak	X	X	X	X	X	X	X	X	X		
U. Ohmer	X					X		X			
Watson	X	X				X					

Human Health and Safety (Firearm Use Restrictions)
To provide for public safety, discharging firearms within a ¼-mile of designated public campgrounds, trailheads, waysides, buildings, or the Sterling Highway from the east refuge boundary to the east junction of the Skilak Loop Road is not permitted by refuge regulation (Figure 2.7).

Hunting
Cow Moose Hunt
To fulfill public use and resource protection goals in the Skilak WRA, a permitted, antlerless moose hunt is allowed when the results of a fall survey (conducted cooperatively between ADF&G and Kenai NWR every other year at a minimum if snow cover is adequate) tallies at least 130 animals (1.8 – 2.0 moose per square mile of habitat) (Figure 2.8). These surveys have been conducted since 1989.

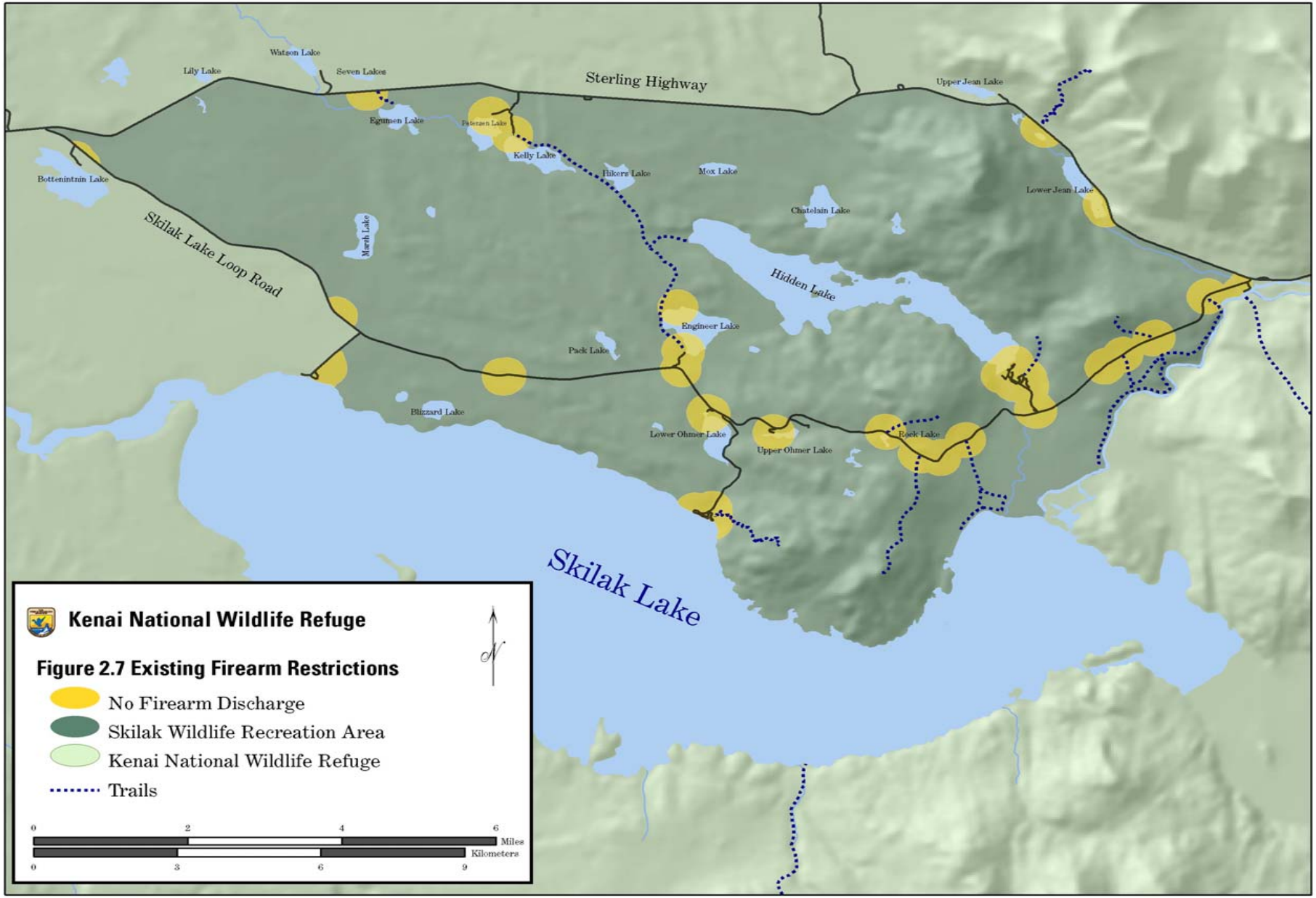
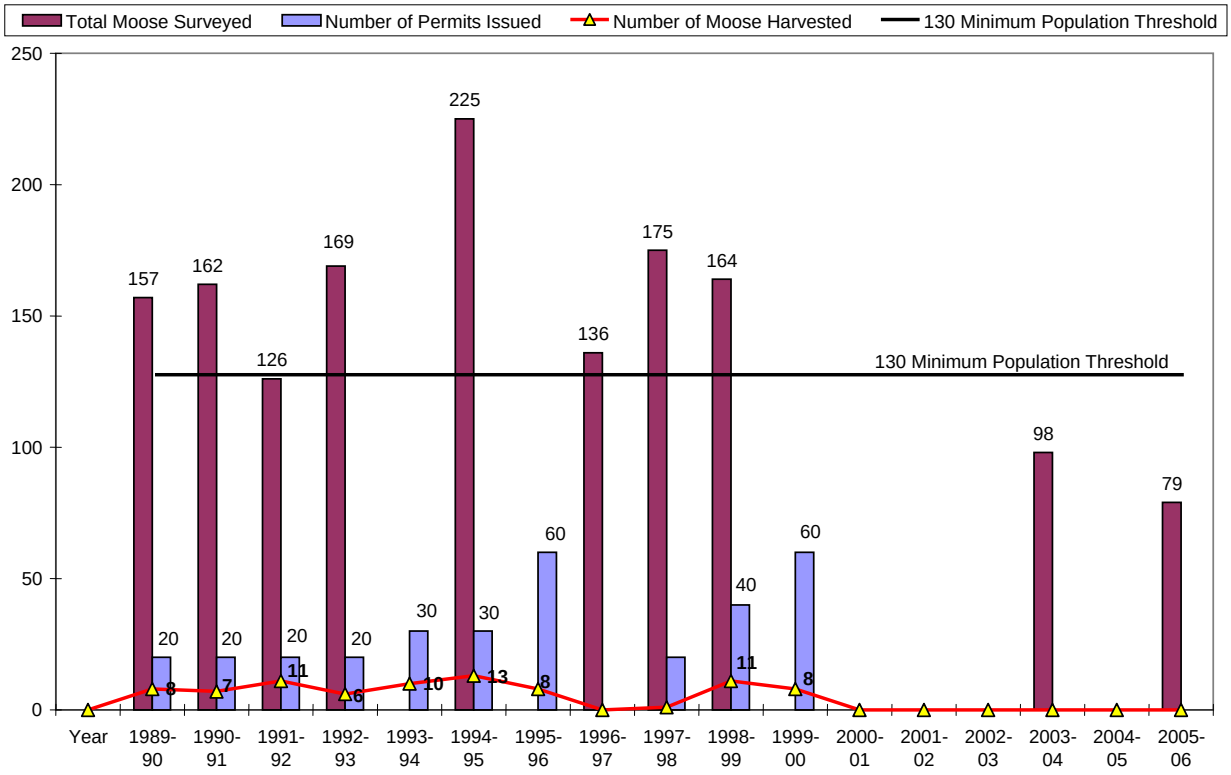

Kenai National Wildlife Refuge
Figure 2.7 Existing Firearm Restrictions
No Firearm Discharge
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
Trails
0
2
4
6
Miles
Kilometers
0
3
6
9
N
Sterling Highway
Skilak Lake Loop Road
Skilak Lake
Watson Lake
Lily Lake
Seven Lakes
Egumen Lake
Paterson Lake
Kelly Lake
Hikers Lake
Mox Lake
Upper Jean Lake
Lower Jean Lake
Bottenintnin Lake
Marsh Lake
Chatelain Lake
Hidden Lake
Engineer Lake
Pack Lake
Blizzard Lake
Lower Ohmer Lake
Upper Ohmer Lake
Rock Lake

Figure 2.8: Moose Populations, Permits, and Harvest Data



Over the course of 11 separate surveys, overall moose counts have ranged from a high of 225 during the 1994-95 seasons, to a low of 79 during the recent 2005-06 season. The average count has been about 145 moose. Because of the survey methods used, these data should be interpreted cautiously; they represent annual "snapshots" of moose within the Skilak WRA rather than reliable estimates of the number of moose that reside in or rely on the WRA and adjacent habitats.

ADF&G issued cow moose harvest permits in all but one season (1996-97) during the period 1989-2000. No permits have been issued since 2000. From 1989 through 1993, 20 permits were issued each season (80 permits total) and about 44% of active permit recipients (those that actually that hunted) harvested a moose. Thirty-two (32) moose were harvested during this four year period. Over the remaining six permitted years (1993-2000) between 20 and 60 permits were issued each season and the harvest success rate dropped to about 26 percent. Fifty (50) moose were harvested during this period.

Bull Moose Hunt

A permitted spike-fork bull hunt is allowed when aerial composition surveys conducted each year before December 1 indicate the bull:cow ratio is greater than 40:100. On three occasions (1994, 1996, and 1998) the observed bull/cow ratio exceeded 40:100 allowing a spike-fork bull hunt during the season following these surveys. Twenty (20) of the 60 total permits issued in each of these seasons were for the special spike-fork bull hunt. A total of two spike-fork bulls were harvested (one each in 1995-96 and 1997-98).

Moose Hunt Summary
Overall, more than 300 hunting permits were issued and 83 moose (8.3 moose/year on average) were harvested during the 10 year period permits were issued in the Skilak WRA. There is no clear relationship between overall moose survey numbers and the number of permits issued or harvest success rates.

Small Game Hunting
A small game harvest is allowed by bow and arrow between October 1 and March 1 each year. There is no data on the number of individuals participating in this activity or the number of animals harvested.

Fur Animals and Bear Hunting
Fur animals and bears can not be harvested in the Skilak WRA.

Parking Areas
In addition to vehicle parking provided at campgrounds for campers, parking areas are provided at eighteen (18) additional locations within the Skilak WRA: eight (8) areas are located at trailheads, four (4) areas are located at day use areas, and six (6) areas are associated with boat launches and trailheads within campgrounds (Table 2.10).

Table 2.10: Parking Areas

Location	No. of Sites		Location	No. of Sites
Bear Mountain Trail	3		Kenai River Trail (East)	18
Bottenintnin Lake Day Use Area	6		Kenai River Trail (West)	4
Egumen Lake Trail	6		Lower Ohmer Lake Day Use Area	3
Engineer Lake Campground	3		Lower Skilak Campground	50
Hidden Creek Trail	8		Peterson Lake Campground	3
Hidden Lake Campground	36		Skilak Lookout Trail	10
Hideout Mountain Trail	4		Skyline Trail	10
Jim's Landing Day Use Area	18		Upper Skilak Campground	24
Kelly Lake Campground	3		Watson Lake Day Use Area	3

Photography
Scenic and wildlife photography opportunities are abundant in the Skilak WRA due to the nature of the topography, the variety and abundance of natural features, habitats and wildlife, and road accessibility. Photographing scenic views typically occurs along the Skilak Loop Road, particularly at designated waysides, but also from trail vistas, views provided at campgrounds, and from lakes. Although there are no designated wildlife photography sites or facilities provided to enhance wildlife photography opportunities (e.g., photography blinds), wildlife can be

commonly seen at specific locations with the Skilak WRA (Table 2.14). Commonly seen and photographed wildlife include moose, black bears, beaver, and a wide variety of birds including eagles, ravens, gray jays, and passerines.

Sanitary Facilities

There are twenty-one (21) concrete sanitary units and two (2) dump stations located at thirteen (13) locations within the Skilak WRA (Table 2.11). Sanitary unit vaults are serviced when approximately 80% full; interiors are cleaned and serviced daily in fee campgrounds and at least weekly at other sites during periods of heaviest use; unit servicing and interior cleaning at other times of the year are performed on an as-needed basis. The dump stations located at Hidden Lake Campground and at MP 11.5 are provided for recreational vehicles or trailers with self-contained sanitary systems.

Table 2.11: Sanitary Facilities

Location	Number of Units		Location	Number of Units
Engineer Lake Campground	1		Lower Ohmer Lake Campground	1
Hidden Lake Campground	4		Lower Skilak Lake Campground	2
Hidden Lake Campground Dump Station	1		Peterson Lake Campground	1
Jim's Landing Day Use Area	1		Skilak Loop Road Dump Station	1
Kelly Lake Campground	1		Upper Skilak Lake Campground	3
Kenai River Trail (East)	1		Visitor Contact Station	2
Lower Jean Lake Campground	1		Watson Lake Campground	1

Scenic Viewing

Scenic viewing opportunities are abundant in the Skilak WRA due to the topography of the landscape, the variety and abundance of natural features and habitats, and the ability to see it from a variety of access points. The typography of the Skilak WRA varies from low elevation rolling hills to majestic mountains towering nearly 3,000 feet above sea level. The transition point from one landform to the other is easy to recognize driving along the Skilak Loop Road. Scenic viewing opportunities, though afforded along the entire Skilak Loop Road are enhanced by the availability of three (3) waysides (Table 2.12). Additional scenic viewing opportunities are found at trail vistas, along the Kenai River corridor, views provided at various campgrounds, and from various lakes.

Table 2.12: Popular Scenic Viewing Locations

Location	MP	View	Interpretation Provided
Pothole Lake Wayside	2.4	1991 Pothole Lake Fire and Succession	Wildlife & Vegetative Response to Fire
Kenai River Trail	0.6	Kenai River Canyon	Natural Geologic Features, Wildlife Species
Hidden Creek Wayside	5.1	Hidden Creek, Kenai River, Skilak Lake	Identification of Natural Features, Wildlife Species, Human History
Skilak Lookout Trail	5.4	Skilak Lake, Designated Kenai Wilderness	---
Bear Mountain Trail	6.0	Hidden Creek, Kenai River, Skilak Lake	---
Engineer Lake Wayside	9.3	Engineer Lake	Identification of Natural Features, Wildlife Species
Lower Skilak Lake Campground	13.6	Skilak Lake, Designated Kenai Wilderness	Salmon and Other Fish, Wildlife Species, Bear Safety Information, Kenai Wilderness
Hideout Mt. Trailhead Parking Area	1.9	1991 Pothole Lake Fire / 2004 Kenai Trail Fire and Succession	---

Signs

Information, direction, and location signs are located throughout the Skilak WRA. Signs consist of a variety of types ranging from small, wooden trailhead designators to large, aluminum road signs posted for visitor safety.

Trapping

Trapping is prohibited by regulation within the Skilak WRA.

Viewing Facilities

One (1) viewing platform is provided at Hidden Lake Campground. This facility is a wooden deck, approximately 6 ft. X 10 ft., located on the lake shoreline between the boat ramp and the picnic shelters in the campground day-use area. In addition to scenic views of the lake and surrounding forested areas, common wildlife seen include loons, gulls, terns, and other waterfowl, as well as immature salmon and lake trout in shallow areas below the platform.

Visitor Contact Station

The Visitor Contact Station (VCS) is a 500-square foot log cabin located at MP 58 of the Sterling Highway on the north side of the road, located approximately 100 yards east of the east entrance. The VCS is a primary contact point for Refuge visitors who stop to obtain general or specific information about the Refuge or the Kenai Peninsula. There are interpretive displays, an

Alaska Natural History Association sales outlet, restrooms, and potable water. The VCS is staffed from approximately Memorial Day until mid-August, with open hours from approximately 9:00 am – 6:00 pm.

Waysides

There are three (3) designated waysides located along the Skilak Loop Road: Hidden Creek Overlook (MP 5.1), Pothole Lake Fire Overlook (MP 2.4), and Engineer Lake Overlook (MP 9.3). Each wayside has interpretive panels that provide information on wildlife and their habitats, management practices, and other information which increases visitor knowledge about the Refuge. There are a number of other "undeveloped" locations along the Skilak Loop Road where visitors typically pull off the road to enjoy scenic vistas and/or observe wildlife.

Wildlife Viewing

Wildlife viewing opportunities are abundant in the Skilak WRA due to the variety and undisturbed nature of habitats which wildlife depend, and the ability to access the area through a variety of transportation methods. Although there are no designated wildlife viewing sites or facilities provided to enhance such opportunities (e.g., platforms, spotting scopes, etc), wildlife can be commonly seen at specific locations with the Skilak WRA (Table 2.13). Wildlife commonly seen include moose, black bears, beaver, and a wide variety of birds.

Table 2.13: Popular Wildlife Viewing Locations

Location	MP		Location	MP
Bear Mountain Trail	6.0		Pothole Lake Fire Wayside	2.4
Engineer Lake Wayside	9.3		Skilak Lookout Trail	5.4
Hidden Creek Wayside	5.1		Skilak Loop Road	All
Kenai River Trail (East & West)	0.6 & 2.3		Upper Skilak Lake Campground	8.4
Lower Skilak Lake Campground	13.6			

Winter Recreation/Activities

Winter recreation activities include camping and cabin use, cross-country skiing, ice-fishing, photography, small game hunting, and snowshoeing.

2.3.6 Significant Concerns

Water skiing and the use of personal watercraft (e.g., jet skis) at Hidden Lake and Skilak Lake are not wildlife-dependent recreation activities and may negatively impact wildlife (especially waterbirds) and other human users. Increasing incidents of these activities have been observed by Refuge staff.

Chapter 3: Management Direction

This chapter describes the management direction adopted in this plan. It was prepared from the draft plan's preferred alternative and modified by the Service's Alaska Regional Director in response to public comment. Regulations will be required to implement proposed changes to current hunting opportunities. Appendix B contains the Service's regulatory proposal to the Alaska Board of Game to implement a youth hunt in the Skilak WRA.

3.1 Management Direction

Administrative Boundaries

The Skilak Wildlife Recreation Area will be bounded by a line beginning at the easternmost junction of the Sterling Highway and the Skilak Loop Road (MP 58), then due south to the south bank of the Kenai River, then southerly along the south bank of the Kenai River to its confluence with Skilak Lake, then westerly along the north shore of Skilak Lake to Lower Skilak Lake campground, then northerly along the Lower Skilak Lake campground road and the Skilak Loop Road to its western junction with the Sterling Highway (MP 75.1), then easterly along the Sterling Highway to the point of beginning (Figure 3.1).

Administrative Facility

The existing Administrative Facility located off the Skilak Loop Road at MP 5.3 will be maintained and enhanced as needed (Figure 3.2). The following amenities will be considered: 1) 500-square foot seasonal office space, 2) 350-square foot shop, and 3) 1,000-square foot housing facility for Visitor Services staff.

Boat Launches

The existing boat launch at Engineer Lake will be improved. Through a cooperative effort with State of Alaska Department of Transportation, construct a boat launch at the Lower Jean Lake Day Use Area (north shore) (Figure 3.2).

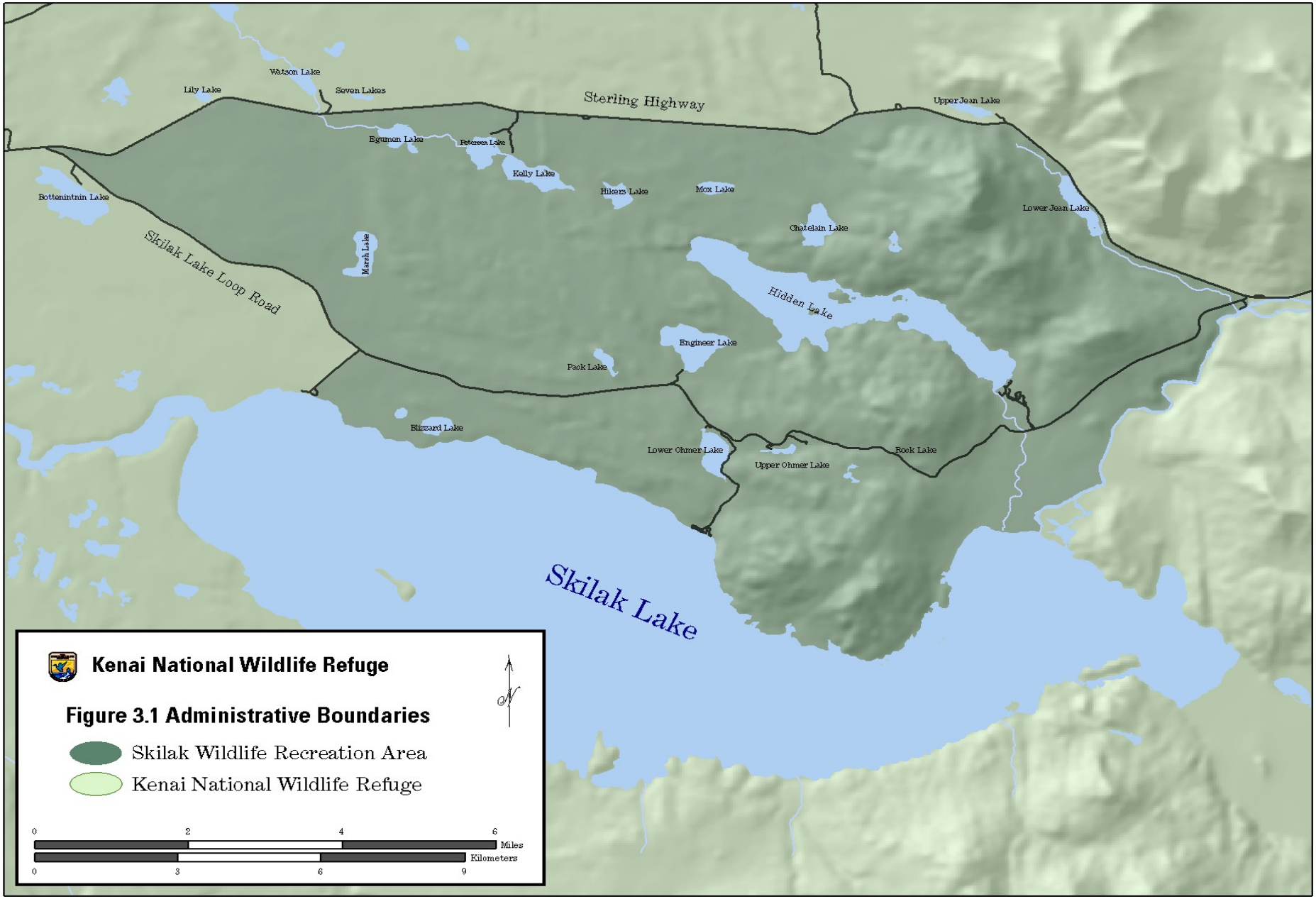
Bulletin Boards & Kiosks

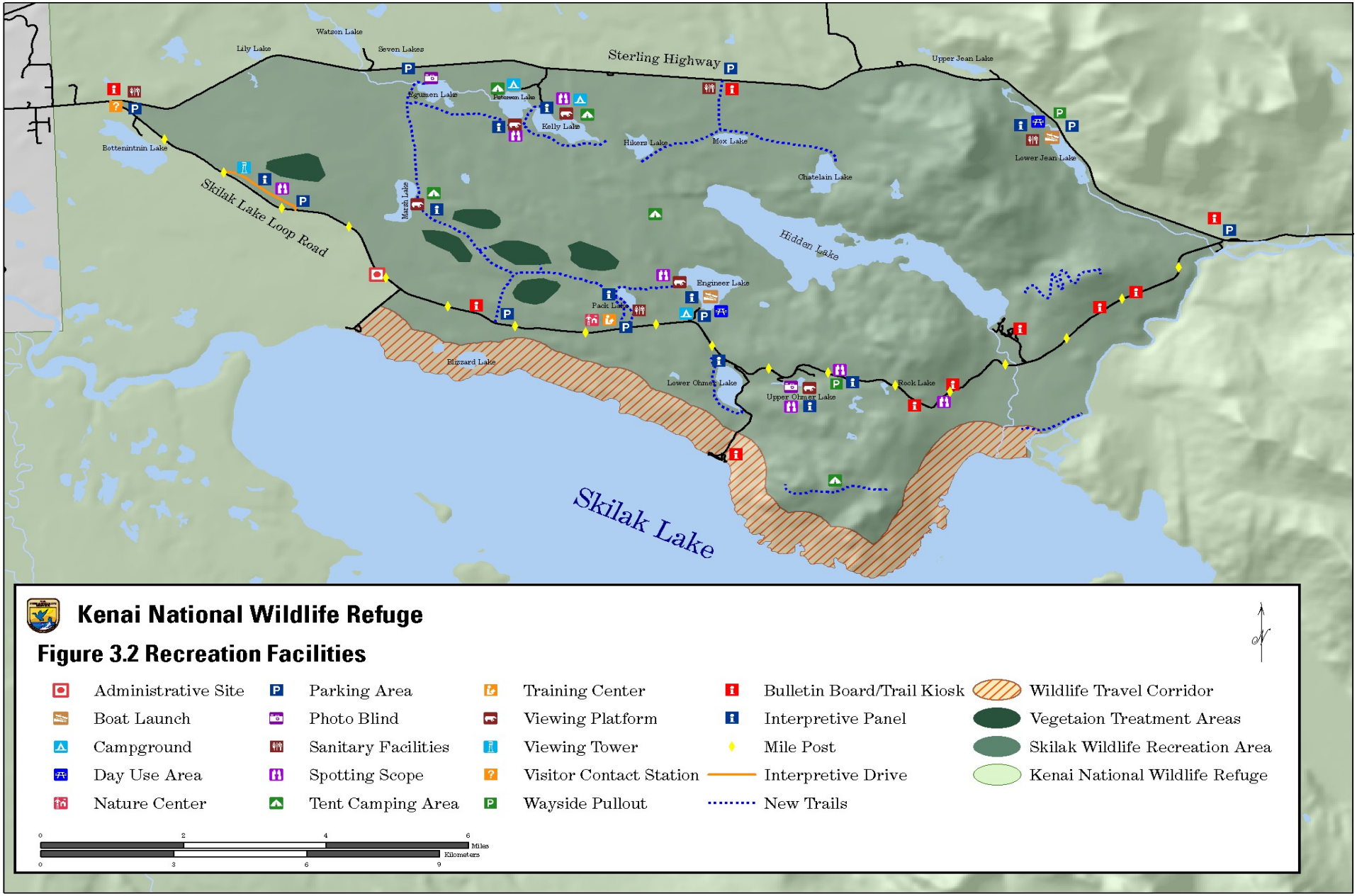
Bulletin boards or kiosks will be provided at the following five (5) locations (Figure 3.2): 1) Burney's Trailhead Parking Area, 2) East Entrance Parking Area, 3) Moose Habitat Enhancement Loop Trailhead Parking Area, 4) Mox/Chatelain Trailhead Parking Area, and 5) Visitor Contact Station Parking Area (West Entrance).

Existing bulletin boards will be upgraded to kiosks at the following five (5) locations: 1) Hidden Creek Trailhead, 2) Hideout Mountain Trailhead, 3) Kenai River Trailhead (West), 4) Skilak Lookout Trailhead, and 5) Vista Trailhead.

Campgrounds

The following campground-related work would be implemented (Figure 3.2): 1) Relocate the Engineer Lake Campground to the bluff above the lake to include designation of six (6) vehicle camping sites, 2) Rehabilitate the Kelly Lake Campground to include designation of eight (8)


Kenai National Wildlife Refuge
Figure 3.1 Administrative Boundaries
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0
2
4
6
Miles
Kilometers
0
3
6
9
Sterling Highway
Skilak Lake Loop Road
Skilak Lake
Watson Lake
Lily Lake
Seven Lakes
Upper Jean Lake
Egumen Lake
Petersen Lake
Kelly Lake
Hikers Lake
Mox Lake
Bottenintnin Lake
Lower Jean Lake
Chatelain Lake
March Lake
Hidden Lake
Engineer Lake
Pack Lake
Blizzard Lake
Lower Ohmer Lake
Upper Ohmer Lake
Rock Lake


Watson Lake
Lily Lake
Seven Lakes
Sterling Highway
Upper Jean Lake
Egumen Lake
Petersen Lake
Kelly Lake
Hikers Lake
Mox Lake
Lower Jean Lake
Bottenintnin Lake
Chatelain Lake
Skilak Lake Loop Road
Mesch Lake
Hidden Lake
Engineer Lake
Pack Lake
Blizzard Lake
Lower Ohmer Lake
Upper Ohmer Lake
Rock Lake
Skilak Lake
Kenai National Wildlife Refuge
Figure 3.2 Recreation Facilities
Administrative Site
Boat Launch
Campground
Day Use Area
Nature Center
Parking Area
Photo Blind
Sanitary Facilities
Spotting Scope
Tent Camping Area
Training Center
Viewing Platform
Viewing Tower
Visitor Contact Station
Wayside Pullout
Bulletin Board/Trail Kiosk
Interpretive Panel
Mile Post
Interpretive Drive
New Trails
Wildlife Travel Corridor
Vegetaion Treatment Areas
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0 2 4 6 Miles
0 3 6 9 Kilometers

vehicle camping sites, and 3) Rehabilitate the Peterson Lake Campground to include designation of four (4) vehicle camping sites.

To address public safety concerns associated with entry and exit from/to the Sterling Highway at Lower Jean Lake the existing campground would be replaced, through a cooperative effort with the State of Alaska Department of Transportation, with a day use area and related facilities located on the lake's north shore (see Day Use Areas below).

Day Use Areas
The existing Engineer Lake Campground will be converted to a day use area after the new campground is constructed on the bluff above the lake (Figure 3.2).

To address public safety concerns associated with entry and exit from/to the Sterling Highway at Lower Jean Lake the existing campground will be replaced, through a cooperative effort with the State of Alaska Department of Transportation, with a day use area and related facilities located on the lake's north shore (Figure 3.2).

Environmental Education Complex
An Environmental Education Complex consisting of two buildings – a 2,000 square foot Nature Center, and a 10,000 square foot Boreal Forest Lands Research and Management Training Facility – will be constructed west of Pack Lake off of the Skilak Loop Road at MP 8.8 (Figure 3.2).

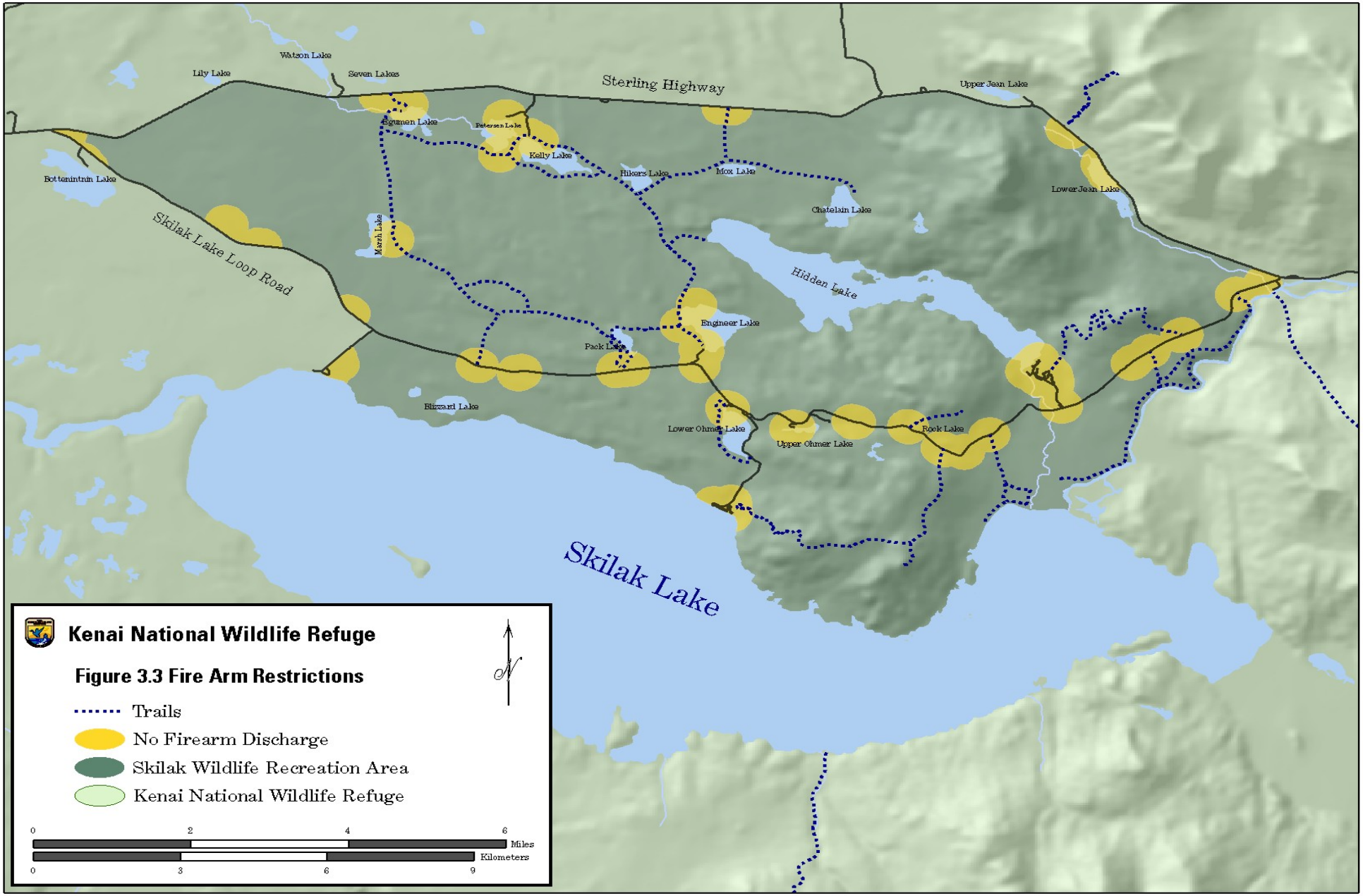
Environmental Education "Ranger" Programs
Campfire programs and Discovery Hikes offered by Refuge personnel will be increased by 20% and offered year-round, including the shoulder seasons (September – May), and a "Roving Ranger" program will be initiated.

Hardened Campsites ("Walk-in" and "Backcountry" Campsites)
Two (2) hardened "walk-in" campsites would be provided at Kelly Lake Campground, and one (1) hardened "walk-in" campsite will be provided at Peterson Lake campground (Figure 3.2).

To protect refuge resources, hardened "backcountry" campsites will be identified and developed for voluntary use along the Seven Lakes Long Distance Loop Trail. Campsites will be no closer than 0.5 mile apart (Figure 3.2).

Human Health and Safety (Firearm Use Restrictions)
Discharging firearms within ¼ mile of designated public campgrounds, trailheads, waysides, buildings, or the Sterling Highway from the east refuge boundary to the east junction of the Skilak Loop Road will not be allowed (Figure 3.3).

Interpretive Drives
A self-guided Vegetation Management Interpretive Loop Drive will be constructed along the Skilak Loop Road at MP 2.0 (Figure 3.2). Interpretive materials will be developed for this road


Kenai National Wildlife Refuge
Figure 3.3 Fire Arm Restrictions
Trails
No Firearm Discharge
Skilak Wildlife Recreation Area
Kenai National Wildlife Refuge
0
2
4
6
Miles
0
3
6
9
Kilometers
N
Sterling Highway
Skilak Lake Loop Road
Skilak Lake
Hidden Lake
Watson Lake
Lily Lake
Seven Lakes
Upper Jean Lake
Lower Jean Lake
Bottenintnin Lake
Egumen Lake
Petersen Lake
Kelly Lake
Hikers Lake
Mox Lake
Chatelain Lake
Marsh Lake
Engineer Lake
Pack Lake
Blizzard Lake
Lower Ohmer Lake
Upper Ohmer Lake
Rock Lake

and the Skilak Loop Wildlife Drive (see *Outreach Materials and Media* below).

Interpretive Panels

Interpretive panels will be provided at the following ten (10) locations (Figure 3.2): 1) Engineer Lake Day Use Area Platform (west shore), 2) Kelly Lake Viewing Platform (north shore), 3) Lower Jean Lake Day Use Area (north shore), 4) Lower Ohmer Lake Family Loop Trailhead, 5) Marsh Lake Viewing Platform (east shore), 6) Nature Center Disability-Accessible Interpretive Trail, 7) Peterson Lake Viewing Platform (south shore), 8) Skilak Lake/Redoubt Mountain Wayside, 9) Upper Ohmer Lake Viewing Platform, and 10) Vegetation Management Interpretive Loop Drive.

Interpretive Trail

A 1.0-mile long disability-accessible Interpretive Trail will be constructed at the Pack Lake Environmental Education Complex.

Outreach Materials and Media for Visitor Orientation

A variety of outreach materials (e.g., brochures, pamphlets, etc) and media formats (e.g., audio tapes, CD, DVD, MP3) will be developed to educate visitors about the Skilak WRA. Educational topics may include: 1) Purpose and management of the Skilak WRA, 2) Recreation opportunities and related facilities, 3) Interpretive / educational opportunities and related facilities, 4) Common wildlife species and opportunities to view them identified by milepost, 5) Recorded calls of common avian species, and 6) Human history of the area.

Parking Areas

The existing Engineer Lake Campground parking area will be rehabilitated. The Refuge will construct three (3) parking areas at the following locations (Figure 3.2): 1) Moose Habitat Enhancement Loop Trailhead, 2) Pack Lake Environmental Education Complex, and 3) Vegetation Management Interpretive Drive. Through a cooperative effort with State of Alaska Department of Transportation, parking areas would be constructed at the following locations: 1) East Entrance (Skilak Loop/Sterling Highway Intersection), 2) Lower Jean Lake Day Use Area, 3) Mox/Chatelain Lakes Trailhead, and 4) West Entrance (Skilak/Sterling Intersection).

Sanitary Facilities

Sanitary facilities will be provided at the following four (4) locations (Figure 3.2): 1) Lower Jean Lake Day Use Area (1 unit), 2) Mox/Chatelain Lakes Trailhead (1 unit), 3) Pack Lake Environmental Education Complex (1 unit), and 4) Visitor Contact Station (West Entrance). The frequency of servicing sanitary facilities will be increased during the highest visitor use months, and will occur weekly during the shoulder season (September – May).

Signs (Information, Direction, Location)
The following actions will be implemented: 1) Signs containing the "binocular" wildlife viewing logo will be placed on the Sterling Highway in advance of the East and West Entrances, 2) "Welcome to the Skilak WRA" monuments will be constructed at the East and West Entrances, 3) Information, direction, and location signs for all public use facilities will be provided / enhanced along the Skilak Loop Wildlife Drive and Sterling Highway, and 4) Milepost markers will be provided along the Skilak Loop Wildlife Drive.

Skilak Loop Road
The Service will continue to pursue ongoing efforts to improve road maintenance and year-round public access through a cooperative effort with the Alaska Department of Transportation.

Trails
The following trails segments will be constructed (Figure 3.2):

1) Hideout Mountain Scenic Trail (2.5 miles)
    - Connect Burney's Trail to Hideout Mountain Trail via 1.5-mile connector trail
2) Kenai River Extension Trail
    - Construct 1-mile trail initiating from the end of the existing Kenai River Trail southwest towards, but not to, Hidden Creek/Skilak Lake.
3) Skilak Lookout Extension Trail
    - Connect existing Skilak Lookout Trail to existing Vista Trail (1.6 miles)
4) Lower Ohmer Lake Campground Family Loop Trail (1.4 miles)
5) Seven Lakes Long Distance Loop Trail (10.0 miles)
    - Construct a Moose Habitat Enhancement Loop Trail off the Skilak Loop Road (1.2 miles)
    - Connect the Moose Habitat Enhancement Loop Trail to Marsh Lake (1.0 mile)
    - Connect Marsh Lake to Egumen/Peterson/Kelly Lakes (2.0 miles)
    - Connect Egumen/Peterson/Kelly Lakes trail to existing Seven Lakes Trail (2.5 miles)
    - Connect Seven Lakes Trail to the Pack Lake Environmental Education Complex (1.0 mile)
    - Connect the Pack Lake Environmental Education Complex to the Moose Habitat Enhancement Loop Trailhead (1.5 miles)
6) Mox/Chatelain Lake Trail (4.5 miles)
    - Sterling Highway Trailhead Parking Area to Mox Lake (1.0 mile)
    - Connect Mox Lake to Chatelain Lake (2.0 miles)
    - Connect Mox Lake to existing Seven Lake Trail (1.5 miles)

Vegetation Management
Prescribed and wildland fire use, and mechanical treatment (if applicable) will be used to enhance wildlife viewing, environmental education/interpretation and photography opportunities at the following two (2) locations (Figure 3.2): 1) Moose Habitat Enhancement Loop Trail northwest of the Pack Lake Environmental Education Complex, and 2) Vegetation Management Interpretive Drive. Treatment would be conducted on approximately 50 – 100 acres/year when conditions permit.

Viewing Facilities

Viewing platforms with spotting scopes will be constructed at the following five (5) locations (Figure 3.2): 1) Engineer Lake (west shore), 2) Kelly Lake (north shore), 3) Marsh Lake (east shore), 4) Peterson Lake (south shore), and 5) Upper Ohmer Lake (east shore).

Photo blinds will be constructed at the following two (2) locations (Figure 3.3): 1) Egumen Lake (north shore), and 2) Rock Lake (east shore).

A viewing tower with spotting scope(s) will be constructed along the Vegetation Management Interpretive Drive.

Additional spotting scopes will be provided at the following two (2) locations: 1) Hidden Creek Wayside Pullout, and 2) Skilak Lake / Redoubt Mountain Wayside Pullout.

In addition, refuge biologists, public use specialists, and maintenance personnel will consider and evaluate the feasibility of developing a Track Trap facility at an appropriate location. The facility will capture animal track impressions for interpretation and education purposes.

Visitor Contact Station

A Visitor Contact Station will be constructed at the West Entrance (Figure 3.2). Information will be provided year-round including periods when the facility is not attended by staff.

Wayside Pullouts

An undeveloped wayside pullout located at MP 12.6 along the Skilak Loop Road will be enhanced (Figure 3.2).

Wildlife Management

Moose:

To provide opportunities to view moose populations in relatively natural settings throughout the year; to interpret various components of the moose population, their behavior, and habitat; and to provide opportunities for the public to harvest moose when removal is desirable to achieve public use and resource protection goals the following wildlife management strategies will be implemented:

Resident moose population densities of 130 animals (1.8 – 2.0 animals per square mile of habitat) will be managed for. Population density will be determined utilizing the standard density census as defined by ADF&G and FWS and will be conducted every second year at a minimum assuming adequate snow cover. Sex ratios will be allowed to rise to a minimum of 40 bulls/100 cows as measured with the standard composition survey. This survey will be conducted before December 1 each year. To avoid habitat damage, harvest of cow moose by firearm will be allowed by permit only when populations exceed density objectives. Harvest of spike-fork bulls by firearm will be allowed by permit only when ratio objectives are exceeded.

Kenai NWR and ADF&G will jointly re-evaluate moose population objectives to provide for healthy moose populations and enhance viewing opportunities based on currently ongoing studies and/or other scientific information provided in the future.

Small Game:
To provide opportunities to view small game populations in a relatively natural setting; to interpret and provide prey for predators particularly raptors such as bald eagles, goshawks, and great-horned owls, and lynx and coyotes; and to provide opportunities for the public to harvest these species the following wildlife management strategies will be implemented:

During the period October 1 to March 1, each year, harvest of small game by bow and arrow will be allowed. A standard 22 caliber rim fire or shotgun youth hunt will be open for a period of 18 days between November 1 and March 1 each year and will include small game species as defined by State of Alaska regulations. The open area remains that area west of the Seven Lakes Trail. The hunt will be open to youth hunters 16 years old or younger accompanied by a licensed hunter who has successfully completed a certified hunter education course if the youth has not, and who is 18 years old or older.

Fur Animals and Bears:
Harvest will not be allowed.

Wildlife Travel Corridor
A wildlife travel corridor will be identified along the north shore of Skilak Lake within the administrative boundaries of the Skilak WRA (Figure 3.2). The ½-mile wide corridor, from Lower Skilak Lake Campground to the outlet of the Kenai River into Skilak Lake, will be free of development except for the existing Lower Skilak Lake Campground and Upper Skilak Lake Campground which will remain as currently designed, and maintained to facilitate continued public use.

3.2 Coordination with the State Of Alaska

In 1982, the U.S. Fish and Wildlife Service (Service) and the Alaska Department of Fish and Game (ADF&G) signed a Master Memorandum of Understanding that defines the cooperative management roles of each agency and identifies the framework for cooperation between the two agencies. In this agreement the agencies recognized the Service as the agency with the responsibility to conserve fish and wildlife and their habitats and regulate human use on Service lands. The ADF&G was recognized as the agency with the primary responsibility to manage fish and resident wildlife within the State of Alaska. Furthermore, the Department agreed to manage fish and resident wildlife populations in their natural diversity on Service lands. The Service and ADF&G share a concern for all fish and wildlife resources and their habitats, and both agencies are engaged in extensive fish and wildlife conservation, management, and protection programs.

Chapter 4: Implementation

The budget/funding process of the National Wildlife Refuge System is structured so that the Refuge System submits funding requests to Congress through the U.S. Fish and Wildlife Service and the Department of Interior. Wildlife refuges develop projects or programs to meet management objectives, develop a monetary figure to accomplish the project/program, and assign a station priority. The projects are then entered into a national database; regional and national offices assign priorities as they develop annual funding requests submitted to the Department. Consequently, there are no means for a wildlife refuge to accurately predict when a project or program may receive funding. Kenai Refuge's priorities for implementing the management direction in this plan are listed below:

Direction	Schedule	Priority
Administrative Boundaries The Skilak Wildlife Recreation Area will be bounded by a line beginning at the easternmost junction of the Sterling Highway and the Skilak Loop Road (MP 58), then due south to the south bank of the Kenai River, then southerly along the south bank of the Kenai River to its confluence with Skilak Lake, then westerly along the north shore of Skilak Lake to Lower Skilak Lake campground, then northerly along the Lower Skilak Lake campground road and the Skilak Loop Road to its western junction with the Sterling Highway (MP 75.1), then easterly along the Sterling Highway to the point of beginning.	The Service, with support of the ADF&G, has submitted the propose adjustment to the State of Alaska Board of Game through its regulatory proposal process.	1
Administrative Facility The existing Administrative Facility located off the Skilak Loop Road at MP 5.3 will be maintained and enhanced as needed.	This facility will be entered into the appropriate funding database immediately.	1
Boat Launches The existing boat launch at Engineer Lake will be improved.	This facility will be entered into the appropriate funding database immediately.	1
Through a cooperative effort with the State of Alaska Department of Transportation, construct a boat launch at the Lower Jean Lake Day Use Area (north shore).	The Service will initiate discussions with state DOT to request appropriate development funds immediately.	1

Direction	Schedule	Priority
Bulletin Boards & Kiosks Bulletin boards or kiosks will be provided at the following five (5) locations: • Burney's Trailhead Parking Area • East Entrance Parking Area • Moose Habitat Enhancement Loop Trailhead Parking Area • Mox/Chatelain Trailhead Parking Area • Visitor Contact Station Parking Area (West) Existing bulletin boards will be upgraded to kiosks at the following five (5) locations: • Hidden Creek Trailhead • Hideout Mountain Trailhead • Kenai River Trailhead (West) • Skilak Lookout Trailhead • Vista Trailhead	These facilities will be entered into the appropriate funding database immediately.	 1 1 2 2 1 2 2 2 2 2
Campgrounds The following campground-related work will be implemented: • Relocate the Engineer Lake Campground to the bluff above the lake to include designation of six (6) vehicle camping sites • Rehabilitate the Kelly Lake Campground to include designation of eight (8) vehicle camping sites • Rehabilitate the Peterson Lake Campground to include designation of four (4) vehicle camping sites To address public safety concerns associated with entry and exit from/to the Sterling Highway at Lower Jean Lake the existing campground will be replaced, through a cooperative effort with the Alaska Department of Transportation, with a day use area located on the lake's north shore.	These facilities will be entered into the appropriate funding database immediately if not already entered. The Service will initiate discussions with state DOT to request development funds for this project.	 1 1 1 1
Day Use Areas The existing Engineer Lake Campground will be converted to a day use area after the new campground is constructed on the bluff above the lake. To address public safety concerns associated with entry and exit from/to the Sterling Highway at Lower Jean Lake the existing campground will be replaced, through a cooperative effort with the Alaska Department of Transportation, with a day use area located on the lake's north shore.	These facilities will be entered into the appropriate funding database immediately if not already entered. The Service will initiate discussions with state DOT to request development funds for this project.	1 1

Direction	Schedule	Priority
Environmental Education Complex An Environmental Education Complex consisting of two buildings – a 2,000 square foot Nature Center, and a 10,000 square foot Boreal Forest Lands Research and Management Training Facility – will be constructed west of Pack Lake off of the Skilak Loop Road at MP 8.8.	These facilities will be entered into the appropriate funding database immediately.	1
Environmental Education "Ranger" Programs Campfire programs and Discovery Hikes offered by Refuge personnel will be increased by 20% and offered year-round, including the shoulder seasons (September – May), and a "Roving Ranger" program will be initiated.	Additional staff positions to accomplish these program increases will be entered into the appropriate funding database immediately.	1
Hardened Campsites ("Walk-in" and "Backcountry" Campsites) Two (2) hardened "walk-in" campsites would be provided at Kelly Lake Campground, and one (1) hardened "walk-in" campsite will be provided at Peterson Lake campground. To protect refuge resources, hardened "backcountry" campsites will be identified and developed for voluntary use along the Seven Lakes Long Distance Loop Trail. Campsites will be no closer than 0.5 mile apart.	These facilities will be entered into the appropriate funding database immediately if not already entered.	1 1 2
Human Health and Safety Discharging firearms within ¼ mile of designated public campgrounds, trailheads, waysides, buildings, or the Sterling Highway from the east refuge boundary to the east junction of the Skilak Loop Road will not be allowed.	Immediately.	1
Interpretive Drive A self-guided Vegetation Management Interpretive Loop Drive will be constructed along the Skilak Loop Road at MP 2.0.	This facility will be entered into the appropriate funding database immediately.	2
Interpretive Panels Interpretive panels will be provided at the following ten (10) locations: • Engineer Lake Day Use Area Platform (West Shore) • Kelly Lake Viewing Platform (North Shore) • Lower Jean Lake Day Use Area (North Shore) • Lower Ohmer Lake Family Loop Trailhead • Marsh Lake Viewing Platform (East Shore) • EE Complex Disability-Accessible Interpretive Trail • Peterson Lake Viewing Platform (South Shore) • Skilak Lake/Redoubt Mountain Wayside • Upper Ohmer Lake Viewing Platform • Vegetation Management Interpretive Loop Drive	These facilities will be entered into the appropriate funding database immediately.	2 2 2 2 2 2 2 1 1 2

Direction	Schedule	Priority
Interpretive Trail A 1.0 mile long disability-accessible Interpretive Trail will be constructed at the Pack Lake Environmental Education Complex.	This facility will be entered into the appropriate funding database immediately.	2
Outreach Materials and Media for Visitor Orientation A variety of outreach materials (e.g., brochures, pamphlets, etc) and media formats (e.g., audio tapes, CD, DVD, MP3) will be developed and used to educate visitors about the Skilak WRA.	These program enhancements will be entered into the appropriate funding database immediately.	1
Parking Areas The existing Engineer Lake Campground parking area will be rehabilitated. Parking areas will be constructed at the following three (3) locations: • Moose Habitat Enhancement Loop Trailhead • Pack Lake Environmental Education Complex • Vegetation Management Interpretive Drive. Through a cooperative effort with State of Alaska Department of Transportation, parking areas will be constructed at the following locations: • East Entrance (Skilak Loop/Sterling Highway Intersection) • Lower Jean Lake Day Use Area • Mox/Chatelain Lakes Trailhead • West Entrance (Skilak/Sterling Intersection).	These facilities will be entered into the appropriate funding database immediately if not already entered. Additionally, the Service will initiate discussions with state DOT to request appropriate development funds for this project.	1 2 1 2 1 2 2 1
Sanitary Facilities Sanitary facilities will be provided at the following four (4) locations: • Lower Jean Lake Day Use Area (1 unit) • Mox/Chatelain Lakes Trailhead (1 unit) • Pack Lake Environmental Education Complex (1 unit) • Visitor Contact Station (West Entrance). The frequency of servicing sanitary facilities will be increased during the highest visitor use months, and will occur weekly during the shoulder season (September – May).	These facilities will be entered into the appropriate funding database immediately.	2 2 1 1 1

Direction	Schedule	Priority
Signs (Information, Direction, Location) The following actions will be implemented: • Signs containing the "binocular" wildlife viewing logo will be placed on the Sterling Highway in advance of the East and West Entrances • "Welcome to the Skilak WRA" monuments will be constructed at the East and West Entrances • Information, direction, and location signs for all public use facilities will be provided / enhanced along the Skilak Loop Wildlife Drive and Sterling Highway • Milepost markers will be provided along the Skilak Loop Wildlife Drive.	These facilities will be entered into the appropriate funding database immediately.	1 1 1 1
Skilak Loop Road The Service will continue to pursue ongoing efforts to improve road maintenance and year-round public access through a cooperative effort with the Alaska Department of Transportation.	Immediately.	1
Trails The following trails / trail segments will be constructed: 1. Hideout Mountain Scenic Trail • Connect Burney's Trail to Hideout Mountain Trail via 1.5 mile connector trail 2. Kenai River Extension Trail • Construct 1-mile trail initiating from the end of the existing Kenai River Trail southwards towards, but not to, Hidden Creek/Skilak Lake. 3. Skilak Lookout Extension Trail • Connect existing Skilak Lookout Trail to existing Vista Trail (1.6 miles) 4. Lower Ohmer Lake Campground Family Loop Trail (1.4 miles) 5. Seven Lakes Long Distance Loop Trail • Construct a Moose Habitat Enhancement Loop Trail off the Skilak Loop Road (1.2 miles) • Connect the Moose Habitat Enhancement Loop Trail to Marsh Lake (1.0 mile) • Connect Marsh Lake to Egumen/Peterson/Kelly Lakes (2.0 miles) • Connect Egumen/Peterson/Kelly Lakes trail to existing Seven Lakes Trail (2.5 miles) • Connect Seven Lakes Trail to the Pack Lake Environmental Education Complex (1.0 mile) • Connect the Pack Lake Environmental Education Complex to the Moose Habitat Enhancement Loop Trailhead (1.5 miles)	These facilities will be entered into the appropriate funding database immediately.	1 2 2 2 2

Direction	Schedule	Priority
6. Mox / Chatelain Lake Trail • Sterling Highway Trailhead Parking Area to Mox Lake • Connect Mox Lake to Chatelain Lake • Connect Mox Lake to existing Seven Lakes Trail		2
Vegetation Management Initiate vegetation management activities at the following two (2) locations: • Moose Habitat Enhancement Loop Trail northwest of the Pack Lake Environmental Education Complex • Vegetation Management Interpretive Drive Treatment will be conducted on approximately 50 – 100 acres/year when conditions permit.	These facilities will be entered into the appropriate funding database immediately.	1
Viewing Facilities 1) Viewing platforms will be constructed at the following five (5) locations: • Engineer Lake (west shore) • Kelly Lake (north shore) • Marsh Lake (east shore) • Peterson Lake (south shore) • Upper Ohmer Lake (east shore) 2) Photo blinds will be constructed at the following two (2) locations: • Egumen Lake (north shore) • Rock Lake (east shore) 3) A viewing tower with spotting scopes will be constructed along the Vegetation Management Interpretive Drive. 4) Spotting scopes will be provided at the following two (2) locations: • Hidden Creek Wayside Pullout • Skilak Lake / Redoubt Mountain Wayside Pullout 5) Track Trap Refuge biologists, public use specialists, and maintenance personnel will consider and evaluate the feasibility of developing a facility at an appropriate location within the Skilak WRA.	These facilities will be entered into the appropriate funding database immediately. Within 1 year of plan approval, staff will initiate assessments of a minimum of four sites; after 1 year of evaluations, site will be designated, and developed before Labor Day of the same year	2 1 2 1 1
Visitor Contact Station A Visitor Contact Station will be constructed at the West Entrance. Information will be provided year-round including periods when the facility is not attended by staff.	This facility will be entered into the appropriate funding database immediately.	1

Direction	Schedule	Priority
Wayside Pullouts An undeveloped wayside pullout at MP 12.6 along the Skilak Loop Road will be enhanced.	This facility will be entered into the appropriate funding database immediately.	1
Wildlife Management *Moose:* Managed to provide for a variety of public use opportunities and to achieve natural resource goals. Firearm harvest by permit only; plus re-evaluate moose population objectives as needed.	Immediately.	1
Small Game: During the period October 1 to March 1, each year, harvest of small game by bow and arrow will be allowed. A standard 22 caliber rim fire or shotgun youth hunt will be open for a period of 18 days between November 1 and March 1 each year and will include small game species as defined by State of Alaska regulations. The open area remains that area west of the Seven Lakes Trail. The hunt will be open to youth hunters 16 years old or younger accompanied by a licensed hunter who has successfully completed a certified hunter education course if the youth has not, and who is 18 years old or older.	Starting July 1, 2007	1
Fur Animals: Harvest will not be allowed.	Immediately.	1

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APPENDIX A

DECISION NOTICE (original)
FINDING OF NO SIGNIFICANT IMPACT

SKILAK WILDLIFE RECREATION AREA MANAGEMENT PLAN
KENAI NATIONAL WILDLIFE REFUGE
U.S. FISH AND WILDLIFE SERVICE

This notice documents my decision concerning management of the Skilak Wildlife Recreation Area (Skilak WRA) located within the Kenai National Wildlife Refuge (Kenai NWR). It identifies the purpose and need for the federal action, alternatives considered, public outreach, which alternative to implement, the rationale for that decision, and a brief summary of why the preferred alternative will not have a significant impact on the human environment.

PURPOSE AND NEED FOR FEDERAL ACTION
The purpose of this federal action is to develop an updated management plan for the Skilak WRA. The management plan identifies wildlife viewing, interpretation, photography, and other wildlife-dependent recreation opportunities; development of compatible facilities; and implementation of related programs.

The Kenai NWR Comprehensive Conservation Plan (Conservation Plan) approved in 1985 provides direction to manage the Skilak area "to provide enhanced opportunities for wildlife viewing." To implement that direction, a wildlife management plan was developed in 1986, and a public use facilities plan was approved in 1988. In an ongoing effort to fulfill management direction identified in the Conservation Plan, the Service prepared a Skilak WRA Draft Management Plan (Draft Plan) and Environmental Assessment (EA) that evaluated three alternatives and analyzed potential impacts on the human environment. The EA was developed to ensure that the Refuge fulfilled the requirements of the National Environmental Policy Act (NEPA) of 1969.

ALTERNATIVES CONSIDERED AND ANALYZED
The EA analyzed the impacts of three alternatives for management of the Skilak WRA:

<u>Alternative A (No Action Alternative)</u>
Alternative A, the No Action Alternative, described what would happen with continuation of current management as directed by a wildlife management plan (1986) and public use facilities plan (1988). The No Action Alternative is required by NEPA, and served as a baseline against which to compare the other two alternatives.

Alternative A would continue to implement existing plans for the area and maintain existing administrative boundaries (approximately 44,000-acres). It would enhance wildlife viewing and photography opportunities by constructing additional public use facilities including five trails (9-miles in length) and three wayside pullouts. The Refuge would manage habitat to sustain

specific moose population objectives, limit moose hunting by permit, and small game by bow and arrow only. Firearm use would be prohibited near roads and other public use facilities (or on approximately 3,200-acres) to ensure public safety. Alternative A would enhance environmental education and interpretation opportunities by constructing five bulletin boards and interpretive panels at six sites. A nature center would also be constructed. Alternative A would provide recreation support facilities by expanding one campground, constructing three new parking areas, and constructing a visitor contact station. Some rehabilitation of existing public use facilities would take place. The Skilak Loop Road and Sterling Highway intersections would be redesigned to conform to state and federal highway standards, and the Skilak Loop Road and all parking areas and wayside pullouts would be paved.

Alternative B (Preferred Alternative)

Implementation of Alternative B, the Service's Preferred Alternative, would increase the administrative boundaries to approximately 52,750-acres. It would enhance wildlife viewing and photography opportunities by constructing a greater number and diversity of public use facilities than that proposed under Alternative A including six trails (29.7-miles in length), eight viewing facilities (blinds, platforms, etc), nine spotting scopes, and one wayside pullout. The Refuge would manage habitat to enhance wildlife viewing opportunities as opposed to specific moose population objectives. Status quo management of moose hunting opportunities would be permitted on 47,120-acres. Firearm use associated with permitted moose hunts would be prohibited on 5,620-acres to ensure public safety at and around a greater number of facilities. An existing small game archery hunt would be maintained. Alternative B would enhance environmental education and interpretation opportunities by constructing six bulletin boards, interpretive panels at ten sites, and a self-guided interpretive drive and trail. An environmental education complex consisting of a boreal lands research and land management training facility and nature center would be constructed. The number and diversity of environmental education "ranger" programs and outreach materials would be increased. Alternative B would provide recreation support facilities by expanding one campground, and constructing one day use area, four walk-in tent campsites, three parking lots, five sanitary facilities, and a visitor contact station. Some rehabilitation of existing public use facilities would take place. The Skilak Loop Road and Sterling Highway intersections would be redesigned to conform to state and federal highway standards; the Skilak Loop Road and all parking areas and wayside pullouts would be paved, and year-round maintenance would be conducted to facilitate public use. The road would be renamed the Skilak Loop Wildlife Drive.

Alternative C

Implementation of Alternative C would consist of management actions described under Alternative B plus a general entry firearm hunt of small game and fur animals would be allowed on 35,570-acres. Firearm use would be prohibited on 17,180-acres to ensure public safety at and around a greater number of facilities.

PUBLIC OUTREACH, REVIEW, AND COMMENT

The U.S. Fish and Wildlife Service (Service) completed the Draft Plan and EA in October 2006. Approximately 2,500 copies were distributed to individuals and organizations that had expressed an interest in receiving Kenai NWR planning-related documents. One hundred and thirty-nine printed copies were mailed to federal, state, and local officials; government and quasi-

government agencies; national and regional non-governmental organizations, and others, and 2,300 copies were distributed on compact discs.
In the Anchorage area, notices of availability were distributed to 16 radio stations, 3 television stations, and 3 newspapers. In the Kenai Peninsula area, notices were distributed to 10 radio stations, 2 television stations, and 3 newspapers. An electronic version of the plan was made available on the Kenai NWR planning website, and a Skilak email address was created. Presentations were made to the Board of Game and the Friends of Alaska National Wildlife Refuges.

The Draft Plan and EA were made available for public review and comment during a 30-day period ending November 17, 2006. Eighty-one responses were received by mail, email, and telephone before the deadline. The majority of responses came from private citizens located in the greater Soldotna-Kenai area. Sixteen non-governmental organizations, one federal agency, two local businesses, and the State of Alaska also responded.

Just over half of all respondents expressed support for or opposition to a specific alternative. Of those, the majority supported Alternative B or a modified version of Alternative B. A smaller proportion expressed support for Alternative A or modified version of Alternative A. The next smallest proportion expressed opposition to all three alternatives. A few respondents specifically indicated that they opposed Alternative C, and few others indicated support for a modified version of C. Substantive comments centered on four themes: firearm use and hunting, Skilak Loop Road maintenance, threats to wildlife and wildlife corridors, and facilities.

Firearm Use and Hunting Opportunities

The single most common opinion expressed among the responses was support for retaining existing firearm restrictions. Respondents who favored continuing to restrict firearms expressed concern that wildlife viewers and other non-consumptive users needed
a place where they can recreate free from the perceived dangers associated with hunting. A few respondents indicated their concern that calls to expand hunting in the Skilak WRA would lead to expanded hunting opportunities contrary to a wildlife viewing area.
Respondents who favored relaxing firearm restrictions and/or expanding hunting opportunities typically suggested that conflicts with other users are unlikely because hunting takes place in the fall and winter when non-consumptive recreation use is low. Most advocates of expanded hunting called for limited expansion in the form of small game opportunities and smaller buffer zones, although a few called for virtually unrestricted hunting.

Skilak Loop Road Maintenance

Maintenance of the Skilak Loop Road was the second-most prevalent topic in respondents' comments. Most respondents who commented on this topic were strongly opposed to paving the road. They suggested that paving would encourage drivers to travel at unsafe speeds and collisions with wildlife and other vehicles would result. A few respondents worried that the Service would restrict use of the road if it were to take over management responsibility from the State of Alaska.

Among the respondents that explicitly supported paving, half suggested the Service should consider speed control measures such as speed bumps or increased speed limit enforcement. The

main reason given for supporting paving was decreased wear and tear on vehicles and trailers.

Threats to Wildlife and Wildlife Corridors

Respondents who expressed concerns about wildlife impacts typically suggested that one or more formal "wildlife movement corridors" be identified – one west of Skilak Lake Loop Road to the refuge's western most boundary, and one along the north shore of Skilak Lake. They suggested facilities development should be limited or prohibited in these areas to minimize adverse impacts to wildlife. They cited the vital location of the Skilak WRA within the larger Kenai Peninsula region, and the potential cumulative impacts to wildlife from current and future off-refuge developments, and recreation facilities.

Facilities

Only a relatively small proportion of respondents commented specifically on visitor facilities. Among those that did, opinions regarding the collection of visitor facilities and upgrades proposed in the draft plan tended to be negative. Most of those respondents felt that proposed facilities were unnecessary or too numerous. A few suggested management resources should be aimed at improved maintenance of existing infrastructure rather than building more.

DECISION

Alternative B (Preferred Alternative) with Modification

Based on the EA completed for the Skilak WRA Draft Plan, and comments received during the public review period, it is my decision to select a modified version of Alternative B (Preferred Alternative) for implementation. The following provisions will modify and be applied to Alternative B (Preferred Alternative) as described in the Draft Management Plan and Environmental Assessment:

Administrative Boundaries

The following language will describe the administrative boundaries of the Skilak WRA:

> "Skilak Wildlife Recreation Area – bounded by a line at the eastern most boundary of the Kenai National Wildlife Refuge (Mile 55 Sterling Highway), then southerly along the south bank of the Kenai River to its confluence with Skilak Lake, then westerly along the north shore of Skilak Lake to Lower Skilak Lake campground, then northerly along the Lower Skilak Lake Campground Road and the Skilak Lake Road to its westernmost junction with the Sterling Highway (Mile 75.1), then easterly along the Sterling Highway to the point of beginning."

Facilities

The following facilities will not be further planned, designed, enhanced, rehabilitated, or developed:

A. Trails
   - Bottenintnin Lake Group Day Use Area Loop Trail (4.0 miles)
   - Lower Skilak Lake Campground to Blizzard Lake Trail (1.9 miles)
   - Blizzard Lake Family Loop Trail (1.3 miles)
   - Connector trail (0.5 mile) from Blizzard Lake Family Loop Trail to Moose Habitat Enhancement Loop Trailhead on the Skilak Loop Wildlife Drive

- Blizzard Lake to Upper Skilak Lake Campground Trail (3.9 miles)
- Connector trail (0.7 mile) from Upper Skilak Lake Campground to Lower Ohmer Lake Family Loop Trail
- Connector trail (2.2 miles) from existing Hidden Creek Trail to existing Skilak Lookout Trail

B. Other
- Day Use Area at Bottenintnin Lake (including boat launch, bulletin board/trail kiosk, picnic area, sanitary facilities)
- Hardened "walk-in" campsite located on Skilak Lake Long Distance Trail between Blizzard Lake and Upper Skilak Campground

Hunting Opportunities
In addition to the permitted moose hunt and small game archery hunt allowed under Alternative B, a shotgun only youth hunt of hare and grouse is allowed up to a 9 day period between November and March west of the Seven Lakes Trail. The specifics of the hunt will be determined through a cooperative effort with the Alaska Department of Fish and Game, and implemented, if possible, through Alaska Board of Game regulations.

Skilak Loop Road
The Service will continue to pursue ongoing efforts to improve road maintenance and year-round public access through a cooperative effort with the Alaska Department of Transportation.

Wildlife Movement Corridor
A wildlife movement corridor is identified along the north shore of Skilak Lake within the administrative boundaries of the Skilak WRA. The ½-mile wide corridor, from Lower Skilak Lake Campground to the outlet of the Kenai River into Skilak Lake, will be free of development except for the existing Lower Skilak Lake Campground and Upper Skilak Lake Campground which will remain as currently designed, and maintained to facilitate continued public use.

RATIONALE FOR DECISION

A modified version of Alternative B was selected because I believe it best achieves the purpose and need for the federal action identified above, and the general management direction for the Skilak WRA as identified in Kenai Refuge's Conservation Plan. Furthermore, I believe it addresses the substantive concerns raised during the public review period in the most appropriate manner while fulfilling the Service's legal mandates.

<u>Administrative Boundary Adjustments and Facilities Development</u>
My decision to revise the Skilak WRA's administrative boundaries as described in Alternative B of the Draft Plan and EA, and the list of public use facilities to be developed on those lands is due to concerns raised by the State of Alaska and others. Of compelling interest to the Service was the contention that the 8,243-acre area west of the Skilak Loop Road to the refuge's western most boundary offered few developed wildlife-viewing, interpretation, and photography opportunities and that including those lands within the administrative boundaries would further reduce firearm hunting opportunities.

I believe the revised administrative boundaries language previously described is appropriate because:

- Few public use facilities were proposed for development on these lands (i.e., one trail and one day use area at Bottenintnin Lake);
- removal of these lands from the administrative boundaries of the Skilak WRA would have limited adverse impact on wildlife viewing, interpretation, and photography opportunities throughout the area despite removal of identified public use facilities on these lands;
- the potential for beneficial impacts on other wildlife-dependent recreation opportunities (i.e., hunting opportunities) is desired; and,
- removing these public use facilities will also address concerns raised by conservation organizations and members of the general public regarding wildlife movement through these lands.

Wildlife Corridors and Facilities Development

My decision to identify a wildlife movement corridor along the north shore of Skilak Lake and revise the list of public use facilities to be developed as described in Alternative B of the Draft Plan and EA is due to concerns raised by some conservation organizations and others. Of compelling interest to the Service was the contention that lands north of Skilak Lake facilitate east/west wildlife movement within the refuge and that facilities proposed for development on these lands would result in increased human-wildlife encounters that would have direct and indirect adverse impacts on wildlife.

I believe the revised facilities language previously described is appropriate because:

- The facilities proposed for development on these lands (i.e., trails and one walk-in tent campsite) are similar to those proposed elsewhere within the Skilak WRA;
- removal of these facilities from the list of proposed development projects would have limited adverse impact on wildlife viewing, interpretation, photography, and other wildlife-dependent recreation opportunities; and,
- the potential for beneficial impacts on wildlife, particularly brown bear – a species of special concern – is desired.

Hunting Opportunities

My decision to revise the proposed language for hunting opportunities as described in Alternative B of the Draft Plan and EA is due to concerns raised by the State of Alaska, some hunting organizations, and others. Of particular interest to the Service was the suggestion that additional firearm hunting opportunities could be provided in the area if such opportunities were limited in time and space to minimize conflicts with non-consumptive users.

I believe the revised hunting language previously described is appropriate because:

- The National Wildlife Refuge System Improvement Act specifically directs the Service to “provide increased opportunities for families to experience compatible wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting”;
- a dedicated youth hunt is not currently provided on the refuge; and,

- any adverse impacts a youth hunt would have on wildlife viewing, interpretation, and photography opportunities would be minor considering the limited geographic scope (the western half of the area), duration (9 days per year), timing (November – March), and overall low harvest numbers of grouse and hares.

Skilak Loop Road Maintenance

My decision to revise the language for the Skilak Loop Road as described in Alternative B of the Draft Plan and EA is due to the results of the analysis conducted for the proposed action and concerns raised by members of the general public. Of particular interest to the Service is the impact the action might have on wildlife.

I believe the revised Skilak Loop Road maintenance language previously described is appropriate because:

- Actions taken to hard surface the road (i.e., chip seal, pave, etc.) would not be implemented unless further environmental review and analysis is conducted and additional opportunities for public comment specific to the action would take place before any decision is made;
- not paving the road would have limited adverse impact on wildlife viewing, interpretation, photography, and other wildlife-dependent recreation opportunities; and,
- the potential for beneficial impacts on wildlife is desired.

In short, I believe a modified version of Alternative B is the best approach to take to make the Skilak WRA a premier wildlife recreation area with enhanced opportunities for wildlife viewing, interpretation, and photography for present and future generations.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT

The following summary reviews impact considerations associated with implementing Alternative B (Preferred Alternative) with modifications. The EA provides detailed consideration of the factors supporting the determination of non-significance.

Air Quality

Impacts were qualitatively assessed using air pollution emissions as indicators. Under modified Alternative B, air quality will decline throughout the Skilak Loop Road and Vegetation Management Drive corridors throughout the life of the plan, and at burn site locations for relatively short periods of time when such activities are conducted. Air quality benefits obtained from paving the Skilak Loop Road (i.e., reduction of particulate matter) will not be realized. However, regionally, throughout the Skilak WRA, air quality will not be adversely affected.

Soil Resources

Impacts were qualitatively assessed using physical soil characteristics as indicators. Under modified Alternative B, physical soil characteristics will decline at construction sites and throughout the Skilak Loop Road and Vegetation Management Drive corridors throughout the life of the plan, and at burn sites for relatively short periods of time. Adverse impacts resulting from paving the Skilak Loop Road (i.e., compaction, loss of function, etc.) will not occur because of modifications made to Alternative B. Regionally, throughout the Skilak WRA, soils will not be adversely affected.

Water Quality
Impacts were qualitatively assessed using sedimentation and non-point source pollution as indicators. Under modified Alternative B, improved road maintenance will not likely affect water quality beyond current conditions.

Vegetation (Wildlife Habitat)
Impacts were quantitatively assessed using acres of habitat lost as an indicator. Under modified Alternative B, the amount of habitat will be reduced at construction sites, and trail and road corridors throughout the life of the plan, and at burn sites for relatively short periods of time. Adverse impacts resulting from trail and other public use facility construction at Bottenintnin Lake and along the north shore of Skilak Lake will not occur. Regionally, throughout the Skilak WRA, habitat will not be adversely affected.

Wildlife
Impacts were qualitatively assessed using abundance as an indicator. Under modified Alternative B, wildlife abundance of some species will decline at project sites including facility development sites, and trail and road corridors throughout the life of the plan due to impacts associated with construction, habitat loss, and public use disturbance. Additional declines will be observed at burn sites for relatively short periods of time due to changes in habitat condition, but as succession occurs abundance of some species will improve. Individuals of snowshoe hare, and spruce and ruffed grouse will be taken in the western portion of the area due to implementation of a youth hunt. Adverse impacts resulting from trail construction around Bottenintnin Lake and along the north shore of Skilak Lake; and from paving the Skilak Loop Drive will not occur due to modifications made to Alternative B. Regionally, throughout the Skilak WRA, wildlife abundance will not be adversely affected.

Public Access
Impacts were qualitatively assessed using number and condition of access-related facilities as indicators. Under modified Alternative B, public access will improve throughout the life of the plan and into the future at locations where new boat launches, parking areas, roads, and trails are constructed. Beneficial impacts resulting from trail construction around Bottenintnin Lake and along the north shore of Skilak Lake will not occur due to modifications made to Alternative B. Regionally, throughout the Skilak WRA, public access will improve from implementing the action.

Recreation Opportunities
Impacts were qualitatively assessed using number and type of public use facilities, and diversity of recreation activities available as indicators. Under modified Alternative B, a diversity of recreation opportunities including wildlife viewing, environmental education, interpretation, hunting, and camping will improve throughout the life of the plan and into the future at locations where new facilities are constructed and new programs are implemented. Although implementation of a youth hunt will further diversify the types of recreation opportunities provided for in the area, some non-consumptive recreation users (i.e., wildlife viewers, etc.) may be displaced in the western portion of the area during the hunt. Beneficial impacts resulting from development of a day use facility at Bottenintnin Lake will not occur due to modifications made to Alternative B. Regionally, throughout the Skilak WRA, recreation opportunities will improve

from implementing the action.

CONCLUSION

Based on the analysis documented in the environmental assessment and as amended by this decision notice due to modifications made to Alternative B, and with due consideration given to comments from the public and through consultation with the State of Alaska, I have determined that the selected alternative, with modification, does not constitute a major federal action that will have a significant effect on the quality of the human environment, and will not violate any federal, state, or local environmental protection law. Based on the foregoing, it is determined that an environmental impact statement is not required for this project. The selected alternative, with modification, may be implemented as soon as practicable.

Recommended: __/s/_____12/6/06_____

Robin L. West, Refuge Manager — Date

Kenai National Wildlife Refuge

Approved: __/s/_____12/7/06____

Thomas O. Melius, Regional Director — Date

U.S. Fish and Wildlife Service

Errata Sheet

Page 4 – Coordination with the State of Alaska

The paragraph will read:

> In 1982, the U.S. Fish and Wildlife Service (Service) and the Alaska Department of Fish and Game (ADF&G) signed a Master Memorandum of Understanding that defines the cooperative management roles of each agency and identifies the framework for cooperation between the two agencies. In this agreement the agencies recognized the Service as the agency with the responsibility to conserve fish and wildlife and their habitats and regulate human use on Service lands. The ADF&G was recognized as the agency with the primary responsibility to manage fish and resident wildlife within the State of Alaska. Furthermore, the Department agreed to manage fish and resident wildlife populations in their natural diversity on Service lands. The Service and ADF&G share a concern for all fish and wildlife resources and their habitats, and both agencies are engaged in extensive fish and wildlife conservation, management, and protection programs.

Response to Substantive Comments
Not Addressed in the Decision

Compatibility Determinations

Comment: Defenders of Wildlife stated: "Every proposal within the Plan is a new or expanded use, or infrastructure that supports a use of the KNWR and thus requires a compatibility determination. The FWS is required to allow the public an opportunity to review compatibility determinations."

Response: The National Wildlife Refuge Administration Act of 1966, as amended, requires that all uses of national wildlife refuges be determined to be compatible with the specific mandated purposes of the refuge, and National Wildlife Refuge System mission, before being permitted. The Act also allows that compatibility determinations in existence on October 9, 1997, may remain in effect until and unless modified, except that wildlife-dependent recreational uses (such as hunting and wildlife viewing) must be re-evaluated at least every 15 years and in concert with revisions of comprehensive conservation plans, and non-wildlife dependent recreational uses must be re-evaluated at least every 10 years. Additionally, compatibility determinations are also to be revised when conditions under which the use occurs change significantly. Current wildlife-dependent recreational use compatibility determinations for Kenai NWR do not expire until 2012; however, all compatibility determinations on the Refuge are being revised as part of completing a revised comprehensive conservation plan. These should be available for public comment within a few months. The proposed changes to public uses included in the Skilak WRA Draft Plan were not deemed significant by themselves, when viewing the Refuge as a whole, to warrant new compatibility reviews specific to this small portion of the Refuge.

Invasive Species

Comment: The Service received numerous comments from conservation organizations and members of the general public about the increasing threat of invasive species due to additional facilities development and public use.

Response: The Service agrees invasive species are a threat and that facilities development and pubic use may facilitate establishment of new populations. The Service will continue ongoing efforts to monitor invasive species and take appropriate actions, as needed, to counter adverse impacts associated with them.

Skilak Loop Road

Comment: The State of Alaska questioned average daily traffic figures: "The first paragraph cites average daily traffic figures from DOT/PF [Department of Transportation and Public Facilities]. This average daily use represents primarily peak summer use along the short, eastern segment of the road, and cannot be extrapolated to create a year around traffic estimate.

Response: The Service agrees that the data obtained from DOT/PF was collected at the intersection of the Skilak Lake Road and Hidden Lake Road (MP 15.3) in the eastern portion of the Skilak WRA, but according to DOT/PF in their *Annual Traffic Volume Report* "raw data from coverage counts [is] *adjusted for seasonal variation* [emphasis added] [and] is the basis for determining" annual average daily traffic figures. DOT/PF collects data at three additional sites

along the Skilak Lake Road: at the junction with the Upper Skilak Campground Road (MP 10.4), Lower Skilak Campground Road (MP 5.2), and Sterling Highway (MP 0). According to DOT/PF data, annual average daily traffic figures at each point along the Skilak Lake Road, except at the junction with the Lower Skilak Campground Road, have increased between 1996 and 2004. The Service contends the plan accurately demonstrates increasing use of the road.

Vegetation Management

Comment: The State of Alaska requested "the final plan clarify that implementation will be fully linked to the moose population objectives developed by the Service and ADF&G to provide for healthy moose populations as well as opportunities for recreation."

Response: The Service contends it currently has the financial and human resources to conduct vegetation management activities on approximately 50 – 100 acres/year when conditions allow, but it does not believe such activities are sufficient to influence moose populations.

Appendix B

DECISION NOTICE (amended)
FINDING OF NO SIGNIFICANT IMPACT

SKILAK WILDLIFE RECREATION AREA MANAGEMENT PLAN
KENAI NATIONAL WILDLIFE REFUGE
U. S. FISH AND WILDLIFE SERVICE

Decision

Based on the my desire to provide consistency in regulation between the U.S. Fish and Wildlife Service (Service) and the State of Alaska (State), and to continue the management of Skilak Wildlife Recreation Area (Skilak WRA) under the recently completed Skilak WRA Final Management Plan, it is my decision to amend the *Administrative Boundaries* and *Hunting Opportunities* sections of the Decision Notice Finding of No Significant Impact for the Skilak WRA Management Plan (dated December 7, 2006) as described in the following two paragraphs.

Administrative Boundaries: The 497 new acres encompassed within the Skilak WRA Final Management Plan will not be included. The boundary will remain as it was in Alternative A of the environmental assessment.

Hunting Opportunities: In addition to the permitted moose hunt and small game archery hunt allowed under Alternative B, a youth hunt for small game will be open for a period of 18 days between November 1 and March 1 each year. Standard 22 caliber rim fire or shotgun will be allowed for small game species as defined by State of Alaska regulations. The open area remains that area west of the Seven Lakes Trail. The hunt will be open to youth hunters 16 years old or younger accompanied by a licensed hunter who has successfully completed a certified hunter education course if the youth has not, and who is 18 years old or older.

I find that my amended decision is within the range of alternatives evaluated in the environmental assessment (EA). Alternative C proposed hunting in the Skilak WRA as a general entry firearm hunt of small game and fur animals on 35,570 acres and prohibited hunting on 17,180 acres to ensure public safety. The boundary of the Skilak WRA will remain as described in Alternative A. I find that these changes will have no significant impact to the human environment. I also find that these changes will add to the Service's ability to manage the Skilak WRA in a cooperative manner to meet public needs and the State's management objectives.

Rationale for Amended Decision

On December 7, 2006, I adopted a modified version of Alternative B (preferred alternative) of the EA that analyzed alternatives for management of the Skilak WRA on the Kenai National Wildlife Refuge. The *Hunting Opportunities* section of that decision states that the *"specifics of the hunt will be determined through a cooperative effort with the Alaska Department of Fish and*

Game and implemented, if possible, through the Alaska Board of Game regulations." This statement is supported by a Master Memorandum of Understanding between the Service and the State. Wherein the Service agrees to use the State's regulatory process to the maximum extent allowed by Federal law in developing new or modified existing Federal Regulations or proposing changes in existing Federal regulations governing or effecting the taking of fish or wildlife on Service lands in Alaska.

The Finding of No Significant Impact of December 7, 2006 was made without the ability to know what action if any would be taken by the Alaska Board of Game. Knowing now what the Board of Game decision is, I believe the public interest will be best served by providing the consistency in Federal and State rules described above.

____/s/_____ _____May 11, 2007_____

Thomas O. Melius, Regional Director Date

U.S. Fish and Wildlife Service, Alaska Region

Appendix C

Alaska Board of Game Regulatory Proposal

ALASKA BOARD OF FISHERIES AND ALASKA BOARD OF GAME
REGULATION PROPOSAL FORM
PO BOX 25526, JUNEAU, ALASKA 99802-5526

BOARD OF FISHERIES REGULATIONS

☐ Fishing Area

☐ Subsistence ☐ Personal Use

☐ Sport ☐ Commercial

JOINT BOARD REGULATIONS

☐ Advisory Committee ☐ Regional Council ☐ Rural

BOARD OF GAME REGULATIONS

Game Management Unit (GMU) 15A

☒ Hunting ☐ Trapping

☐ Subsistence ☐ Other

☒ Resident

☒ Nonresident

Please answer all questions to the best of your ability. All answers will be printed in the proposal packets along with the proposer's name (address and phone numbers will not be published). Use separate forms for each proposal.

1. Alaska Administrative Code Number
5 AAC

Regulation Book Page No. 70

2. What is the problem you would like the Board to address?
On Thursday, December 7, 2006, the U.S. Fish and Wildlife Service's (USFWS) Regional Director signed a Decision Notice – a Finding of No Significant Impact (FONSI) – for the Skilak Wildlife Recreation Area (Skilak WRA) Draft Management Plan and Environmental Assessment. Pursuant to the plan, the USFWS is seeking Board of Game action to implement hunting regulations proposed for the area. The proposal, as submitted, has been developed in cooperation with Alaska Department of Fish and Game (ADF&G) representatives and is supported by the USFWS Alaska Regional Director and ADF&G Commissioner.

3. What will happen if this problem is not solved?
Should the Board not make the proposed changes, new youth hunting opportunities may not be realized.

4. What solution do you prefer? In other words, if the Board adopted your solution, what would the new regulation say?
Hunting regulations for the Skilak WRA adopted in 1987 (small game hunting by bow and arrow from October 1 to March 1, and moose hunting by permit when certain conditions are met) would continue. In addition, a shotgun only youth hunt of hare and grouse is allowed up to a nine day period between November and March west of the Seven Lakes Trail. The boundary description for the Skilak WRA would also change and add 497-acres of land adjacent to the Kenai River. The proposed new language to describe this State restricted area would be:

"Skilak Wildlife Recreation Area [SKILAK LOOP MANAGEMENT AREA] – bounded by a line at the eastern most boundary of the Kenai National Wildlife Refuge (Mile 55 Sterling Highway) [BOUNDED BY A LINE BEGINNING AT THE EASTERNMOST JUNCTION OF THE STERLING HIGHWAY AND THE SKILAK LOOP ROAD (MILE 58), then southerly along the south bank of the Kenai River to its confluence with Skilak Lake, then westerly along the north shore of Skilak Lake to Lower Skilak Lake campground, then northerly along the Lower Skilak Lake campground road and the Skilak Loop Road to its westernmost junction with the Sterling Highway (Mile 75.1), then easterly along the Sterling Highway to the point of beginning, is closed to hunting and trapping except that small game may be taken from

October 1 through March 1 by bow and arrow only and moose by permit only. In addition, that portion of the area west of a line from the access road from the Sterling Highway to Kelly Lake, the Seven Lakes Trail, and the access road from Engineer Lake to Skilak Lake Road, and north of the Skilak Lake Road, is open to hunting of hare and grouse for nine consecutive days beginning on the first Saturday in November each year by hunters between the ages of 10 and 17. Eligible hunters must have a Basic Hunter Education Certificate and be accompanied by an adult 18 years old or older. Only the youth may hunt and only shotguns using size 4 birdshot or smaller may be used. The daily bag limit is 5 snowshoe hare, 5 spruce grouse, and 1 ruffed grouse for the youth hunt."

5. Does your proposal address improving the quality of the resource harvested or products produced? If so, how?
The proposed changes allow for limited additional hunting opportunities in the area without significantly impacting the primary objectives of the area of managing for enhanced wildlife viewing opportunities.

6. Solutions to difficult problems benefit some people and hurt others:

A. Who is likely to benefit if your solution is adopted?
Young hunters will have a new area to hunt.

B. Who is likely to suffer if your solution is adopted?
Other users in the area at the time the hunt is offered will likely include ice fishermen, dog mushers, and winter hikers and skiers.

7. List any other solutions you considered and why you rejected them.
The Skilak Wildlife Recreation Area Management Plan is the result of over a year of efforts between the USFWS and ADF&G and replaces the current management plan for the area. Other alternatives were evaluated including status quo management (no additional hunting opportunities) and opening over half of the area to small game and fur animal hunting with firearms by all hunters. Additionally, alternatives evaluated other boundary adjustments and a variety of facility development scenarios. The preferred alternative of the Draft Plan, at the request of the State of Alaska, was amended to include the youth hunt opportunity and only one minor boundary extension (497-acres to the east vs. the proposed addition of the 497-acres plus 8,243-acres to the west of Skilak Lake Road to the westernmost refuge boundary).

DO NOT WRITE HERE

Submitted By: U.S. Fish and Wildlife Service

Todd Logan, Regional Chief, National Wildlife Refuge System /s/ 12/8/06

Individual or Group

1011 E. Tudor Road	Anchorage, AK	99503-6199
Address	**City, State**	**ZIP Code**

	(907) 786-3667	Todd_logan@fws.gov
Home Phone	**Work Phone**	**Email**

Appendix D

NOTICE OF ADOPTION OF EMERGENCY REGULATIONS
OF ALASKA BOARD OF GAME

On April 17, 2007, the Board of Game adopted as emergency regulations changes in Title 5 of the Alaska Administrative Code dealing with small game hunting in the Skilak Loop Wildlife Management Area, as follows:

> 5 AAC 92.530(6)(B) is changed to allow the taking of small game by standard .22 caliber rimfire firearm and shotgun in a portion of the Skilak Loop Wildlife Management Area during season dates as set by the board, by youth hunters 16 years old or younger if accompanied by a licensed hunter 18 years or older who has successfully completed a certified hunter education course if the youth has not.

The emergency regulations take effect July 1, 2007 and will expire October 28, 2007. The Alaska Board of Game intends to make the emergency regulations permanent at a tentative meeting scheduled for October 4, 2007 in Anchorage Alaska. The notice of the meeting and the tentative agenda will be provided at a later date. The board will not take oral testimony during the meeting.

You may comment on the regulation changes, including the potential costs to private persons of complying with the changes, by submitting written comments to the Alaska Board of Game, Board Support Section, at P.O. Box 115526, Juneau, AK 99811-5526. Comments may also be submitted by fax to (907) 465-6094. Comments will be accepted at any time prior to the time the board considers the action regarding the regulation changes, but to ensure distribution to board members, comments should be submitted to the above address or fax number by 5:00 p.m. September 28, 2007. Written comments that are submitted are public record and are subject to public inspection.

If you are a person with a disability who needs a special accommodation in order to participate in this process, please contact Olivia Orsborn at (907) 465-4110 no later than September 21, 2007 to ensure that any necessary accommodations can be provided.

For a copy of the emergency regulations, contact the board at the address above or go to the Board Support website at: www.boards.adfg.state.ak.us.

The language of the permanent regulations may be different from that of the original emergency regulations, and may include other provisions dealing with the same subject. YOU SHOULD COMMENT DURING THE TIME ALLOWED IF YOUR INTERESTS COULD BE AFFECTED.

Statutory Authority: AS 16.05.255; 16.05.258
Statutes Being Implemented, Interpreted, or Made Specific: AS 16.05.255; 16.05.258
Fiscal Information: The regulations are not expected to require an increased appropriation.

DATE: May 3, 2007

Kristy Tibbles

Kristy Tibbles, Executive Director
Alaska Board of Game

Appendix E: Preparers

Name	Agency / Title	Expertise / Function	Degree(s)	Experience (Yrs)
Rob Campellone	USFWS Regional Office / Natural Resources Planner	Planning Team Leader	BS Environmental Science MS Natural Resources Management	Natural Resources Planning (10), Land Management (3)
Brian Glaspell	USFWS Regional Office / Social Scientist	Recreation Management	BS Geography MS Natural Resources Management PhD Recreation / Wilderness Management	Social Aspects of Public Land and Natural Resources Management (12)
Bill Kent	USFWS Kenai Refuge / Supervisory Park Ranger	Visitor Services Management	BS Outdoor Recreation / Park Management	Refuge Recreation Management and Law Enforcement (27)
Mark Laker	USFWS Kenai Refuge / Ecologist / Biometrician	GIS Analysis	BS Marine Biology MS Fish Biology	Fish and Wildlife Biologist (8), Ecologist (7)
Thomas McDonough	ADF&G / Wildlife Biologist	Wildlife Biology	BS Zoology MS Wildlife Biology	Wildlife Biology and Management (16)
Debbie Steen	USFWS Regional Office / Chief of Visitor Services	Visitor Services Specialist	BS Forestry BS Recreation Management BS Natural Resources Management	Natural Resources Management (5), Recreation Management (13), Management (4)
George Weekley	ADF&G / Natural Resources Specialist	State Coordination / Recreation Management	BS Environmental Science MS Recreation / Natural Resources Management	Natural Resources Management (6)

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Kenai National Wildlife Refuge
2139 Ski Hill Road
P.O. Box 2139
Soldotna, Alaska 99669-2139
http://kenai.fws.gov

May 2007