

# Compatibility Determination

## Title

Compatibility Determination for Camping

## Refuge Use Category

Recreation

## Refuge Use Type

Camping

## Refuge

Kenai National Wildlife Refuge

## Refuge Purposes and Establishing and Acquisition Authorities

Franklin D. Roosevelt established the Kenai National Moose Range (Moose Range) on December 16, 1941, for the purpose of “. . . protecting the natural breeding and feeding range of the giant Kenai moose on the Kenai Peninsula, Alaska, which in this area presents a unique wildlife feature and an unusual opportunity for the study, in its natural environment, of the practical management of a big-game species that has considerable local economic value...” (Executive Order 8979).

The Alaska National Interest Lands Conservation Act (ANILCA) substantially affected the Moose Range by modifying its boundaries and broadening its purposes to include conservation of a broad array of fish, wildlife, and habitats in their natural diversity, meeting international treaty obligations, protection of water quality and quantity, and providing opportunities for scientific research, land management training, and educational and recreational activities. ANILCA also redesignated the Moose Range as the Kenai National Wildlife Refuge (Refuge), added nearly a quarter of a million acres of land, and established the 1.32-million acre (534,349 hectare) Kenai Wilderness.

ANILCA sets out purposes for each refuge in Alaska. The ANILCA purposes of the Refuge are described in Section 303(4)(B) of the Act. ANILCA purposes for the Refuge are as follows:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to moose, bears, mountain goats, Dall sheep, wolves and other furbearers, salmonoids and other fish, waterfowl and other migratory and nonmigratory birds;

- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the Refuge;
- (iv) to provide, in a manner consistent with subparagraphs (i) and (ii), opportunities for scientific research, interpretation, environmental education, and land management training; and
- (v) to provide, in a manner compatible with these purposes, opportunities for fish and wildlife-oriented recreation.

Policy (FWS 603 2.8) directs that pre-ANILCA purposes remain in force and effect, except to the extent that they may be inconsistent with ANILCA or the Alaska Native Claims Settlement Act, and that such purposes only apply to those areas of the Refuge in existence prior to ANILCA. The Executive Order purpose to protect Kenai moose, however, is treated as complementary to the broader ANILCA purpose of conserving fish and wildlife populations; therefore, no special attention is given the Executive Order purpose in this compatibility review process.

ANILCA designated approximately 1,350,000 acres of the Refuge as wilderness. Except as otherwise expressly provided for in ANILCA, designated wilderness is to be administered in accordance with applicable provisions of the Wilderness Act of 1964 (Public Law 88-577). Section 4.(3)(b) of the Wilderness Act provides, "Except as otherwise provided in this chapter, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise noted in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use."

## **National Wildlife Refuge System Mission**

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57, 111 Stat. 1252).

## Description of Use

Is this an existing use?

Yes

This compatibility determination reviews and supersedes the 2007 compatibility determination for Camping. Camping has occurred on the refuge since establishment. Early camping occurred primarily by hunters and anglers in the pursuit of their selected species. The first records of recreational camping occurred during World War II when the Skilak Military Recreation Site at the outlet of Skilak Lake was built in the early-1940s. The Seward Army Recreational Center also provided camping facilities at Hidden Lake (USFWS 2007).

Access was difficult to the western Kenai Peninsula until a gravel road connecting the western portion of the Kenai Peninsula with the Anchorage area in 1948. With the discovery of oil on the Peninsula in the 1950s, the road was eventually paved in 1956. One result of these road improvements was an increase in recreational use on the Peninsula, including camping. In 1964, there were reported to be 11 campgrounds near the Skilak Lake Road and Sterling Highway corridors within the Refuge (DOI 1964), with all being at capacity during the summer.

What is the use?

We allow the use of camping (overnight stay) on the Refuge. Camping takes many forms, from the bivouac wilderness backcountry stay without tent or sleeping bag to camping using advanced gear, tent platforms and other shelters. Camping on the Refuge also encompasses the near full amenity stay in a modern recreational vehicle or trailer at a developed campground in front country settings.

Developed campgrounds are road accessible by vehicle, but dispersed camping typically requires uses such as canoeing/kayaking, hiking/skiing/snowshoeing, horseback riding, use of motorboats, use of airplanes, and/or use of snowmachines for transportation to and from camping locations. These means of access and other uses are not evaluated in this compatibility determination but are evaluated in their respective compatibility determinations.

This use does not include the commercial use of tent platforms associated with outfitters and guides. This commercial use will be evaluated in a commercial services compatibility determination.

Is the use a priority public use?

No.

## Where would the use be conducted?

The Refuge lies on the western Kenai Peninsula (Peninsula). This 10,039-square-mile (26,000-square-kilometer) Peninsula is connected to mainland Alaska by a 10-mile (16-kilometer) wide isthmus and is flanked by Prince William Sound to the east, Cook Inlet to the north and west, and the Gulf of Alaska to the south.

Flora and fauna on the Refuge are unusually diverse for this latitude because of the juxtaposition of two biomes on the Peninsula: the northern fringe of the Sitka spruce-dominated coastal rainforest on the eastern side of the Kenai Mountains and the westernmost reach of boreal forest in North America on the western side of the Kenai Mountains. The forests on the Refuge are dominated by white and black spruce with an admixture of aspen and birch. Extensive peatlands are interspersed among spruce in the Kenai Lowlands on the northern part of the Refuge. Lichen-dominated tundra replaces hemlock and subalpine shrub above tree line in the Kenai Mountains and Caribou Hills.

The eastern one-third of the Refuge lies within the Kenai Mountains, which range in elevation from 3,000–6,600 feet (900–1,800 meters). The mountains are heavily glaciated, and many of the high valleys are buried beneath the vast Harding Icefield, which covers approximately 720 square miles (1,865 square kilometers) at elevations of 4,000–5,300 feet (1,200–1,600 meters). The remaining two-thirds of the Refuge lie in the Kenai Lowlands, which is part of the Cook Inlet–Susitna Lowlands. These lowlands consist of ground moraine and stagnant ice terrain with low ridges, hills, and muskeg.

The Kenai River flows through the Refuge and drains much of it. Other primary watersheds include those of the Swanson River, Chickaloon River, and Kasilof River. There are thousands of lakes on the Kenai Peninsula—nearly all of them are on the Refuge. The largest are two glacial lakes, Tustumena Lake (73,000 acres or 29,500 hectares) and Skilak Lake (25,000 acres or 10,110 hectares). More than 4,600 smaller lakes dot the Refuge, mostly in the Moose, Swanson, and Chickaloon river drainages.

The Refuge has documented 1,086 species of flora and fauna: 151 birds, 20 fish, 30 mammals, 164 arthropods, 484 vascular plants, 97 fungi, 35 lichens, 14 liverworts, 90 mosses, and 1,139 other terrestrial and aquatic invertebrates. Eighteen formations have been classified on the Refuge under the National Vegetation Classification System.

The Refuge now hosts more than 1 million annual visitor use days, and an estimated 300,000 visitors spend extended periods of time on the Refuge enjoying a variety of outdoor activities, including fishing, hunting, wildlife viewing and photography, hiking, camping, skiing, canoeing and river floating. Refuge environmental education and interpretive programs provide education and outreach to over

12,000 students and/or visitors annually.

A more detailed description of the Refuge environment is found in the 2010 Revised Comprehensive Conservation Plan (USFWS 2010).

### When would the use be conducted?

The majority of camping activity occurs from April through October each year, but winter camping does take place. During the summer, many developed campgrounds are filled to capacity. Holiday weekends and the height of the summer fishing season are the busiest periods at many developed campgrounds.

### How would the use be conducted?

Most camping on the Refuge falls within two general categories: front-country and backcountry. In the front-country camping occurs in both developed campgrounds and in dispersed, non-designated sites. Both tent camping and the use of recreational vehicles occurs in developed campgrounds. In the backcountry most camping is done with the support of tents and/or tarps, both at well hardened sites that have seen repeated use over many years, and newly pioneered sites that are used rarely or used only once.

The Refuge has three large fee campgrounds. The Russian River facility provides for travel trailers and RVs (86 sites) but not for tent camping (Table 2 and Figure 1). This is the site of the Russian River Ferry which is operated by a Refuge contractor. The area is open in summer while popular fisheries are underway and is staffed by contract employees 24-hours a day while open. The current nightly fee is \$12.00 or \$15.00 depending on size of the vehicle. The remaining two fee campgrounds are within the Skilak Wildlife Recreation Area (WRA) of the Refuge. Upper Skilak Lake campground has both walk-in tent sites (\$5 per night) and drive up RV sites (\$10 per night) and Hidden Lake Campground which has 44 sites available at \$10 per night (Table 1 and Figure 1). Golden Age and Golden Access Passports do reduce fees by 50% in areas where the Refuge charges for camping. Campground fees were reassessed during 2023 and a new fee structure has been proposed but not yet approved and instituted.

There are seven additional smaller campgrounds within the Skilak WRA. These are free to the public but have fewer amenities including lack of trash pick up (Table 3 and Figure 1).

**Table 1. Skilak Wildlife Recreation Area Fee Campgrounds**

Campground	Number of Sites	Water (Available but should be boiled or treated)	Toilets	Trash Pickup	Boat Launch
Upper Skilak Lake	25	Yes	Yes	Yes	Yes
Hidden Lake	44	Yes	Yes	Yes	Yes

**Table 2. Other Campgrounds with Fee**

Campground	Number of Sites	Water (Available but should be boiled or treated)	Toilets	Trash Pickup	Boat Launch
Russian River Ferry	86	Yes	Yes	Yes	Yes

**Table 3. Skilak Wildlife Recreation Area Campgrounds with No Fee**

Campground	Number of Sites	Water (Available but should be boiled or treated)	Toilets	Trash Pickup	Boat Launch
Jean Lake	3	No	Yes	No	Yes
Kelly Lake	6	Yes	Yes	No	Yes
Petersen Lake	6	Yes	Yes	No	No
Watson Lake	3	Yes	Yes	No	Yes
Lower Skilak Lake	14	Yes	Yes	No	Yes
Engineer Lake	3	Yes	Yes	No	Yes
Lower Ohmer Lake	3	No	Yes	No	No

Within the Swanson River/Swan Lake area there are several additional developed campgrounds and campsites that are free of charge (Table 4 & Fig. 2). These sites have picnic tables, fire grates, and toilet facilities but no trash pick up.

**Table 4. Swanson River/Swan Lake Area Campgrounds with No Fee**

Campground	Number of Sites	Water (Available but should be boiled or treated)	Toilets	Trash Pickup	Boat Launch
Dolly Varden Lake	13	Yes	Yes	No	Yes
Rainbow Lake	6	Yes	Yes	No	Yes
Swanson River	6	No	Yes	No	No
Fish Lake	1	No	Yes	No	No
Little Merganser Lake	1	No	Yes	No	Yes

Popular backcountry camping areas include the Swan Lake and Swanson River Canoe Trails Systems, the benchlands between Tustumena and Skilak lakes, and along the Kenai River. Access to the Canoe Systems is mostly by individuals and small groups paddling and portaging for a day or two at a time, although week-long or multiple week trips are not uncommon. The benchlands are popular with wilderness hikers and hunters and are accessed by boat, foot, horseback, or from aircraft at designated lakes. Backcountry camps are generally minimalist in nature utilizing small tents, light-weight stoves, and dried foods. One exception to this can be the horse-packing trips where weight is less a concern and travelers may stay longer or may need more protection from the weather during extended fall hunting trips.

Along the Upper Kenai River within the Refuge, camping within 100 yards of the river is prohibited by refuge-specific regulation (50 CFR 36.39) except at 10 designated campsites (Figure 3).

All campsites, including fee areas, are currently available on a first-come-first-served basis. The Refuge is currently evaluating placing some campsites within our fee areas under a reservation system where visitors could be insured of a site in advance.

Campers must police their areas well and keep fish waste and other garbage out of the campsites. For those free sites without trash pick up, campers must haul out their own garbage. This remains an ongoing educational and enforcement issue.

Camping may not exceed 14 days in a 30-day period anywhere on the Refuge. The limit for stays at the Russian River Ferry Campground is 2 consecutive days and no more than 7 consecutive days are allowed at the Hidden Lake Campground. Campers may spend no more than 3 consecutive nights at any one of the 10

designated primitive campsites along the Upper Kenai River (from river mile 73 to its confluence with Skilak Lake (river mile 65)).

Dispersed front and backcountry camping in non-designated sites is permitted anywhere on the Refuge except within ¼ mile of the Sterling Highway, Skilak Lake Road, and Ski Hill Road and within 100 yards of the Upper Kenai River except at designated primitive campsites. Dispersed camping is popular along the Kenai River below Skilak Lake although issues with human waste accumulation, hardening of sites and violations of consecutive days of camping have either been observed or reported. Ongoing education and enforcement are needed to address these issues.

Fires are allowed unless seasonal restrictions are in effect. Within campgrounds, fires are restricted to designated fire grates, barbecues, or stoves. Fires must be attended at all times and completely extinguished before leaving. Only down and dead firewood may be collected.

### **Why is this use being reevaluated?**

Camping by the public is an existing use that is being reevaluated subject to 603 FW 2.11 (H). A Refuge Manager may reevaluate the compatibility of existing uses at any time. Non-wildlife-dependent recreational uses should be reevaluated at least every 10 years. The compatibility of this use is being reviewed to meet the minimum reevaluation requirement.

Camping and established Refuge campgrounds facilitate a variety of public uses on the Refuge including hunting, fishing, wildlife viewing, photography, camping, hiking, skiing, snowshoeing, trapping, boating, snowmachining, and other related outdoor recreational uses. Camping also helps facilitate gathering and harvest of wild foods for subsistence purposes. These activities would take place in the absence of camping opportunities, but use levels, locations of use, safety, harvest success and the enjoyment of the experience may all be positively impacted by the presence of campgrounds and opportunity for dispersed camping on the Refuge.

### **Availability of Resources**

Management of campgrounds and dispersed camping is accomplished by both permanent and seasonal staff. Funds generated through campground fees, at the two campgrounds within the Skilak WRA where a fee is charged (Table 1) assist the Refuge in the annual maintenance of these and other facilities. These fees do not provide sufficient funds to fully cover the salary of the seasonal employees who assist volunteer campground hosts in overseeing the safe and efficient operation of the campgrounds. These fees also do not fully cover salaries of permanent staff that conduct road and facility maintenance actions leading to, and within, campgrounds. Operational and maintenance funds are used to supplement the fees in order to maintain these facilities. The Refuge has not attempted to differentiate

the costs of annual and recurring maintenance of fee campgrounds and non-fee campgrounds. To date, through a combination of fees generated from camping fees and appropriated operational and maintenance funding, funds have been sufficient to conduct routine and recurrent administrative activities and maintenance.

The Russian River Ferry facility, which is operated under a commercial visitor service concession contract, includes RV camping. This facility is relatively self-sustaining in that the fees generated from all the facility's operations (entrance fee, camping, boat launch, and ferry) are sufficient to operate the facility and provide a minimal amount of funding to the Federal government each year.

Additional administrative costs associated with campgrounds are incurred for providing information on Refuge campgrounds to the public, routine law enforcement patrols, fire prevention patrols and educational materials, removal of hazard trees, and for monitoring and, if necessary, control of invasive plant species at campgrounds and heavily used dispersed camping sites conducted by Refuge biological staff.

### One-time costs

One-time expenses would be incurred if a new campground or major upgrade to an existing campground occurs. There are currently no plans to establish a new campground although increasing visitor use numbers and lack of space to accommodate campers at existing campgrounds may lead to one-time costs in the future. Costs of suppressing wildland fires associated with escaped campfires are directly related to success of initial attack efforts. While the vast majority of escaped campfires are successfully suppressed quickly and at relatively low cost, occasional large-scale wildland fires result requiring more suppression resources over longer periods of time and at much higher costs.

### Annual/recurring expenses

Labor associated with the maintenance and monitoring of campgrounds is the greatest expense associated with administering camping on the Refuge. Labor costs for seasonal park rangers to monitor use and collect fees, maintenance helper to maintain toilet facilities, law enforcement and fire prevention staff conducting patrols, and biological staff costs is estimated to total \$50,000 annually. An additional \$23,000 is needed to for pumping of vault toilets and for trash removal, \$12,000 is needed for annual maintenance supplies. Monitoring expenses total approximately \$10,000 which is primarily fuel for travel by truck/boat to and from campgrounds. Monitoring is needed to ensure safety of visitors and monitoring for invasive species and other habitat impacts. Recent spruce bark beetle outbreaks have resulted in an increased need for hazard tree removal in developed campgrounds to protect public safety. We expect that this will be a recurring need

for the foreseeable future. A minor amount of funds (less than \$150) is estimated for updating signage and brochures annually.

### Off-setting Revenue

From November 2020 to November 2021, fees of \$33,833 were generated from campground fees at the two paid campgrounds and \$12,000 generated through the Russian River Ferry and Campground operations.

**Table 5. Costs to Administer and Manage Camping**

Category and Itemization	One-time Cost	Recurring Annual Expenses
Develop signage and brochures	--	\$150
Staff time (LE, fire, administration and management)	--	\$60,000
Maintenance	--	\$12,000
Outhouse Pumping & Trash Removal	--	\$23,000
Monitoring	--	\$2,000
<b>Total recurring annual expenses</b>	--	<b>\$100,150</b>
<b>Offsetting revenues</b>		<b>-\$45,800</b>
<b>Total expenses</b>		<b>\$54,350</b>

## Anticipated Impacts of the Use

### Overview of Refuge Natural Resources

The Refuge lies on the western Kenai Peninsula (Peninsula). This 10,039-square-mile (26,000-square-kilometer) Peninsula is connected to mainland Alaska by a 10-mile (16-kilometer) wide isthmus and is flanked by Prince William Sound to the east, Cook Inlet to the north and west, and the Gulf of Alaska to the south.

Flora and fauna on the Refuge are unusually diverse for this latitude because of the juxtaposition of two biomes on the Peninsula: the northern fringe of the Sitka spruce-dominated coastal rainforest on the eastern side of the Kenai Mountains and the westernmost reach of boreal forest in North America on the western side of the Kenai Mountains. The forests on the Refuge are dominated by white and black spruce with an admixture of aspen and birch. Extensive peatlands are interspersed among spruce in the Kenai Lowlands on the northern part of the Refuge. Lichen-dominated tundra replaces hemlock and subalpine shrub above tree line in the Kenai Mountains and Caribou Hills.

The eastern one-third of the Refuge lies within the Kenai Mountains, which range in elevation from 3,000–6,600 feet (900–1,800 meters). The mountains are heavily glaciated, and many of the high valleys are buried beneath the vast Harding Icefield, which covers approximately 720 square miles (1,865 square kilometers) at elevations of 4,000–5,300 feet (1,200–1,600 meters). The remaining two-thirds of the Refuge lie in the Kenai Lowlands, which is part of the Cook Inlet–Susitna Lowlands. These lowlands consist of ground moraine and stagnant ice terrain with low ridges, hills, and muskeg.

The Kenai River flows through the Refuge and drains much of it. Other primary watersheds include those of the Swanson River, Chickaloon River, and Kasilof River. There are thousands of lakes on the Kenai Peninsula—nearly all of them are on the Refuge. The largest are two glacial lakes, Tustumena Lake (73,000 acres or 29,500 hectares) and Skilak Lake (25,000 acres or 10,110 hectares). More than 4,600 smaller lakes dot the Refuge, mostly in the Moose, Swanson, and Chickaloon river drainages.

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The Refuge now hosts more than 1 million annual visitor use days, and an estimated 300,000 visitors spend extended periods of time on the Refuge enjoying a variety of outdoor activities, including fishing, hunting, wildlife viewing and photography, camping, hiking, skiing, canoeing and river floating. Refuge environmental education and interpretive programs provide education and outreach to over 12,000 students and/or visitors annually.

A more detailed description of the Refuge environment is found in the 2010 Revised Comprehensive Conservation Plan, which can be found at the following website:

<https://www.fws.gov/alaska/pages/refuge-management/planning-policy/refuge-plans/list-refuge-plans#kenai>

The impacts of a use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the use. The environmental impacts of camping by the public has been generally reviewed in the 2010 Revised Comprehensive Conservation Plan/Environmental Impact Statement and in more detail in the Skilak Wildlife Recreation Area Revised Final Management Plan/Environmental Assessment (USFWS 2007). This compatibility determination includes a brief synopsis of the anticipated impacts of camping on refuge resources. Resources that are not likely to be affected or negligibly affected by camping on the refuge, and not addressed in this determination, include Threatened and Endangered species and air quality.

### Wildlife, Aquatic Resources and Habitats

Camping results in localized disturbance of wildlife and can affect wildlife movements and/or distributions. Certain wildlife species become habituated to human presence at heavily used camping areas and may become food conditioned through intentional or inadvertent feeding. Food conditioning typically has negative consequences to wildlife and public safety.

Visitation at campgrounds increases the potential for human-bear conflicts. Thus, while camping, we require visitors to follow stewardship practices that reduce opportunities for bears to receive an anthropogenic food reward. Food, including pet food, must be stored in bear-resistant storage containers or within vehicles. Campsites must be kept free of food waste and all garbage packed out at the end of the trip. We also recommend burning off any food on grills for ten minutes after use. For safety, we strongly recommend carrying bear spray and that people travel in groups of three or more and make noise when moving away from a campsite to reduce a surprise encounter with a bear.

Outside of developed campgrounds, camping at heavily used dispersed sites often results in loss of vegetation, soil compaction and hardening of camp sites. These impacts are generally of greatest concern along river and lake shorelines because of increased potential for erosion and loss of vegetation on stream and riverbanks which provides important habitat for wildlife and aquatic resources. To help reduce impacts to sensitive riparian vegetation along the upper Kenai River, where public use levels during summer and fall are among the highest on the Refuge, camping is restricted to 10 designated sites and otherwise to areas beyond 100 yards from the riverbank.

Cutting of green trees for use as firewood is prohibited by regulation but is a recurrent impact observed, particularly in developed campgrounds and at the most heavily used dispersed camping sites.

Escaped campfires are one of the primary sources of human-caused wildland fires on the Refuge. While most escaped campfires are caught and suppressed immediately, they were the likely ignition source for 2 large wildland fires on the Refuge in 1947 and 1969 which burned over 300,000 and 88,000 acres, respectively. Wildland fires of this magnitude affect refuge habitats and fish and wildlife resources, both positively and negatively. Refuge fire staff conduct regular patrols, provide public education and coordinate closely with the Alaska Division of Forestry and Fire Protection to reduce the potential for escaped campfires. During periods of high or extreme fire danger, short-term emergency restrictions on campfire use on the Refuge are occasionally implemented to mitigate risk.

Campers can unintentionally bring terrestrial and aquatic invasive species to camp sites as well as surrounding areas. Soil disturbance at heavily used sites creates conditions favorable for establishment of several invasive plant species found on the Refuge. Human vectors for invasive species include float planes, vehicle tires, horses, clothes, backpacks and shoes. The refuge routinely surveys for early detection, and treats areas, as necessary, around campgrounds, trails, lakes, streams, rivers, parking lots, and roadsides as part of recurrent efforts to prevent larger scale infestations and prevent encroachment of terrestrial and aquatic invasive species into areas of the Refuge currently free of them.

## Water quality

Dispersed camping in popular undeveloped areas often results in accumulation of human waste and littering with toilet paper. This impact is greatest where there are a limited number of elevated and dry campsites in low-lying areas such as the Swan Lake and Swanson River Canoe Trails Systems, along shorelines of accessible backcountry lakes and the Kenai River, and in other accessible and popular backcountry locations. Deposition of solid human waste within 100 feet of the annual mean high water level of any wetland, lake, pond, spring, river or stream and within 100 feet of another campsite or trail is prohibited. In the Swan Lake and Swanson River Canoe Systems, solid human waste must be buried at least six inches in depth. Particularly in popular backcountry areas such as along the upper and middle Kenai River, improper management of human waste and littering with toilet paper are recurrent impacts associated with camping that have the potential to impact water quality.

Camping at heavily used site leads to loss of vegetation, soil compaction and hardening of campsites. This loss of vegetation may result in soil erosion and negative impacts to water quality.

## Wilderness

Camping is a form of primitive recreation. Camping in remote backcountry areas of the Kenai Wilderness provides substantial opportunity for visitors to experience solitude in a wilderness setting. While there are no developed campgrounds within wilderness, use levels at more accessible and higher use locations within Kenai Wilderness may at times detract from these opportunities. While relatively few as compared to those applying to developed campgrounds, administrative regulations related to dispersed camping in backcountry areas do impact opportunities for unconfined recreation in the Kenai Wilderness. Nonetheless, restrictions including limits on length of stay and abandoned property, group size within the Swanson River and Swan Lake Canoe Trails Systems and promotion of Leave No Trace camping practices are important for maintaining and enhancing wilderness recreational opportunities and protecting wilderness character on this highly visited Refuge.

## Geology and Soils

Camping in popular undeveloped areas often results in soil hardening/compaction and loss of vegetation. This is often the case when there are a limited number of campsites that are elevated above wetland areas or in popular backcountry areas or areas having outstanding views. Vegetation loss may lead to erosion if the site is steep or near a moving body of water that may flood.

## Cultural Resources

Several popular and heavily used recreational areas on the Refuge, including those along the Kenai and Russian rivers, contain sensitive cultural resources which are negatively impacted by habitat degradation, littering and human waste issues resulting from these high use levels. Visitors camping on the Refuge, as a subset of all visitors using these areas, contribute to these impacts.

## Visitor Use and experience

Camping is an historic and ongoing activity integral to the use and enjoyment of the Refuge enjoyed by thousands of visitors each year. The activity is often conducted as part of another primary use, such as hunting and fishing, but is also a popular activity in and of itself.

Vandalism at campsites is a recurrent issue, particularly at developed campgrounds and negatively impacts other visitors. This often takes the form of shooting or carving trees, signs, or other facilities; graffiti, and damaging or stealing picnic

tables, fire grates, and signs. Petty theft in campgrounds is also a recurring problem.

## Subsistence

Opportunities for subsistence users to utilize developed campgrounds or camp throughout most of the Refuge help facilitate gathering and harvest of wild foods for subsistence purposes.

## Refuge Management Operations

Several large wildfires occurring on the Refuge during the past several decades were likely a result of escaped campfires, costing many millions of dollars to suppress. Refuge staff involvement is necessary and a priority during large wildland fire incidents, and as such normal refuge operations are impacted to varying degrees dependent upon complexity and duration.

## Potential impacts of Camping on the refuge's purposes and the Refuge System mission

Camping is an historic and ongoing activity integral to the use and enjoyment of the Refuge by many visitors.

### Short-term impacts

Wildlife - Impacts to wildlife at most backcountry camping sites would be considered short-term impacts given the limited number of days of use by the public at any one given location per year. Wildlife at most backcountry campsites would not likely change their movements or behavior with only minimal disturbance from the public utilizing these areas.

Wilderness - The presence of visitors participating in camping within the Kenai Wilderness, particularly in high use areas, may impact other users' opportunity to experience solitude. This impact would likely be short-term and is unlikely to have a long-term negative impact on a user's experience.

### Long-term impacts

Wildlife, aquatic resources, habitats and soils - Long-term impacts to wildlife may occur at any of the developed campgrounds. Some species of wildlife may avoid areas around these 13 campgrounds due to past and recurrent disturbance from visitors.

Human-bear conflicts arising from food conditioning, which increase risk to public safety and sometimes result in bear mortality through defense of life or property

takings or lethal management action by agencies, are an ongoing issue. Regulations regarding food storage are in place to reduce the potential for food-conditioning of bears and other wildlife. Public education and enforcement efforts by the Refuge and partner agencies further mitigate this impact.

Potential for introduction of invasive species by the public camping on the Refuge is a long-term impact which must be monitored regularly and mitigated for through treatment if necessary. The Refuge mitigates this impact by employing early detection and rapid response as part of an overall integrated pest management strategy. Focus is on control and prevention of large-scale infestations in high use areas where risk is greatest and preventing establishment in remote areas. Developed campgrounds are monitored annually while more remote sites are intermittently surveyed. Invasive species found are treated as necessary.

Outside of developed campgrounds, camping at heavily used dispersed sites often results in loss of vegetation, soil compaction and hardening of camp sites. Impacted river and lake shorelines increase the potential for erosion and loss of vegetation on stream and riverbanks which provides important habitat for wildlife and aquatic resources. To help reduce these localized impacts to sensitive riparian vegetation along the upper Kenai River, where public use levels during summer and fall are among the highest on the Refuge, camping is restricted to 10 designated sites and otherwise to areas beyond 100 yards from the riverbank. Bank closures established by the State of Alaska are also in place along sections of the Kenai River to protect sensitive habitats. The Refuge also may use its closure authority (50 CFR 36.42) in specific locations to allow impacted habitats to recover or actively restore them.

Water quality – All 13 developed campgrounds have pit toilets. The presence of a properly located outhouse away from waterways and waterbodies helps protect water quality over the long-term.

Accumulation of human waste and toilet paper litter in high use areas has long-term potential to impact water quality, particularly along the Kenai River and in the Swanson River and Swan Lake Canoe Trails System. The Refuge encourages use of newer technologies such as self-contained systems by which waste and toilet paper are removed and disposed of properly off-site to reduce human waste/littering and resulting impacts in more remote but high use areas where facilities are impractical. In certain areas of the Refuge with high undeveloped camping use (for example, along the upper and middle sections of the Kenai River), increased public education and enforcement of Refuge restrictions on deposition of waste within 100 feet of mean high water of streams and lakes are needed to reduce potential for these impacts.

Visitor use and experience – The wide range of opportunities to camp, from developed campgrounds to primitive sites, in a variety of front and backcountry locations on the Refuge enhances visitor use and experience, both as a stand-alone

activity and in facilitating numerous other recreational and subsistence activities. Condition of facilities and levels of compliance with regulations can and do impact visitor experience of the camping public, both positively and negatively. Regulations are in place to minimize conflicts between users and protect facilities, and monitoring, education and enforcement are necessary and help mitigate negative impacts.

## **Public Review and Comment**

Legal notice of the draft compatibility determination was published in the Anchorage Daily News on May 24, 2023 which initiated a 30-day public comment period. A notice was placed on the Refuge's website <<https://www.fws.gov/refuge/kenai>> and on the refuge Facebook page. A press release was also sent to our standard mailing list on May 24, 2023.

Only the State of Alaska provided comments on this CD. A summary of those comments and any changes made are included as Attachment 1 – Public Comment Analysis.

## **Determination**

Use is Compatible with the Following Stipulations

### **Stipulations Necessary to Ensure Compatibility**

The following stipulations are required for administering camping on the Refuge to ensure compatibility with Refuge purposes and the System mission. Stipulations 2 through 19 are refuge-specific regulations (50 CFR 36.39) or a general Refuge System regulation (50 CFR 27.52) in place to protect resources, enhance public safety and/or enhance visitor experience by reducing conflicts between users.

- 1) Adequate resources must be available to ensure proper administration of this use, including public education and outreach, maintenance of campgrounds to uphold public safety standards, monitoring and where applicable taking management action to protect and restore habitats, address wildlife issues and maintain wilderness character, monitoring and treatment to prevent or reduce impacts from invasive species, fire prevention activities, protection of cultural sites and historic preservation legal compliance, and enforcement of applicable regulations to protect resources and enhance public safety.
- 2) Unless otherwise further restricted, camping may not exceed 14 days in any 30-day period anywhere on the Refuge.
- 3) Campers may not spend more than 7 consecutive days at Hidden Lake Campground

- 4) The Refuge Manager may establish a fee and registration permit system for overnight camping at designated campgrounds. At all of the refuge's fee-based campgrounds, you must pay the fee in full prior to occupancy. No person may attempt to reserve a Refuge campsite by placing a placard, sign, or any item of personal property on a campsite.
- 5) Campers in developed campgrounds must follow all posted campground rules.
- 6) You must observe quiet hours from 11:00 p.m. until 7:00 a.m. in all developed campgrounds and parking areas.
- 7) Within developed campgrounds, we allow camping only in designated sites.
- 8) Within developed campgrounds, we allow open fires only in portable, self-contained, metal fire grills, or in the permanent fire grates provided. We prohibit moving a permanent fire grill or grate to a new location.
- 9) You must completely extinguish (put out cold) all campfires before permanently leaving a campsite.
- 10) Campers may cut only dead and down vegetation for campfire use.
- 11) While occupying designated campgrounds and parking areas, all food (including lawfully retained fish, wildlife, or their parts), beverages, personal hygiene items, odiferous refuse, or any other item that may attract bears or other wildlife, and all equipment used to transport, store, or cook these items (such as coolers, backpacks, camp stoves, and grills) must be: (A) Locked in a hard-sided vehicle, camper, or camp trailer; or in a commercially produced and certified bear-resistant container; or (B) Immediately accessible to at least one person who is outside and attending to the items.
- 12) We prohibit deposition of solid human waste within 100 feet of annual mean high water level of any wetland, lake, pond, spring, river, stream, campsite, or trail. In the Swan Lake and Swanson River Canoe Systems, you must bury solid human waste to a depth of 6 to 8 inches.
- 13) We prohibit tent camping within 600 feet of each public use cabin, except by members and guests of the party registered to that cabin.
- 14) We prohibit camping within 100 yards of the Kenai River banks along the Upper Kenai River from river mile 73 to its confluence with Skilak Lake (river mile 65), except at 10 designated primitive campsites. Campers can spend no more than 3 consecutive nights at the designated primitive campsites.
- 15) We prohibit camping in the following areas of the refuge within 1/4 mile of the Sterling Highway, Ski Hill, or Skilak Lake roads, except in designated campgrounds,

- 16) We prohibit camping on the two islands in the lower Kenai River between mile 25.1 and mile 28.1 adjacent to the Moose Range Meadows Subdivision,
- 17) There is no camping allowed at the two refuge public fishing facilities and the boat launching facility along Keystone Drive within the Moose Range Meadows Subdivision, including within parking areas, and on trails, fishing platforms, and associated Refuge lands.
- 18) Refuge visitors involved in approved, extended overnight activities, including camping, may leave personal property unattended during their continuous stay, but in no case longer than 14 days.
- 19) We prohibit overnight camping except in designated camping facilities at the Russian River Ferry and Sportsman's Landing parking areas. Campers may not spend more than 2 consecutive days at these designated camping facilities.
- 20) It is illegal to introduce invasive species onto a National Wildlife Refuge (50 CFR 27.52) and the State of Alaska (5 AAC 92.141, 5 AAC 34.075, 5 AAC 41.075). Visitors must comply with State and Federal laws. Best management practices shall be taken so that no invasive plants, insects, other invertebrates, or animals are introduced to refuge habitats.
- 21) The Refuge has closure authority (50 CFR 36.42) and may restrict access to sites to provide for direct or indirect site rehabilitation when areas become overused to the point that soil and compaction or erosion cause significant concerns or to protect other habitats and fish and wildlife.

## Justification

The variety of opportunities to camp on the Refuge have become integral to its use and enjoyment for many visitors, and a use through which the public can develop and foster knowledge and appreciation for the Refuge and its resources.

Based on available information and best professional judgement, the Service has determined that camping by the public at Kenai National Wildlife Refuge, in accordance with the stipulations provided above and with continued oversight and management by the Refuge, would not materially interfere with or detract from the fulfillment of Refuge purposes and the National Wildlife Refuge System mission. Camping opportunities on the Refuge facilitate a variety of other compatible wildlife-dependent recreational uses on the Refuge including Refuge System priority uses of hunting, fishing, and wildlife viewing and photography, and other recreational activities including hiking, canoeing and kayaking, cross country skiing and snowshoeing. Camping also helps facilitate subsistence uses on the Refuge.

Similarly, camping as outlined in this compatibility determination and with continued management by the Refuge to mitigate for potential and realized impacts

to biological resources, soils and water quality would not conflict with requirements of the National Wildlife Refuge System Administration Act, as amended, to maintain the biological integrity, diversity, and environmental health of the refuge.

## **Signature of Determination**

Refuge Manager

## **Mandatory Reevaluation Date**

December 12, 2033

## **Literature Cited/References**

USFWS. 2007. Kenai National Wildlife Refuge Skilak Wildlife Recreation Area Revised Final Management Plan. Soldotna, Alaska: U.S. Fish and Wildlife Service. 90 pp.

DOI. 1964, amended 1965. Study Report on the Proposed Exclusion of Skilak Lake Area from Kenai National Moose Range. 28 pp.

# Figures

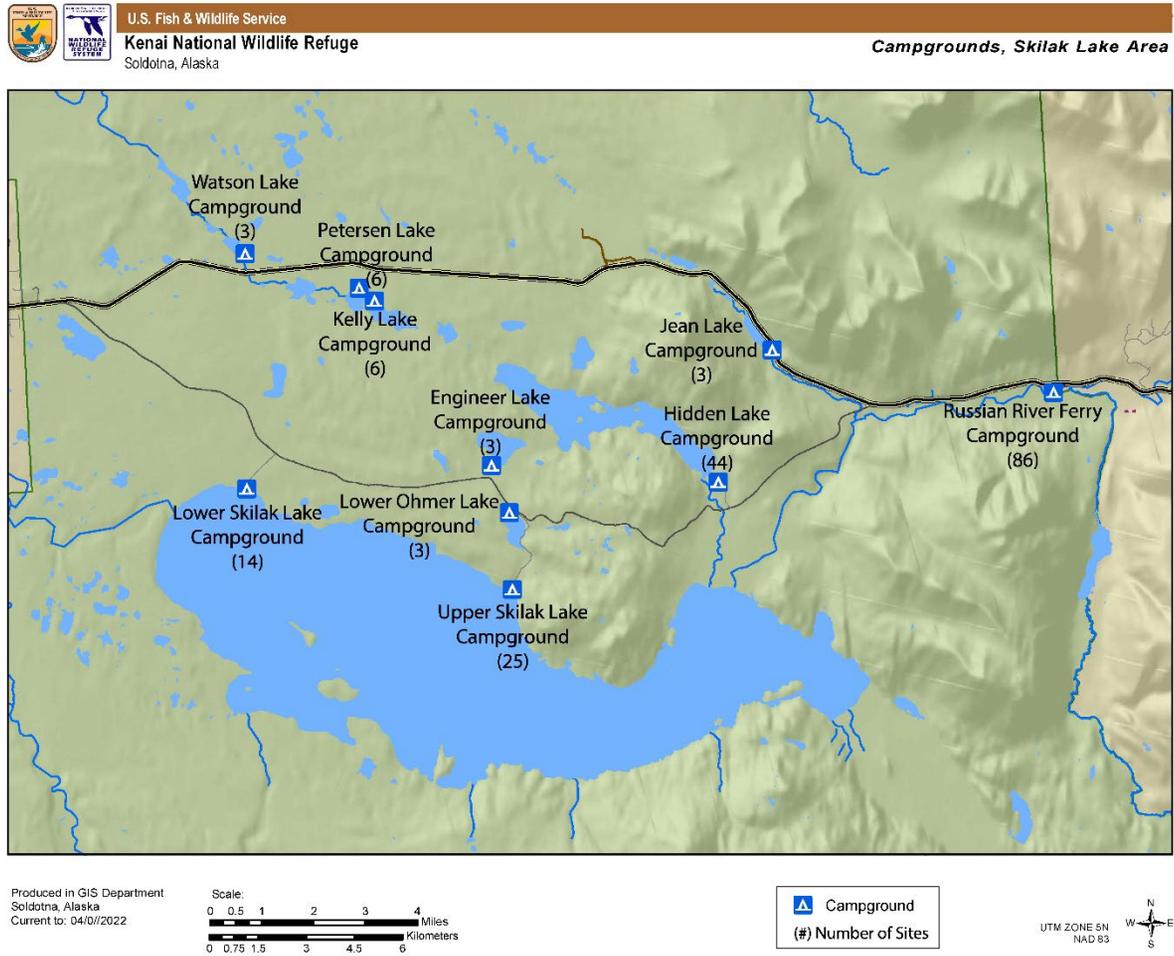
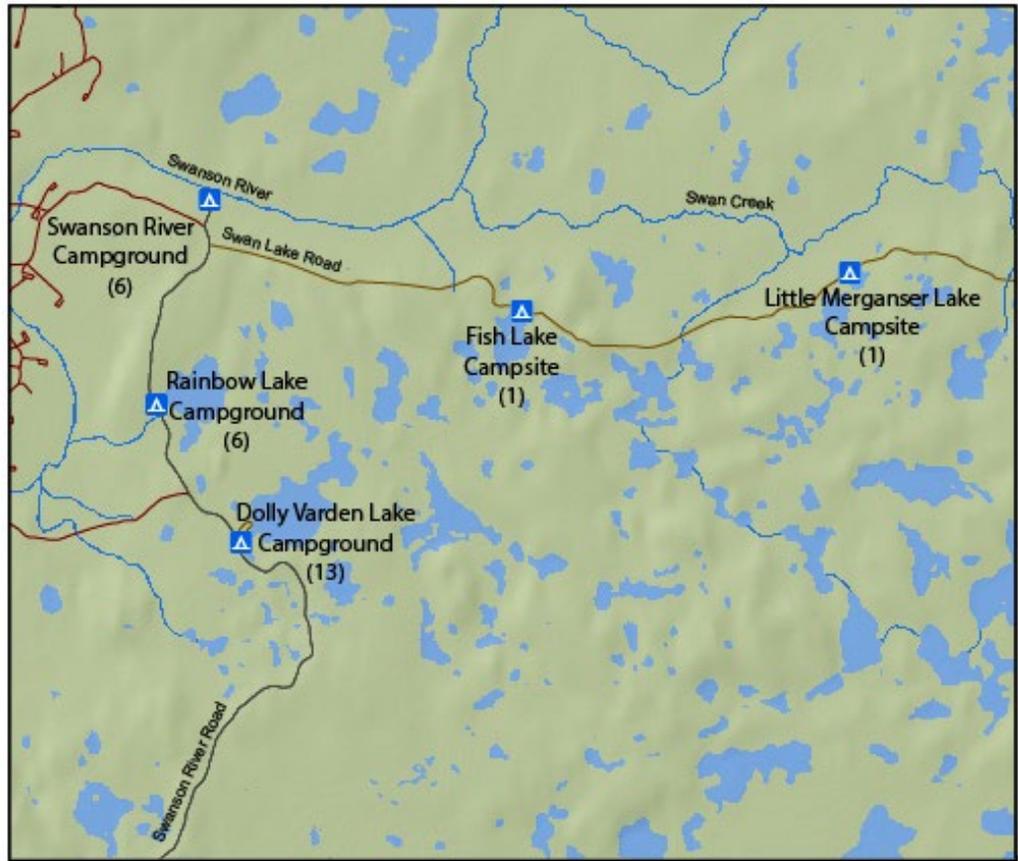
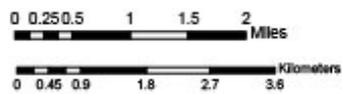


Figure 1 Skilak Wildlife Recreation Area Campgrounds



Produced in GIS Department  
Soldotna, Alaska  
Current to: 04/07/2022



 Campground  
(#) Number of Sites



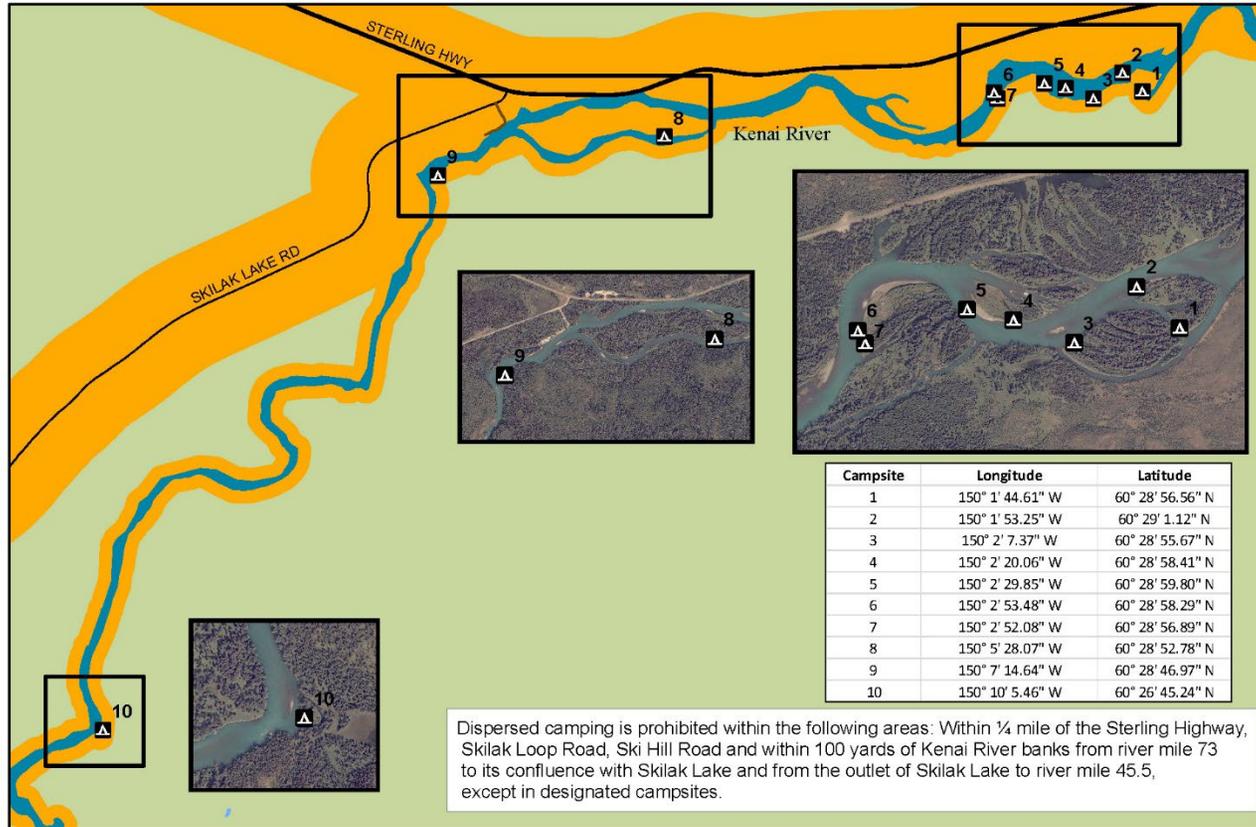
Figure 2 Swanson River Road and Swan Lake Road Campgrounds and Campsites



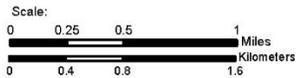
U.S. Fish & Wildlife Service

**Kenai National Wildlife Refuge**  
Soldotna, Alaska

*Designated Campsites within the Sterling Highway and Kenai River Camping Closures*



Produced in GIS Department  
Soldotna, Alaska  
Current to: February 10, 2016



- Kenai National Wildlife Refuge
- Camping Prohibited
- Designated Campsite



*Figure 3 Designated Camping Sites within 100 yards of the Upper Kenai River*

## Public Comment Analysis for the Compatibility Determination for Camping at Kenai National Wildlife Refuge

### Introduction

The public comment period for the draft Compatibility Determination (CD) for Camping at Kenai National Wildlife Refuge (Refuge) began on May 24, 2023 and concluded on June 23, 2023, for a total of 31 days. Notice was provided by press release, Refuge website and legal notice in the Anchorage Daily News. Prior to the public comment period coordination occurred with local Tribes and Tribal Corporations as well as the State of Alaska (SOA) occurred.

### Results

Comments during this period were received from only the SOA. Below is a summary of these comments and the resulting changes, if any.

- The SOA noted that the purposes of the Kenai NWR are identified in ANILCA and requested the removal of the statement, “some of the reasons why Congress established the Refuge.” We deleted a sentence as a result of this comment.
- The SOA requested we delete the word “expressly” from the statement “Except as otherwise expressly provided for within ANILCA” within the Refuge Purposes and Establishing and Acquisition Authorities regarding management within Wilderness. No change was made as a result of this comment.
- The SOA requested that the Mission Statement of the National Wildlife Refuge System (NWRS) be replaced with alternate text from the NWRS Improvement Act. As this mission statement is taken word-for-word from the NWRS Improvement Act and this is the official mission statement of the NWRS, no change was made in response to this comment.
- The SOA requested that camping be designated as a traditional activity within this compatibility determination. The legislative history of ANILCA includes four examples of “traditional activities”: subsistence and sport hunting, fishing, and berry picking. The U.S. Fish and Wildlife Service has never formally adopted a legal definition of “traditional activity” or formally designated which activities are “traditional” on Kenai NWR or on any national wildlife refuge in Alaska. This and previous compatibility determinations do recognize that camping occurred on the Kenai NWR historically, and that camping helps facilitate these traditional activities, including by subsistence users, as well as several other recreational activities. Camping in its current forms also occurs on the Kenai NWR as a recreational activity onto itself, not associated with conducting other activities. Lastly, whether or not camping is a “traditional activity” as referenced under ANILCA on Kenai NWR, we have a legal requirement to determine whether this activity, as currently administered on Kenai NWR, is compatible with Refuge purposes and the Refuge System mission. No changes were made in response to this comment.
- The SOA requested that we evaluate access methods within this CD. Methods of access are evaluated within their own CD. No change was made as a result of this comment.
- The SOA asked for the Refuge to inventory and assess campsites in order to increase opportunities for camping. Comment noted. No change was made as a result of this comment.

- The SOA requested wording within long term impacts on closure policy and procedures. The applicable closure policy was added to the CD.
- SOA requested a wording change for Stipulation 21 to add closure procedures under 43 CFR 36.11(h). Closure procedures under 43 CFR 36.11(h) deal with access methods which will be included within their own CD. We added wording referencing closure procedures under 50 CFR 36.42, but no other change was made as a result of this comment.
- The SOA requested a wording change for Stipulation 20 to align with the corresponding State regulation. We agree that the difference in wording may cause confusion. The wording discrepancy applies to animal feed/forage which corresponds to methods of access but not camping. We deleted the sentence in question from this stipulation and changed the wording to align with this comment. Our commitment to reducing the risk of introduction of invasive species would not be diminished with this change.
- The SOA requested specific wording related to impacts on subsistence. Similar wording was included in a previous draft of this CD but was subsequently removed. An ANILCA Section 810 analysis was completed for all uses, including camping, concurrent with Kenai NWR's 2010 Comprehensive Conservation Plan, and uses were found to not significantly impact subsistence uses. The inclusion of a specific stipulation addressing impacts to subsistence uses was deemed unnecessary. No change was made as a result of this comment.
- The SOA requested the inclusion of motorized equipment, tent platforms and shelters within this compatibility determination. Access methods are evaluated in a separate CD. Use of tent platforms and shelters was added to the description of camping in this CD.