Recreation Analysis

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State of Alaska
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SECTION 1 INTRODUCTION

1.1 Overview

This report provides an analysis of recreational resource impacts resulting from proposed alternatives under consideration to improve the Sterling Highway between mileposts (MP) 45 and 60 as it follows the Kenai River valley through the Kenai Mountains in Southcentral Alaska. The report provides technical support for a Supplemental Environmental Impact Statement (SEIS) in progress by the Alaska Department of Transportation & Facilities (DOT&PF).

Recreational resource impacts are analyzed in this document by characterizing existing recreation resources in the study area and their uses, and then determining the potential effects of project alternatives to users’ recreational experiences within the study area. Specifically, this is covered in three sections:

Section 1 Introduction – Section 1 gives an overview of the purpose and organization of the report, defines the study area, describes project alternatives, and presents the methodology and data sources used.

Section 2 Existing Recreational Resources – Section 2 describes recreational resources and activities that may be affected by Sterling Highway upgrades within the study area and characterizes users.

Section 3 Impacts – Section 3 analyzes potential impacts resulting from the Sterling Highway project to recreation plans, facilities, lands and other resources, and to recreational users’ experience, including impacts associated with not upgrading the facility.

1.2 Study Area

This report analyzes recreational resources and users in the Cooper Landing area within the Kenai River valley, between MP 45 and 60 of the Sterling Highway that may be affected by five alternatives: the No Build, Cooper Creek, G South, Juneau Creek, and Juneau Creek Variant alternatives. The Study Area is regional in nature, recognizing that recreational users have an all-encompassing recreational experience, and that changes to localized portions of the experience, including access, may affect the experience.

The study area established for this analysis is shown in Map 1 (Appendix A: Maps) and includes popular recreation and tourist destinations such as the Kenai National Wildlife Refuge, Chugach National Forest, Kenai River, Russian River, Cooper Lake, Kenai Lake, and Resurrection Pass National Recreational Trail. The study area contains steep mountains, glaciers, lakes, and rivers, as well as rich fish and wildlife resources, and is largely open, natural space with abundant outdoor recreation opportunities. As shown in Map 1, much of the land within the study area is publicly owned and managed by the U.S. Forest Service (USFS), U.S. Fish and Wildlife Service, Alaska Department of Natural Resources (DNR), and the Kenai Peninsula Borough (KPB).

1.3 Project Alternatives

The Sterling Highway is part of the National Highway System and Interstate Highway System. The highway was constructed in the 1950s to serve the traffic, vehicle types, and Kenai Peninsula population of that time. While the rest of the highway has seen substantial upgrades since the 1950s, the highway between MP 45 and 60 has not been upgraded to modern standards. This portion of the highway is located in the Kenai River valley and is constrained by the Kenai River, steep mountainsides, salmon spawning areas, private property, and several trails, campgrounds, and other recreational developments that have hindered highway upgrades.
The DOT&PF and FHWA propose to improve the Sterling Highway in the Cooper Landing and Kenai River area (MP 45–60). The purpose of the project is to bring the highway from a 1950s-era alignment and design up to current standards for a “rural principal arterial” to efficiently and safely serve through-traffic, local community traffic, and traffic bound for recreation destinations in the area, both now and in the future. In achieving this purpose, DOT&PF and FHWA recognize the desire to serve the traveling public, while doing their part to protect the Kenai River corridor.

There are three interrelated needs that the project will address:

**Need 1: Unacceptable Highway Congestion.** The construction of multiple driveways and side street accesses over time, a curvy, constrained alignment with little passing opportunity, and increasing traffic volumes have led to unacceptable congestion that is forecast to worsen in future years. As a result, the highway performs below acceptable level of service standards for a rural principal arterial that is an important part of the NHS.

**Need 2: Does Not Meet Current Highway Design Standards.** Existing characteristics of the Sterling Highway do not meet current “rural principal arterial” standards. In the section between MP 45 to MP 60, the curves, grades along Kenai Lake, shoulders, guardrail and clear zones, and multiple access points for driveways and intersections all contribute to a highway that does not meet current design standards.

**Need 3: Ineffective Highway Function.** The NHS serves as the essential connector between population centers, economic centers, and intermodal centers (such as airports, shipping ports, and ferry terminals) of the state. The Sterling Highway is an NHS route and the only road link between the western portion of the Kenai Peninsula and the rest of the state’s and nation’s road system, and it also serves numerous local destinations that have become established along the highway over time. The result is considerable turning movements, slow speeds, and the NHS being used for local trips which inhibits the function of the NHS for through-traffic. Sections on either end of this project have been improved, leaving a gap in the NHS functionality.

Please refer to the SEIS, Chapter 1, Purpose and Need, for more information on the project’s purpose and needs.

To meet these objectives, five alternatives have been identified as reasonable for further study in the SEIS. Please refer to the SEIS, Chapter 2, Alternatives, for more information on the alternatives screening process and detail on the reasonable alternatives.

Following is a short overview of each of the proposed alternatives that are shown in Map 1 (Appendix A: Maps).

**1.3.1 No Build Alternative (Existing Sterling Highway Alignment)**

Under the No Build Alternative, the existing Sterling Highway would continue to be maintained, and bridge replacement would occur according to DOT&PF highway maintenance schedules for bridge replacement. The project begins at the intersection of the Sterling Highway with Quartz Creek Road, at MP 45. The highway continues west along the northern shoreline of Kenai Lake and crosses the outlet of Kenai Lake on a 400-foot-long, 30-foot-wide steel beam bridge. For the next 6 miles, the highway remains south of the Kenai River at distances varying from the river edge to 1,000 feet away. At MP 52, the road crosses to the northern side of Kenai River on a steel plate girder bridge at Schooner Bend. The highway remains along the northern side, within 1,000 feet of the river, passing the Russian River Campground at MP 53, the Russian River Ferry/ Sportsman’s Landing at MP 55, and (via Skilak Loop Road) Jim’s Landing at MP 58. After Jim’s Landing, the highway veers away from the Kenai and Russian rivers.
1.3.2 Cooper Creek Alternative

The Cooper Creek Alternative follows the existing Sterling Highway alignment along Kenai Lake to the lake’s outlet, where the Cooper Landing Bridge would be replaced. The replacement bridge would be a 670-foot-long pre-stressed concrete I-girder or steel plate girder bridge. At MP 47.7, Snug Harbor Road junction, this alternative heads south and climbs the hillside for approximately 1 mile. The Cooper Creek Alternative then follows a rolling bench area for 1.3 miles, reaching a maximum elevation of 700 feet. The alternative descends and crosses the Cooper Creek canyon with an 846-foot-long, 62-foot-wide, curved bridge of pre-stressed concrete I beams or steel plate girders. The Cooper Creek Alternative then traverses a natural bench for 0.3 mile and descends the bluff for 0.3 mile. The alternative rejoins the existing corridor at MP 51.3. Where the alignment is the same as the existing, the highway would be widened and straightened.

1.3.3 G South Alternative

The G South Alternative would create a new corridor north of the existing roadway between MP 46.3 and MP 51.9. Heading west from MP 45, the alternative departs the existing corridor at MP 46.3 and climbs the hillside for approximately 2 miles. After a short down-gradient stretch, it flattens out and then climbs to an elevation of 780 feet before descending to a crossing of the Juneau Creek Canyon, for which a 1,300-foot-long and 62-foot-wide bridge is proposed. The alternative then turns southwest, descending for 1.4 miles to the Kenai River. The G South Alternative includes a 500-foot-long new crossing of the Kenai River with a 73-foot-wide pre-stressed concrete I beam or steel plate girder bridge. This alternative rejoins the existing alignment at MP 51.9. Through the western end of the project, it would be identical to the Cooper Creek Alternative.

1.3.4 Juneau Creek Alternative

The Juneau Creek Alternative creates a new corridor north of the existing roadway, departing the existing corridor at MP 46.3 and climbing the hillside for 4.5 miles to Juneau Creek. The alternative crosses Juneau Creek Canyon approximately 0.5 mile below Juneau Creek Falls with an 825-foot-long, 62-foot-wide bridge (consisting of a steel tied arch, asymmetric cable, steel truss, or post-tensioned concrete box girder). From the bridge, the alternative continues to climb for 0.7 mile to a maximum elevation of approximately 1,160 feet, before descending into the valley along a 3.7-mile corridor. The Juneau Creek Alternative rejoins the existing corridor at MP 55.8, west of the Russian River Ferry/Sportsman’s Landing, and shares the existing alignment with the other alternatives.

1.3.5 Juneau Creek Variant Alternative

The Juneau Creek Variant Alternative differs from the Juneau Creek Alternative only in the descent from the high point west of Juneau Creek. The Variant diverges from the shared alignment during the descent from Juneau Creek and follows a slightly more curving alignment. It intersects the existing alignment at MP 55. The existing highway connects to the new highway via an underpass of the new highway at this location (likely a steel plate arch bridge). A T-intersection to the old highway is located on the north side of the new highway opposite Sportsman’s Landing/Russian River Ferry. This alternative was created to avoid impacts to designated Wilderness lands that lie north of the existing highway within the Kenai National Wildlife Refuge.

1.4 Methods and Data Sources

This report uses methods and types of data sources, as outlined below, that have been used in similar infrastructure development projects to assess existing resources and possible impacts.
1.4.1 Review of Existing Plans and Studies

A review was conducted of management plans, studies, and data that have been developed by resource agencies or governmental bodies, including the U.S. Fish and Wildlife Service (USFWS), the USDA Forest Service (USFS), and the Kenai Peninsula Borough (KPB). Documents reviewed also included specific studies that have been done in the project area, including the *Highway Traffic Noise Assessment Summary: Sterling Highway Mile Post 45-60 (HDR 2011)*, the *Kenai River Recreation Study* (DNR 2010), the *Cooper Lake Project Re-licensing Study* (Chugach Electric Association 2005), and the draft and final *Sterling Scenic Byway Corridor Partnership Plan* (2006/2008). These studies have characterized users and recreational resources in and near the corridor. For detailed quantitative analysis of noise impacts on recreational resources, please refer to *Highway Traffic Noise Assessment Summary: Sterling Highway Mile Post 45-60 (HDR 2011)*.

1.4.2 Characterization of Existing Recreation Resources

There is a wealth of information in existing plans and from agency sources about trails, water, scenic resources, and facilities that are used for recreation purposes in the study area. This assessment identifies each resource and its location, size/length, condition, user demand and access, ownership, and management. Individual resources are also evaluated with respect to their roles within the study area and the region.

1.4.3 Characterization of Users and Their Patterns of Use

Existing regional plans and studies provide detailed information about users of recreation resources, duration of use, activities, and what secondary characteristics may be generated by their use, such as contributions to the economy.

1.4.4 Analysis of Resources and Users That May be Affected by the Project, and the Characterization of Change

Each alternative is evaluated with respect to each of the potentially affected resources and user groups. Conflicts are noted and the conflict assessed in terms of type, magnitude, and impact to the resource as a whole entity. Alternatives are also examined with respect to their impact to all recreation resources within the study area and the region. Also, each impact is evaluated with respect to how it affects the availability of similar resources in the study area and region.

1.5 Section 4(f)

Publicly-owned recreation resources are one of four categories of lands covered by Section 4(f) of the Department of Transportation Act, a segment of transportation law that applies to federally-funded projects like the Sterling Highway MP 45–60 Project. Parks and wildlife refuges are two other categories to which Section 4(f) may apply, and both exist in the project area, along with many individual state and federal recreation facilities. Not all recreation, park, and refuge resources are considered Section 4(f) resources; that determination is a judgment of the Federal Highway Administration based on ownership, management, and use details of any given recreation resource and on consultation with the manager of the resource. This document provides an analysis of recreation in general. Section 4(f) is addressed in a separate Section 4(f) Evaluation (a chapter of the SEIS).

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1 DOT&PF 2006 (draft), and Jensen Yorba Lott, Inc. (2008) (final). There are two portions of the Sterling Highway State Scenic Byway that are being nominated for National Byway status. The northern segment runs from MP 37–75 and incorporates the Sterling Highway MP 45–60 project area. It is coined for marketing in the nomination package as “An Angler’s Paradise.”
SECTION 2  EXISTING RECREATIONAL RESOURCES

2.1  Introduction to Recreation Resources in the Project Area

This section describes in detail existing recreational resources, access, users, and activities that may be affected by Sterling Highway alternatives within the study area, including popular recreation and tourist destinations, as well as less familiar recreational resources that are important for local use in the Cooper Landing area.

Because recreation activity in the project area largely is focused around water resources and especially sport fishing, this section addresses water-based recreation resources first, followed by a description of upland recreation resources (DNR 1997, 42). Recreation resources described in the report are illustrated on Map 2 and Map 3 (Appendix A: Maps).

In the following subsections, for the water-based and upland areas, a general overview is provided describing the legal status and recreation-related management parameters. Primary recreational resources are then specifically characterized in terms of a) general location, size, and condition; b) user demand, facilities, and access; c) ownership and management for recreation use; and d) recreation role in the study area and region.

2.2  Water-Based Recreation Resources

The lakes, rivers, creeks, and drainages in the Kenai River valley are highly scenic, extremely productive in terms of fishing, and attractive to a range of recreation uses, from fishing and boating enthusiasts to hikers and sightseers enjoying scenic views. Water bodies that serve as primary recreation resources in the study area include Kenai Lake, Kenai River, and the Russian River. Other creeks, tributaries and lakes are included in upland recreation destinations associated with backcountry recreation (hiking, skiing, horseback riding, snowmobiling, hunting, etc.) and are covered in Section 2.3 under Upland Recreation Resources. Additionally, Skilak Lake, Fuller Lake, and Crescent Lake are not considered in this assessment because, although they are located near the existing Sterling Highway study area, they are not directly impacted by any alignment alternatives associated with the project.

2.2.1  Legal Status and Management Associated with Water-Based Resources

Under Alaska’s Constitution, navigable waters and waters occurring in their natural state are held and managed by the State of Alaska in trust for the use of the people, regardless of ownership of adjacent lands (Article VIII, Sections 3, 14). This legal regime applies to waterways in the Kenai River valley. The Kenai River, under Alaska Statute 41.21, is managed by multiple agencies within the designated Kenai River Special Management Area (KRSMA). Following is a review of the KRSMA Kenai River Comprehensive Management Plan (DNR 1997) in order to:

2 The 1997 plan is still in effect as the most current planning document for KRSMA. There are no plans to revise it at this time (DNR 2010).
Provide effective direction to the management of the fishery and wildlife resources, sensitive
habitat areas, recreational and development activities in the KRSMA.

While both the Kenai River itself below the ordinary high water line and state lands adjoining the river
and its tributaries are managed under the Kenai River Comprehensive Management Plan, in the project
study area the river itself is a legislatively designated unit of the state park system. The uplands are
proposed as additions to KRSMA but have not been formally added by legislative action. The lands are
managed as if they were formally part of KRSMA.

With respect to recreational uses and management, the Kenai River Comprehensive Management Plan
has two specific goals (DNR 1997, 35):

- “To provide a quality recreational experience for the users…to protect and perpetuate the
fishery and wildlife resources and habitat in the unit and adjacent area with the need to
minimize habitat and environmental impacts and ensure public safety” and
- “To maximize enjoyment and access to recreational opportunities while maintaining the
diversity of the recreational experience and minimizing environmental impacts from
recreational activity.”

The Kenai River Comprehensive Management Plan recognizes the clear connection between the
recreation activities that take place along the Kenai River and the degradation of environmental quality
that sometimes ensues. It also recognizes that public access points that are available from the road
system have provided point-specific environmental problems. Specifically addressing recreation, the
Kenai River Comprehensive Management Plan identifies a number of issues that are of concern:

- Concentrations of fishermen at public sites continue to increase, creating conflicts at the
crowded access points.
- The concentrations of anglers have led to damage to stream banks, which is a “major biological
and social issue.”
- Landscape and wildlife viewing are increasingly popular activities, with concentrations of
wildlife throughout the study area.

The Kenai River Comprehensive Management Plan anticipates the Sterling Highway MP 45–60 Project
and provides the following recommendations to protect water related public recreation and sport-fishing
resources in the project area (DNR 1997, 30 & 60):

- Public road construction projects in upland areas should be located away from the Kenai River
since there is increasing concern about the amount of hazardous materials being transported
within the Kenai River corridor. A serious accident could possibly release toxic substances
directly into the Kenai River;
- Road construction projects in upland areas should employ standard best management practices
to preclude siltation to the river and its adjacent wetlands and tributaries, both during and
subsequent to construction;
- River crossing structures should be minimized to the fewest possible;
- If a Cooper Landing bypass route is selected, the existing road should be made more enjoyable
and safer and should be combined with a multi-public entity effort to improve the access
provided by the existing highway to the Kenai River including better access points, improved
parking areas, new sanitary facilities, and improved trails and fishing areas along the river
consistent with the recommendations for the upper Kenai River.

Goals in the comprehensive plan specific to the upper Kenai River area include the following:
• Maintain the natural environment and the current natural condition of the river to the maximum extent practicable in order to ensure the continuation of the recreation, fishing, and scenic values of the Kenai River and its tributaries;

• Maintain the Upper River as a drift only area (no motorized boats for fishing), reflecting the overall sense that this portion of the river should retain its natural character and that use levels should not increase;

• Limit new public facilities adjacent to the Kenai River to those that are water related and dependent; and

• Emphasize the upgrading of existing facilities and limiting new public facilities in order to correct existing overuse conditions.

2.2.1.2 Upper Kenai River Cooperative Plan (1997)

The Upper Kenai River Cooperative Plan is an interagency planning document related to the upper KRSMA and Kenai River Comprehensive Management Plan. It was jointly developed by major state and federal agencies using a Levels of Acceptable Change (LAC) model. The plan identifies several relevant recreation values and cooperative management actions for public lands and waters within ¼ mile of the Kenai and Russian Rivers between Kenai, Lower Russian, and Skilak Lakes:

• It is desired to maintain a sustainable and dependable sport fishery of sockeye salmon, rainbow trout (catch-and-release), coho salmon, and Dolly Varden runs at historic levels;

• Resource management activities including road construction will be done in a manner that protects the water column and riparian zone;

• Public access will be provided to the Kenai and Russian Rivers with fishing opportunities ranging from high density use at popular road-accessible sites to solitary use at locations that are more difficult to reach. Primary river access points on public lands will be at the outlet of Kenai Lake, the U.S. Forest Service Russian River Campground, the Kenai-Russian River Access Area (ferry and former Sportsman’s Lodge site) and Jim’s Landing; and

• The Upper River area will provide a variety of opportunities for recreational challenge and risk in a natural setting.

Recommendations within the Upper Kenai River Cooperative Plan were incorporated into the Kenai River Comprehensive Management Plan.

2.2.1.3 Kenai Area Plan for State Lands (DNR 2001)

Under Alaska Statute 38.04.005, regional Area Plans are developed to establish management and land-use parameters for state selected and patented lands, including submerged lands, in order to protect vital resources and minimize conflicts. The Kenai Area Plan (KAP) directs how the Alaska Department of Natural Resources (DNR) will manage state-owned navigable water bodies and other lands in the study area. Plan goals with respect to managing state water bodies and recreation values include:

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3 The 1997 Upper Kenai River Cooperative Plan is still in effect as the most current planning document for the Upper River.

4 Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation; Alaska Department of Fish & Game, Sport Fish Division; USFS, Chugach National Forest, Seward Ranger District; U.S. Fish and Wildlife Service, KNWR.
Protect and enhance a variety of public recreation and tourism opportunities along water bodies including both wilderness and developed recreational and tourism activities;

Protect the visual quality of water bodies; and

Provide public access to and along state-owned water bodies.

Additionally the plan directs specific uses of state land parcels to protect Kenai watershed habitat, and scenic and recreation values:

- 400-foot riparian corridors (200 feet landward of ordinary high water) along the Kenai River and these tributaries in the project area (east to west): Quartz, Crescent, Dry, Shackelford, Slaughter, Bean, Cooper, Juneau, and Russian.


- Along the Kenai River DNR should retain state-owned parcels (and not transfer to the borough or sell/lease). If the state must release land to fulfill obligations, a buffer should be retained in State ownership to protect fish and wildlife purposes and recreational access, and the land should be subject to a legal conservation easement.

2.2.1.4 Kenai Peninsula Borough Coastal Management Plan (KPB 2006)

As of July 1, 2011, Alaska Coastal Management Program (ACMP) authorities in AS 46.39, AS 46.40, and other uncodified laws relating to the ACMP were repealed. As of that date, the regulations at 11 AAC 110, 11 AAC 112, and 11 AAC 114, as well as local coastal management plans, are without statutory authority and therefore unenforceable. Until further notice, the DNR–DCOM will not be conducting project consistency reviews for projects located in previously designated coastal zones. According to Borough officials, the River Center will still review projects for compliance with the Kenai Peninsula Borough CMP through Borough codes (Habitat Protection Ordinance Chapter 21.18) and existing permitting processes (Manifold 2011).

As indication of recreation-related values in the project area, the Coastal Management Plan for the KPB includes general goals and policies to protect water quality and habitat up to 1,000 feet in elevation and within floodplains, including the upper Kenai River and the major recreational water resources in the study area. With respect to recreation, the plan seeks to ensure that public land and waters are “managed to preserve public access and meet water dependent recreational needs.” Additionally, the Kenai Peninsula Borough Coastal Management Plan recommends designating the Kenai River and its tributaries, from the mouth to the 1,000-foot elevation and its 100-year floodplain, as a “Potential Area Meriting Special Attention.”

2.2.1.5 Kenai National Wildlife Refuge Comprehensive Conservation Plan (USFWS 2010)

Section 303.4 of the Alaska National Interest Lands Conservation Act (ANILCA) established the Kenai National Wildlife Range as the Kenai National Wildlife Refuge (KNWR), notably the only refuge in Alaska where providing opportunities for compatible fish- and wildlife-oriented recreation is a major purpose (ANILCA, Title III1980).

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The Kenai National Wildlife Refuge Comprehensive Conservation Plan (USFWS 2010) is the current document that guides management of the Refuge. The KNWR purposes are to preserve all wildlife populations and their habitats “in their natural diversity,” to protect associated waters, to meet treaty obligations, and—-compatible with wildlife and habitat—to provide for science/education and recreation. General management goals that are applicable to recreation include the following:

- Protect and maintain fish and wildlife in their natural diversity
- Maintain opportunities to pursue traditional subsistence activities; scientific research; and hunting, fishing, and other wildlife-dependent recreation activities
- Maintain most of the Refuge in a relatively undeveloped state
- Minimize disturbances to fish and wildlife habitats and populations
- Allow public use of the Refuge using traditional access methods, provided use remains compatible with the purposes of the Refuge

USFWS 2010

ANILCA also created designated Wilderness areas within the Refuge totaling 1.3 million acres. The Mystery Creek Unit and Andrew Simons Unit are both within the project area, respectively north and south of the Kenai River. For the Sterling Highway MP 45-60 Project, the Mystery Creek Wilderness is the most pertinent. The unit lies in the project area immediately north of the existing Sterling Highway and comprises 45,373 acres.

The plan notes that implementation will be accomplished in part by a series of step-down management plans; DNR’s 1997 Kenai River Comprehensive Management Plan, is listed as the step-down plan that will guide management of KRSMA and adjacent areas (USFWS 2010).

2.2.1.6 Chugach National Forest Revised Land and Resource Management Plan (USFS 2002a)

Chugach National Forest’s management plan describes forest-wide and Sterling Highway specific goals for maintaining water-based recreation resources:

- Maintain habitat to produce viable and sustainable wildlife populations that support the use of fish and wildlife resources for sport hunting and fishing, watching wildlife, conservation, and other values (page 3–4)
- Manage the Russian River as a Wild and Scenic River pending Congressional designation to maintain its outstandingly remarkable recreational, wild, fisheries and prehistoric heritage values (page 3–11)

The plan also states desired conditions, including the following:

- “Highway traffic along the Sterling Highway will have been improved in the Cooper Landing area with minimal impact on the resources of the Forest or the riparian areas along the Kenai River” (page 3–16)
- The Kenai Peninsula geographic area of the Chugach National Forest is managed to accommodate high levels of human use, while maintaining its natural appearing character. The Sterling highway corridor (3/4 mile from the road) and other roads contain developed recreation sites and provide access points for a variety of dispersed recreational activities...Improvements such as bridges, trails, trailheads, expanded campgrounds, and new cabins will extend the ability of the Kenai Peninsula to accommodate increased summer recreation use without diminishing the area’s natural quality.
In an appendix that describes the adopted Forest Plan alternative, the plan indicates:

- Adjacent to the Sterling Highway, fish habitat projects will emphasize recovery of impacted native populations or improve habitat for sport fishing and other opportunities (page A-2).

**2.2.1.7 Cooper Landing Land Use Plan for Borough-Owned and Borough-Selected Lands (Cooper Landing Advisory Planning Commission 1996)**

The unincorporated community of Cooper Landing recommended use and management of Kenai Peninsula Borough lands\(^6\) within the community. These recommendations were in a *Cooper Landing Community Recommendation on a Land Use Plan for Borough Lands* (1992) and a follow-up refinement *Cooper Landing Land Use Plan for Borough-Owned and Borough-Selected Lands* (1996)\(^7\) that augmented but did not replace the earlier effort. The recommendations that address recreation values and water resources include the following:

- Maintain scenic qualities, unique character and rural setting of Cooper Landing by retaining a greenbelt and wooded appearance along Kenai Lake and the Kenai River.
- Watershed Protection: Classify all steep slopes, swamps, and borders along streams for watershed protection and avoid development.
- River Access Sites: Request State Parks to construct a boat launch on the 6-acre State-owned parcel of land just west of the Kenai Lake/River Bridge on the Kenai River (Note: in the late 1990s this was jointly improved as the Cooper Landing Boat Launch and Day Use Facility and is now well used).
- State shoreline lands along Kenai Lake and its tributary streams should be included in the Alaska State Park System for habitat protection, scenic value, and public access.
- 200 foot buffer zones on specific KPB parcels near waterfronts including Kenai Lake and Quartz Creek (both along the Sterling Highway).
- To protect existing visitor-oriented businesses along the existing Sterling Highway alignment and Kenai River waterfront, and maintain the rural and scenic setting of Cooper Landing, any new highway alignment or bypass should have no on or off access and a 200 foot buffer zone.
- Area trails should be maintained and improved.
- Certain lands should be classified for Recreation and Preservation in keeping with the recommendations above.

In 1996, the Kenai Peninsula Borough passed an ordinance establishing a 50-foot-wide development setback for all riverfront lands along the Kenai River (KAP 3-102). This is based in part on the unincorporated community of Cooper Landing’s adopted recommendation to retain a greenbelt and wooded appearance along the Kenai River in order to maintain the community’s scenic qualities, unique character, and rural setting.

Recommendations from the Cooper Landing plan were adopted by the KPB Assembly and incorporated into the *Kenai Peninsula Borough Comprehensive Plan* (2005).

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\(^6\) State lands that were selected by and will be conveyed to the Borough.

\(^7\) The 1996 *Cooper Landing Land Use Plan* is still in effect as the most current planning document that addresses Cooper Landing Land Use. It was adopted by the KPB as a Borough plan in 2005.
2.2.1.8 Cooper Landing, Alaska—Walkable Community Project

The community of Cooper Landing completed a Cooper Landing, Alaska, Walkable Community Project plan in 2010 (LDN 2010), subtitled “alternative transportation planning to address congestion and road impacts near the Russian and Kenai Rivers.” Overall, the plan reflects the community’s recognition that recreation is an important draw and attribute of Cooper Landing, and the community’s interest in maintaining and improving recreational offerings. The plan identifies 17 “consensus projects” agreed upon by community participants in the planning process. Some of the projects are relevant to recreation. The most relevant include providing pedestrian undercrossing of the highway bridge at the outlet of Kenai Lake and improving safety of the pedestrian walkway across the length of the bridge; adding a separated pedestrian and bicycle route throughout much of the project area (MP 45–53); creating gateway development at the Resurrection Pass trailhead highlighting the National Recreation Trail status of the trail and the recreation amenities of the community; and adding interpretive signs in the community for the recreation and tourism traveler. The community has nominated the separated pathway project for funding through the 2012–2015 Statewide Transportation Improvement Program (STIP), according to the DOT&PF STIP web site, but it is not expected to be funded in the current funding cycle. Such projects may be affected by the Sterling Highway MP 45–60 Project or may influence details of the highway project. Should the DOT&PF determine to provide mitigation within the community of Cooper Landing, these proposed improvements which have already been planned by the community may provide options for consideration.

2.2.2 Major Water-Based Recreation Resources in the Study Area

Following is a description of each of the major water-based recreation features in the study area: Kenai Lake, Kenai River, and the Russian River. Each of these primary recreational resources is specifically characterized in terms of a) general location, size, and condition, b) user demand, facilities, and access; c) ownership and management for recreation use; and d) recreation role in the study area and region. Recreation resources described in the report are illustrated on Map 2 (Appendix A: Maps). Recreational fishing data presented are measured in “angler days,” measured as one angler fishing all or part of one day.

2.2.2.1 Kenai Lake

General location, size, and condition

Bounding the eastern edge of the study area, Kenai Lake is a glacier-fed lake at the head of the Kenai River. It is 22 miles long and over a mile wide in places. It curves through steep fjord-like mountains that rise 4,000 to 5,000 feet above the lake. Most of the shoreline is undeveloped, and limited amounts of private land are available (i.e., principally at the western and eastern ends). The lake is considered a gem of the Kenai Peninsula because of its brilliant blue-green waters and large size (over 14,000 acres), offering unique panoramic experiences. Kenai Lake and its tributaries provide important spawning and rearing areas for sport fish species such as salmon and trout (DNR 1997).

User demand, facilities, and access

As a recreational resource, Kenai Lake is enjoyed as a scenic backdrop for driving, camping, and picnicking, and the lake supports active water sports including water skiing, sail boating, kayaking, competitive rowing, canoeing, motor boat use and recreational snowmobile use, skiing, and ice skating in winters when conditions permit. Boat fishing on Kenai Lake is light, although some sport fishing takes place at outlets of clear water tributaries, and on the banks (Table 1).
Fishing / Boating / Camping / Picnic areas

Table 1. Kenai Lake Sport Fish Harvest and Effort Data, 2000–2005, 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Anglers</th>
<th>Days Fished</th>
<th>Fish Harvest Total (All species)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>390</td>
<td>2,509</td>
<td>1,368</td>
</tr>
<tr>
<td>2002</td>
<td>513</td>
<td>2,502</td>
<td>1,372</td>
</tr>
<tr>
<td>2003</td>
<td>442</td>
<td>1,097</td>
<td>280</td>
</tr>
<tr>
<td>2005</td>
<td>625</td>
<td>2,072</td>
<td>979</td>
</tr>
<tr>
<td>2010</td>
<td>572</td>
<td>955</td>
<td>209</td>
</tr>
</tbody>
</table>


The Sterling Highway and Snug Harbor Road have a number of pull-offs and access points along Kenai Lake for scenic viewing and foot access in the study area (Table 2). Kenai Lake facilities support recreational boating with three launch sites and boat-accessible picnic areas (Porcupine Island, Ship Creek, and Meadow Creek) and camping facilities (three USFS campgrounds) inside and outside the study area. DOT&PF manages a gravel airstrip 180 feet wide by 2,200 feet long at Quartz Creek. Floatplanes land on Kenai Lake and just downstream of the Sterling Highway Bridge at Cooper Landing. Additionally, on State-owned land, Camp Fire USA’s Alaska Council provides Camp K, an overnight camp on Kenai Lake, and “Waikiki Beach” provides a popular beach for local recreation use along Snug Harbor Road.

Table 2. Kenai Lake Access and Facilities

<table>
<thead>
<tr>
<th>MP*</th>
<th>Access Point Name</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.8</td>
<td>Quartz Creek</td>
<td>USFS Kenai Lake Boat launch (no vessel type or horsepower restrictions in the lake); 45 camp sites along Kenai Lake.</td>
</tr>
<tr>
<td>47.7</td>
<td>Snug Harbor Road</td>
<td>This road off the existing Sterling Highway leads along Kenai Lake, providing beach and launch access.</td>
</tr>
<tr>
<td>48</td>
<td>Cooper Landing Boat Launch</td>
<td>State Parks boat launch, major Kenai River access point for rafting (boats limited to 35 hp downstream; no airboats, jet skis hydroplanes or water skis)</td>
</tr>
</tbody>
</table>

* MP based on existing Sterling Highway alignment.

Ownership and management for recreation use

Kenai Lake is State owned and managed to protect public access and use. Management goals for recreation use specific to Kenai Lake and its adjacent state-owned public lands are addressed under the Kenai River Comprehensive Management Plan (DNR 1997):

- Maintain the present natural character of Kenai Lake except for low density recreational cabins and minor commercial uses along the Sterling Highway;
- Recreational uses are intended to be diverse and more intensive than elsewhere in the KRSMA to include, low and medium-density bank fishery, water skiing, sail boating, canoeing, motor boat use, snowmobile; and
- Encourage the development of minor commercial uses, businesses and facilities that support the recreational activities of Kenai Lake and serve the traveling public on the Sterling Highway.

The Kenai Area Plan for state selected and patented lands references a number of its parcels that are recommended for addition to the KRSMA, or to serve waterfront recreational needs. These parcels include:

- Unit 390 – Kenai Lake Waikiki shoreline area (2,027 acres)
- Units 391L, M, N, Q – Kenai shore parcels (109 acres)
- Unit 397 – Community Picnic & Park (3.3 acres)

The unincorporated community of Cooper Landing’s Community Recommendations on a Land Use Plan for Borough Lands recommends retaining a greenbelt and wooded appearance along the Kenai Lake to maintain scenic qualities, and the unique character and rural setting of Cooper Landing.

Recreation role in the study area and region

Kenai Lake is a distinctive landmark providing the only scenic vista of its kind along the Sterling Highway. It enhances the recreational experience of travelers and sightseers, hikers in the area, residents, recreational cabin users, and lake users engaged in more intensive recreational activities. It is one of the only major water bodies in the region that can support significantly increased recreational use. The lake has multiple access points and a number of well developed facilities that are primarily oriented to summer use, although it is also used for recreation in the winter.

2.2.2.2 Kenai River

General location, size, and condition

The Kenai River is a large, glacier-fed stream that flows out of Kenai Lake and drops 430 feet as it travels westward 82 miles to Cook Inlet, draining more than a 2,000-square-mile area. The 17 miles of river between Kenai Lake and Skilak Lake is known as the “Upper Kenai,” where the river is largely confined in a narrow glacial valley, about 1-2 miles wide. Within the valley, the Sterling Highway’s existing alignment is located alongside the Upper Kenai River, often within a few hundred feet or less. Two bridges cross the Kenai River, at MP 47.8 and 53.

The Upper Kenai River is typically more than 100 feet wide with blue-green glacier water, giving it a distinctive scenic quality that enhances the recreational experience for anglers, boaters, and sightseers, as well as affording scenic views for hikers and recreational motorists. Because of the easy access to the river along the existing Sterling Highway and high recreational demand, stream banks along the river at some locations are eroded and show signs of heavy recreational use. Land management agencies have been addressing erosion with multiple projects since the Kenai River Comprehensive Plan was instituted in the late 1990s. In 2009, Alaska State Parks commissioned a study of recreation use, the
Kenai River Recreation Study. The study’s key findings document that overall, high use and impacts have diminished the quality of the experience and the river is “not what it used to be” (DNR 2010).

User demand, facilities, and access

The Kenai River serves many user groups including anglers (bank, drift-boat, and power-boat), scenic boaters, and other non-angling activities including rafting, viewing scenery, viewing wildlife, picnicking, and camping (DNR 2010), although fishing is “by far the primary recreation activity” (DNR 1997). In addition to the public at large, many private fishing and boating guides operate on the river. The 2009 Kenai River Recreation Study documents results of a user survey that asked what opportunities were “most important” to users, landowners, and guides. One measure of the survey is depicted in Table 3, which shows several key findings in the Upper River: Most bank anglers ranked the Upper and Middle Rivers most important; and a large majority of drift anglers and scenic rafters found the Upper River most important (DNR 2010).

Table 3. Percent of Users, Landowners, and Guides Identifying Opportunities as “Most Important”

<table>
<thead>
<tr>
<th></th>
<th>Bank anglers</th>
<th>Drift-boat anglers</th>
<th>Power-boat anglers</th>
<th>Scenic rafters</th>
<th>Landowners</th>
<th>Guides (power and drift boats)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bank angling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal use from beach</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lower River</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Middle River</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td>Upper River</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>Drift angling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower River</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Middle River</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>&lt;1</td>
<td>7</td>
</tr>
<tr>
<td>Upper River</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td><strong>Powerboat angling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal use from boat</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Lower River</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>57</td>
</tr>
<tr>
<td>Middle River</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td><strong>Scenic rafting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower River</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Middle River</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>&lt;1</td>
<td>1</td>
</tr>
<tr>
<td>Upper River</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: DNR 2010. Note: Percentages within groups may not equal 100 due to item non-response for “most important” opportunity.

Fishing

The Kenai River is a major recreational attraction in the study area, and is heavily used because of its scenic, fishing, and recreational boating values within easy road access of the Alaska highway system. The Kenai River is considered a sport fishing “paradise” and is one of the last river systems in the world to contain world class Chinook (king) salmon that can weigh up to 100 pounds (DOT&PF 2006,
KPB 2006b). Altogether, the upper Kenai River and its tributaries (including the Russian River) support 39 species of fish, and the Kenai River is the most heavily used river for freshwater sport fishing in Alaska (ADF&G N.d.; Begich and Pawluk 2011). The Kenai River Comprehensive Management Plan acknowledges that the river is “overwhelmed by users during the peak fishery periods,” damaging habitat near popular facilities and along fragile stream banks, where the “number of users far exceed site capacities,” especially on undeveloped public land and at public facilities (DNR 1997, 60).

Over an eight-year period, from 2004 to 2011, ADF&G statewide harvest surveys reported an average of about 120,000 anglers fished the Kenai River per year. ADF&G statewide harvest surveys report an average of 315,000 angler-days of effort on the Kenai River per year between 1997-2006, which is an increase over a previous average between 1977 and 1995 of 278,000 angler-days (DNR 2010). Each year, species harvests (1997–2006) report that anglers keep about 16,000 king (Chinook) salmon; 225,000 red (sockeye) salmon; 43,000 silver (coho) salmon; 10,000 pink salmon; 3,000 rainbow trout; and 6,000 Dolly Varden (DNR 2010). Many more rainbows and Dolly Varden are caught and released (DNR 2010). Table 4 and Figure 1 show anglers, days fished, and total harvest from 2004 to 2011.

### Table 4. Kenai River Anglers, Days Fished, and Total Fish Harvest, 2004 to 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Anglers</th>
<th>Days Fished</th>
<th>Fish Harvest Total (all species)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>122,773</td>
<td>376,313</td>
<td>450,657</td>
</tr>
<tr>
<td>2005</td>
<td>127,359</td>
<td>388,677</td>
<td>388,668</td>
</tr>
<tr>
<td>2006</td>
<td>108,772</td>
<td>329,122</td>
<td>251,465</td>
</tr>
<tr>
<td>2007</td>
<td>125,099</td>
<td>410,319</td>
<td>377,895</td>
</tr>
<tr>
<td>2008</td>
<td>119,420</td>
<td>360,344</td>
<td>323,351</td>
</tr>
<tr>
<td>2009</td>
<td>106,499</td>
<td>337,217</td>
<td>327,330</td>
</tr>
<tr>
<td>2010</td>
<td>114,814</td>
<td>347,938</td>
<td>392,490</td>
</tr>
<tr>
<td>2011</td>
<td>134,320</td>
<td>365,863</td>
<td>463,731</td>
</tr>
</tbody>
</table>
Figure 1. Kenai River Anglers, Days Fished, and Total Fish Harvest from 2004 to 2011

![Graph showing Kenai River Anglers, Days Fished, and Total Fish Harvest from 2004 to 2011]

Table 5. Kenai River Angler Days (effort expanded by recreational anglers), 2004–2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Middle and Lower Kenai River</th>
<th>Upper Kenai River</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>326,499</td>
<td>49,814</td>
</tr>
<tr>
<td>2005</td>
<td>336,785</td>
<td>51,892</td>
</tr>
<tr>
<td>2006</td>
<td>288,498</td>
<td>40,624</td>
</tr>
<tr>
<td>2007</td>
<td>343,155</td>
<td>67,164</td>
</tr>
<tr>
<td>2008</td>
<td>309,689</td>
<td>50,655</td>
</tr>
<tr>
<td>2009</td>
<td>276,898</td>
<td>60,319</td>
</tr>
<tr>
<td>2010</td>
<td>304,594</td>
<td>43,344</td>
</tr>
<tr>
<td>2011</td>
<td>322,113</td>
<td>43,750</td>
</tr>
</tbody>
</table>

Data Source: ADF&G 2012a. Note: Upper Kenai River counts are from Skilak Inlet to Kenai Lake.
Overall, about 13 percent of angling on the Kenai River occurs in the Upper River (study area for this project); 26 percent occurs in the Middle River; and 47 percent occurs in the Lower River (DNR 2010). Both fishing from the banks and boat-based angling are popular. Table 5 and Figure 2 show counts in the Upper River compared to overall counts on the Kenai River.

On the Upper River during 2009, bank angling peaked during the first red run (late June) and during the second red run (late July) (DNR 2010). Ferry use is a good indicator of bank angling use counts, and Figure 3 shows ferry tickets sold and angler counts from the Confluence of the Kenai and Russian rivers to “Big Tree” during 2009 on the Upper River. At counts over 100 anglers, the spacing between anglers on the bank is about 5 feet; at counts of 150, the spacing is just over 2 feet; at counts around 50, the spacing is near 12 feet (DNR 2010).
According to ADF&G biologists, actual use of the river may be higher than reported counts since the number of anglers who park on the road and hike in probably exceeds the number of “countable” users of the area. This may be especially true when the parking lots and campgrounds are full (Pappas and Marsh 2005). Table 6 and Table 7 provide information on river use, mainly related to sport fishing, and supplemental data on vicinity campground and parking use.

### Table 6. Overnight Use, USFS Campgrounds and Russian River Day-Use Parking, Cooper Landing Vicinity

<table>
<thead>
<tr>
<th>Campground Type</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper Creek Campground</td>
<td>6,416</td>
<td>6,271</td>
<td>5,594</td>
<td>5,992</td>
<td>5,900</td>
<td>5,628</td>
<td>5,016</td>
</tr>
<tr>
<td>Crescent Creek Campground</td>
<td>1,822</td>
<td>997</td>
<td>1,447</td>
<td>2,538</td>
<td>2,392</td>
<td>2,385</td>
<td>1,790</td>
</tr>
<tr>
<td>Quartz Creek Campground</td>
<td>12,434</td>
<td>13,840</td>
<td>15,197</td>
<td>16,588</td>
<td>16,326</td>
<td>15,645</td>
<td>15,048</td>
</tr>
<tr>
<td>Russian River Campground</td>
<td>27,559</td>
<td>29,578</td>
<td>31,598</td>
<td>24,412</td>
<td>23,218</td>
<td>20,667</td>
<td>20,964</td>
</tr>
<tr>
<td>Campground Total</td>
<td>49,634</td>
<td>48,231</td>
<td>50,686</td>
<td>53,836</td>
<td>49,530</td>
<td>47,836</td>
<td>44,325</td>
</tr>
<tr>
<td>Russian Lakes Trailhead Parking</td>
<td>39,170</td>
<td>32,144</td>
<td>28,385</td>
<td>32,342</td>
<td>21,594</td>
<td>23,223</td>
<td>22,844</td>
</tr>
</tbody>
</table>

Data Source: USFS, Chugach National Forest, Seward Ranger District (2012).
**Boating**

Along with fishing, floating the Kenai and its tributaries is a major draw. Much of the Upper Kenai River in the project area has been designated “non-motorized,” with limitations on vessel types and size to limit the wake impact on stream bank habitat, reduce motorized/non motorized user conflicts, and create a quality recreational experience for rafting, canoeing, kayaking, bank fishing, and other non-motorized uses.

In terms of user demand, the Alaska DNR Division of Parks and Outdoor Recreation requires park use permits for commercial fishing and float guides operating on the Kenai River. The average number of guides annually permitted through DNR on the Kenai River between 2000 and 2012 was approximately 388 (DNR 2012). The estimated number of visitors boating the upper stretch of the river during a typical summer is around 25,000, according to a KNWR study conducted in 2004 (Table 7), the only year such a study has been undertaken. Because the upper Kenai River is restricted to non-motorized use and has limited points of entry with one direction of travel, the study included 24-hour a day video and was able to get highly accurate numbers for the 2004 boating season from mid-June to late September.

<table>
<thead>
<tr>
<th>Survey Method</th>
<th>Visitors</th>
<th>Boats</th>
<th>Anglers</th>
<th>Scenic</th>
<th>Guided</th>
<th>Unguided</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video surveillance</td>
<td>24,941</td>
<td>6,963</td>
<td>62%</td>
<td>32%</td>
<td>45%</td>
<td>40%</td>
<td>15%</td>
</tr>
<tr>
<td>Interviews</td>
<td>6,500</td>
<td>1,700</td>
<td>66%</td>
<td>34%</td>
<td>51%</td>
<td>49%</td>
<td>---</td>
</tr>
</tbody>
</table>

Note: interview and video surveillance took place at Jim’s Landing June 17– September 30, 2004; drift boats were most widely used, with rafts, then cata-rafts, kayaks, and canoes.

Data Source: Robin West, Refuge Manager, KNWR, KRSMA Advisory Board April 14, 2005 Minutes, <http://www.dnr.state.ak.us/parks/krsm/04142005min.pdf> May 26, 2007

On the Upper Kenai River during 2009, the highest peaks for boat-based angling occurred during the two red runs, but use also was high for rainbow trout, Dolly Varden, and silver salmon season in August and September (DNR 2010). While there is no systematic boat counting, USFWS counts at Sportsman’s Landing provide a good overall indicator of boating use (DNR 2010). In 2009, boat use was higher during the first red run, with a peak of 107 boats launched per day, and an average of 52 boats launched per day (DNR 2010); see Figure 4. A peak of 55 boats launched per day and an average of 24 boats were counted during the second run; with a peak of 47 and average of 27 during the rainbow trout/Dolly Varden/silver salmon season in late August/September (DNR 2010). The data also show peak boat use on the weekends, more on Saturdays than Sundays. The 2010 study summarizes other data sources to confirm that the trends reported for 2009 are similar to recent years (2005–2010) (DNR 2010).
The Sterling Highway parallels the upper stretch of the Kenai River allowing easy access for recreationists. The ease of access to the Kenai River is counterbalanced by the ever-increasing levels of traffic on the Sterling Highway, especially during peak fish runs. Main Kenai River access points are outlined in Table 8.

Table 8. Kenai River Access and Facilities

<table>
<thead>
<tr>
<th>MP*</th>
<th>Access Point Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>Cooper Landing Boat Launch</td>
<td>Popular launch area for Kenai River and Kenai Lake. This state (DNR/ADF&amp;G) facility provides 36 parking spaces, a concrete plank boat ramp, drinking water and toilet facilities, a boardwalk and viewing platform, and interpretive kiosk, and volunteer host cabin.</td>
</tr>
<tr>
<td>49.4</td>
<td>Paved pull-off</td>
<td>DOT&amp;PF site with opportunities for scenic views of Kenai River.</td>
</tr>
<tr>
<td>50.6</td>
<td>Cooper Creek Campground</td>
<td>45 USFS camp sites with creek access; Opportunity for bald eagle viewing.</td>
</tr>
<tr>
<td>52.4</td>
<td>K’Beq Footprints Heritage Site</td>
<td>USFS cultural heritage site of Kenaitze Indian Tribe; parking, and short interpretive trail for Native culture.</td>
</tr>
<tr>
<td>53</td>
<td>Russian River Campground and Russian Lakes Trailhead</td>
<td>Large USFS campground with 83 sites linked by 23-mile trail to 3 USFS cabins, Russian Lakes, and Snug Harbor Road.</td>
</tr>
<tr>
<td>54.9</td>
<td>Kenai-Russian River Ferry and Sportsman’s Landing boat launch</td>
<td>A National Wildlife Refuge fee area with ferry concession provides paved parking for 75 vehicles, 30 trailers, and RVs. Major non-motorized boat launch area. Restrooms and river/bear viewing facilities are provided. Major fishing destination at confluence of Russian and Kenai Rivers.</td>
</tr>
</tbody>
</table>
### MP*  | Access Point Name | Description
---|---|---
58  | Jim’s Landing and USFWS Visitor Contact Station | This U.S. Fish and Wildlife Service (USFWS) launch and campground is the most widely used boat take-out point (Class 2 and 3 whitewater rapids exist downstream prior to the next takeout). Parking is limited, but there is a graveled, flat launch to the river. A visitor contact station on the Sterling Hwy. provides information about the refuge, and restrooms.

58.1 | Skilak Loop Road | Junction for Skilak Loop Road and the last river access point on the upper river. Provides access for Kenai River access trails, Hidden Lake Campground (44 USFWS campsites at mile 3.6 of Skilak Loop Rd.) and Upper Skilak Lake Campground (25 USFWS campsites at mile 8.5).


### Ownership and management for recreation use

As described earlier, KRSMA was established by the State of Alaska to provide an umbrella for the management of the Kenai River watershed by the multiple agencies that have ownership. The Kenai River Comprehensive Management Plan is recognized by the State of Alaska DNR for state land management, permitting, and departmental programs. It provides general goals applicable to the river and lake system and adjacent uplands, and it provides specific goals in specific areas, including the upper Kenai River area that overlaps heavily with the Sterling Highway project area. The most relevant goals for the upper Kenai River are spelled out above in Section 2.2.1.

### Recreation role in the study area and region

The Kenai River’s scenic turquoise waters are easily visible from multiple locations along the existing Sterling Highway and are a major focal point and source of identity for recreational use in the study area and for the Kenai Peninsula as a whole. The river serves as a major resource for local and regional recreational users, and for visitors from outside Alaska, primarily in terms of sport fishing, floating, and sightseeing. The river owes much of its popularity to its easy access via the Sterling Highway’s link to Alaska’s population centers and major transportation facilities (i.e., airports, rail, and ports).

At the same time, the Sterling Highway’s easy access and proximity to the Kenai River also present drawbacks for recreation. The Sterling Highway is the only road serving communities on the western Kenai Peninsula, and the majority of its traffic is not bound for recreational sites in the Cooper Landing area. Through-traffic interferes with recreational Kenai River access in the study area, especially where the road curves limit lines of sight. The highway in the study area has poor visibility and limited shoulders for stopping, and is intersected by multiple driveways that add slow-moving traffic (for example, boat shuttle traffic, and anglers pulling out from recreational access sites) to the faster through traffic.

These conflicts create an unsafe and stressful experience that detracts from recreationists’ experience and makes some recreational activities virtually impossible, such as leisurely scenic sightseeing for recreational motorists, or travel alongside the river and roadway on foot or by bicycle. An additional concern is that motorists’ easy access along the river can contribute to overuse and stream bank erosion at vulnerable locations, or even more seriously, that through-traffic carrying toxic materials could create

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8 In a Cooper Landing origin destination survey, 31 percent of vehicles entered the study area and stayed for two or more hours; average daily traffic volumes were about 2,815 in the summer and 1,654 in the winter. DOT&PF. Origin-Destination Survey, Sterling Highway Project MP 45–60 (2001).
a spill in the Kenai River that would impact the recreational resource (such spills have occurred from overturned vehicles near the river).

### 2.2.2.3 Russian River

#### General location, size, and condition

The Russian River is a clear tributary stream flowing some 12 miles from Upper Russian Lake in the Kenai Mountains through Lower Russian Lake and emptying into the Kenai River at MP 55 of the existing Sterling Highway. The Russian River watershed covers approximately 42,939 acres (67 square miles) and is characterized by a glacially sculpted valley draining north into the Kenai River. From its mouth upstream about 2.5 miles (to a regulated point 1,800 feet below a low series of falls), the Russian River and adjoining Kenai River are recognized as the busiest fishing river in Alaska.

The Russian River is the major draw in a constellation of recreational resources that are spread from the confluence of the Russian River and the Kenai River upstream on a 23-mile-long trail system that features a gorge, a river falls, two lakes, and three USFS public recreation cabins. The Russian River, like the Kenai River, experiences overuse pressures in some areas. New facilities, controlled access, fees, and stream bank restoration are methods used to maintain the condition of this recreational resource.

#### User demand, facilities, and access

The Russian River is one of the most popular clear water red salmon fisheries in Alaska, with a 10-year average of 57,815 angler-days per year (ADF&G 2006). More than 1,000 anglers a day can be found fishing the Russian River/Kenai River confluence, and demands made on the Russian River fish are sometimes greater than the resource can provide. At times ADF&G closes or liberalizes all or part of the fisheries by emergency order. Sport angling and harvests data in Table 9, and Russian River Ferry and Visitor statistics in Table 10, indicate user demand.

<table>
<thead>
<tr>
<th>Year</th>
<th>Anglers</th>
<th>Days Fished</th>
<th>Fish Harvest Total (All species)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>25,064</td>
<td>60,784</td>
<td>63,313</td>
</tr>
<tr>
<td>2005</td>
<td>25,482</td>
<td>55,801</td>
<td>60,097</td>
</tr>
<tr>
<td>2006</td>
<td>30,492</td>
<td>70,804</td>
<td>87,348</td>
</tr>
<tr>
<td>2007</td>
<td>24,834</td>
<td>57,755</td>
<td>57,606</td>
</tr>
<tr>
<td>2008</td>
<td>23,899</td>
<td>55,444</td>
<td>70,728</td>
</tr>
<tr>
<td>2009</td>
<td>26,547</td>
<td>64,518</td>
<td>99,287</td>
</tr>
<tr>
<td>2010</td>
<td>19,231</td>
<td>39,873</td>
<td>35,529</td>
</tr>
</tbody>
</table>

Data Source: ADF&G, Division of Sport Fish Harvesty. Kenai Peninsula Area sport fish freshwater harvest and effort Survey Information, 2004-2011
Figure 5. Russian River Sport Fish Harvest and Effort Data, 2004–2011

Table 10. Russian River Ferry and Visitor Statistics, 1999–2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Russian River Ferry Passengers</th>
<th>Sportsman's Landing Boat Launch</th>
<th>Vehicles Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>39,365</td>
<td>1,339</td>
<td>15,233</td>
</tr>
<tr>
<td>2000</td>
<td>35,714</td>
<td>1,560</td>
<td>13,428</td>
</tr>
<tr>
<td>2001</td>
<td>26,855</td>
<td>1,214</td>
<td>9,731</td>
</tr>
<tr>
<td>2002</td>
<td>39,483</td>
<td>1,592</td>
<td>13,888</td>
</tr>
<tr>
<td>2003</td>
<td>27,481</td>
<td>1,865</td>
<td>10,810</td>
</tr>
<tr>
<td>2004</td>
<td>32,314</td>
<td>1,709</td>
<td>11,333</td>
</tr>
</tbody>
</table>

Data Source: USFWS, KNWR statistics, 2005.

In addition to sport fishing, the Russian River has the facilities and adjacent recreational resources to support a range of recreational uses. The Russian Lakes Trail provides an excellent opportunity for winter snowshoeing or skiing using three USFS cabins. In the summer, short and long-distance recreational hikes and mountain biking are popular. The trails also provide an opportunity to view and photograph sockeye salmon as they leap through the falls to continue their journey to their spawning grounds.
grounds, approximately three miles upstream from the mouth of the Russian River. This and other access points and facilities for the river are summarized in Table 11.

<table>
<thead>
<tr>
<th>MP</th>
<th>Access Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.7</td>
<td>Snug Harbor Road</td>
<td>This road off the existing Sterling Highway leads to the eastern trailhead for the Russian Lakes Trail, with access to Russian River Campground (23 mile trip past Upper and Lower Russian Lakes, and along the Russian River).</td>
</tr>
<tr>
<td>53</td>
<td>Russian River Campground and Russian Lakes Trailhead</td>
<td>Large USFS campground with 83 sites. Also the western trailhead for 23-mile Russian Lakes Trail.</td>
</tr>
<tr>
<td>54.9</td>
<td>Kenai-Russian River Access Area</td>
<td>National Wildlife Refuge operated fee area with private ferry and paved parking for 75 vehicles, 30 trailers, and RVs; Major non motorized boat launch area for fishing; Restrooms; River/bear viewing with some interpretive material; Major fishing destination.</td>
</tr>
</tbody>
</table>


Ownership and management for recreation use

Chugach National Forest manages the Russian River as a Wild and Scenic River (although it is not so designated by Congress at this time) in recognition of its outstanding “wild, recreational, fisheries and prehistoric heritage values.” The river forms the boundary between the Forest and the KNWR; refuge lands in the area are designated as federal Wilderness. The heavy seasonal use pressures created by these outstanding qualities create significant management and facility capacity issues.

Another management consideration for future recreation in the Russian River Area is CIRI land transferred under 14(h)(1) of the Alaska Native Claims Settlement Act (ANCSA), located between Sterling Highway MP 53 and 55. The Russian River Land Act (U.S. Congress 2002) spells out the settlement and protects public lands in the Russian River Area (the USFS campground and ferry site and most of the land remain in federal control) while conveying a 42-acre bluff parcel on USFS land overlooking the confluence and a 20-acre parcel on USFS land along the Sterling Highway to CIRI, with a public easement to the Kenai River banks. The land act also allows CIRI and the USFWS to trade federal Wilderness lands adjacent to the refuge boundary without further Congressional approval under certain conditions, which could increase CIRI’s land holdings in this area. As outlined in the agreement ratified by the Russian River Land Act, CIRI has plans to develop an interpretive and archaeological research center and a lodge near the Russian River-Kenai River Confluence on the 42-acre parcel. These developments have the potential to generate additional recreational activity, which could benefit recreational uses in the area, but which also potentially could worsen road congestion and safety conflicts on the existing Sterling Highway in this area.

Finally, the Kenai Area Plan for state selected and patented lands references Unit 396—Russian River Ferry (4.3 acres)—that should be considered for addition to the KRSMA that has recreational access value associated with the Russian River. This is the Sportsman’s Landing Boat Launch parcel owned by the State of Alaska that serves also as access to the Russian River Ferry.
Recreation role in the study area and region

The Russian River is the main attraction for recreational sport fishing in the study area and has scenic, wildlife, and cultural attributes that create a unique recreational experience. The Russian River sport fishery generates significant seasonal traffic and activity concentrated along the existing Sterling Highway MP 53–55 that interferes with through-traffic and creates serious safety concerns.

The Russian River is a prime recreational attraction and helps to create the traffic problems the Sterling Highway MP 45–60 Project is intended to help resolve. The river attracts slow-moving recreational traffic intent on destinations within the local area, which conflicts with through-traffic.

2.3 Upland Recreation Resources

Nearly all of the land in the Cooper Landing region is federally owned, located either within the Chugach National Forest or KNWR. Only certain lands near the Kenai River are privately owned. The federal lands, along with state and borough public lands, offer “unlimited” opportunities for upland recreation (Table 12) including hiking, camping, cabin use, hunting, snowmobile and off-highway recreational vehicle use, skiing, snowshoeing, biking, horseback riding, and enjoying scenery and wildlife (DOT&PF 2006, 107).

<table>
<thead>
<tr>
<th>Public Land</th>
<th>Acreage</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chugach National Forest</td>
<td>1.2 million acres in the Kenai geographic area</td>
<td>USDA, USFS, Seward Ranger District</td>
</tr>
<tr>
<td>Kenai National Wildlife Refuge</td>
<td>1.92 million acres</td>
<td>USFWS</td>
</tr>
<tr>
<td>State of Alaska</td>
<td>9,608</td>
<td>DNR; Division Parks and Outdoor Recreation and Division of Mining, Land and Water</td>
</tr>
<tr>
<td>Kenai Peninsula Borough</td>
<td>5,000 acres*</td>
<td>Kenai Peninsula Borough (with input from the Cooper Landing Advisory Planning Commission)</td>
</tr>
</tbody>
</table>

* Selected from the State of Alaska under municipal entitlement selection ADL 201307.


Existing access and developed upland recreational facilities in the study area include the Sterling Highway itself (as access to recreation, and as a recreational driving experience), a number of improved backcountry trails, recreational cabins, interpretive facilities, a visitors’ center, and camping and picnic areas. Agencies that manage these lands have developed specific plans for their respective jurisdictional areas, although some joint oversight and management does occur, especially on popular trails and lands adjacent to waterways that are managed as part of the Kenai River Special Management Area (KRSMA) as described in Section 2.2.1.

To characterize upland recreation resources, this section describes for each major public land resource: a) general location, size, and condition; b) user demand, facilities, and access; c) ownership and management for recreation use; and d) recreation role in the study area and region. Map 2 (APPENDIX A: MAPS) highlights recreational resources covered in this section and also illustrates clusters of related access and facility use, recognizing that existing facilities and access tend to be clustered (e.g.
trailhead, trail, campground) and originate from the Sterling Highway. This synopsis includes those resource clusters that have well-developed access and facilities and receive heavy summer use, as well as other resources that have less developed access and facilities, but remain important for year-round community use.

2.3.1 Chugach National Forest

2.3.1.1 General location, size, and condition

The community of Cooper Landing and much of the study area are surrounded by Chugach National Forest lands managed by the USFS. With over one million acres in the Kenai geographic area, the Chugach National Forest offers a wide variety of recreation opportunities, from highly developed, road-accessible experiences to undeveloped, remote experiences. The USFS lands outside the existing highway corridor are primarily designated for recreation and wildlife management.

Within the Kenai River valley, visible to or accessible from the Sterling Highway, Chugach National Forest uplands have notable scenic, habitat, and wildlife resources, although some areas have been impacted by spruce bark beetle damage and timber activities. The forest also has a number of well-developed trails with recreational huts, winter trail routes (motorized and non-motorized), view points, and interpretive sites.

2.3.1.2 User demand, facilities, and access

Chugach National Forest studies have determined that recreational use in the forest is disproportionately focused around existing access and developed facilities. Most recreation and tourism occurs in valleys with roads and trails, and along shorelines; concentrated use is expected to increase in these areas into the future. At the same time, only one percent of the available capacity in undeveloped areas is currently used (USFS 2004b, 2002a, B-5, B-30). This appears consistent with activity levels in the study area, where activity is focused around existing access along the Sterling Highway, and on developed facilities in the study area listed in Table 13.

Table 13. USFS Recreation Facilities in the Study Area  

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quartz Creek Campground</strong></td>
<td><strong>Camping</strong> - The USFS Quartz Creek Campground has 45 camp sites and a boat ramp. It lies on a National Forest recreation withdrawal at the eastern edge of the project area. This area was established, apparently in perpetuity, in 1952.</td>
<td></td>
</tr>
<tr>
<td>MP 45 Sterling Hwy</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cooper Creek Campground</strong></td>
<td><strong>Camping</strong> - Cooper Creek Campground has 29 camp sites, and is on adjacent tracts that adjoin the Kenai River Recreation Area. These areas were established in 1952 by Public Land Order 829.</td>
<td></td>
</tr>
<tr>
<td>50.7 Sterling Hwy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

9 Public land order withdrawals are undertaken under the authority of Executive Order 10355 “Delegating to the Secretary of the Interior the authority of the President to withdraw or reserve lands of the United States for public purposes,” May 26, 1952.
<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Juneau Creek Falls Recreation Area</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>View Area</strong> - The Juneau Falls recreation withdrawal lies well north of the Kenai River and encompasses a mile-long reach of Juneau Creek, the Juneau Creek falls and a viewing point, a tent site, the junction of the Resurrection Pass and Bean Creek Trails, and portions of both trails (1.5-2 miles of trail total) on 320 acres.</td>
<td></td>
</tr>
<tr>
<td><strong>Resurrection Pass National Recreation Trail</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>Trail</strong> - The Resurrection Pass Trail from the Bean Creek Trail junction north is an historic trail, and the entire trail is a designated national recreation trail. It is located entirely within Chugach National Forest. The trail is a 38-mile route from Hope to the Sterling Highway and is part of a 70-mile system that continues south nearly to the city of Seward.</td>
<td></td>
</tr>
<tr>
<td><strong>Trout Lake Forest Service Cabin</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>Cabin</strong> - A rustic cabin with loft that sleeps 6 on eastern shore of Trout Lake on a 1/2 mile access trail off the Resurrection Pass Trail. It is 7 miles from the south trailhead (Mile 52, Sterling Highway). It is also accessible by floatplane. Terrain is rolling hills of willow, spruce, and birch. Cabin elevation is 1,200 feet.</td>
<td></td>
</tr>
<tr>
<td><strong>Romig Forest Service Cabin</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>Cabin</strong> - A rustic cabin that sleeps 6 on southern shore of Juneau Lake on the Resurrection Pass Trail. It is 9 miles from south trailhead (Mile 52, Sterling Highway). Privacy is limited due to location of trail. It is also accessible by floatplane. The cabin is surrounded by willow, spruce, and birch in rolling hill terrain. Cabin elevation is 1,300 feet.</td>
<td></td>
</tr>
<tr>
<td><strong>Juneau Lake Forest Service Cabin</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>Cabin</strong> - A rustic cabin that sleeps 6, on eastern shore of Juneau Lake on the Resurrection Pass Trail in the Kenai Mountains. The trail is located in between the cabin and the lake which limits privacy. It is 9.5 miles from the south trailhead. Cabin is 200 feet from and slightly above the lake. It is surrounded by willow, spruce, and birch in rolling hill terrain. Cabin elevation is 1,300 feet.</td>
<td></td>
</tr>
<tr>
<td><strong>Swan Lake Forest Service Cabin</strong>&lt;br&gt;MP 52 Sterling Highway (south trailhead)</td>
<td><strong>Cabin</strong> - A rustic cabin that sleeps 6 next to the Resurrection Pass Trail on the southeast corner of Swan Lake, 13 miles from the south trailhead. The cabin is on the lakeshore in a grassy area surrounded by spruce birch in rolling hill terrain. Cabin elevation 1,400 feet.</td>
<td></td>
</tr>
<tr>
<td><strong>K’Beq Footprints Heritage Sites</strong>&lt;br&gt;MP 52.4 Sterling Hwy</td>
<td><strong>Interpretive walk</strong> - Kenaitze Indian Tribe and USFS K’Beq Footprints Heritage Site, Short Kenaitze cultural trail with interpretation of Native heritage and archaeological sites.</td>
<td></td>
</tr>
</tbody>
</table>

27
<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian River Campground</td>
<td>Fishing access, camping, trail and cabin access - The Russian River Campground, with 83 campsites, parking and other visitor facilities, is managed by the USFS and sits on a 340-acre National Forest recreation area withdrawal. This recreation area is immediately adjacent to and continuous with the Lower Russian Lake Recreation Area (1,855 acres) and the Kenai River Recreation Area (350 acres), both of which are also National Forest recreation withdrawals. These three recreation areas together create a large T-shaped area. The northern portion parallels the Kenai River and the existing Sterling Highway from the Chugach National Forest western boundary east to Cooper Creek Campground, where there is another recreation area withdrawal. Besides the Russian River Campground, these recreation areas contain the Russian River Anglers Trail, beginning along the Russian River primarily for fishing and viewing the falls and salmon, and Russian Lakes Trail which is 21 miles long and provides access to USFS cabins and the Russian Lakes as well as alpine areas.</td>
</tr>
<tr>
<td>Lower Russian Lakes Recreation Area</td>
<td></td>
</tr>
<tr>
<td>Russian Lakes Trail</td>
<td></td>
</tr>
<tr>
<td>Kenai River Recreation Area</td>
<td></td>
</tr>
<tr>
<td>MP 52.6 Sterling Hwy</td>
<td></td>
</tr>
<tr>
<td>Barber (Lower Russian Lake) Cabin</td>
<td>Cabin – This rustic log cabin bunks 6 and is located at an elevation of 400 feet, accessible by Russian Lakes Trail (4.0 miles from the Russian River Campground parking area). Handicapped accessible. Features ramps at front and rear doors, large pit toilets, boat dock.</td>
</tr>
<tr>
<td>MP 52.6 Sterling Hwy (Russian River Trailhead)</td>
<td></td>
</tr>
<tr>
<td>Aspen Flats Cabin</td>
<td>Cabin - A rustic cabin that sleeps 6 between the Lower and Upper Russian lakes on the Russian River. Accessible by trail; 9 miles from Russian River Campground trailhead, 12 miles from Cooper Lake trailhead off short, signed cabin access trail. Relatively flat along river with scattered spruce and black cottonwood surrounding cabin. Access trail has a few rolling hills. Cabin elevation is 600 feet.</td>
</tr>
<tr>
<td>MP 52.6 Sterling Hwy (Russian River Trailhead)</td>
<td></td>
</tr>
<tr>
<td>Upper Russian Lake Cabin</td>
<td>Cabin - A rustic log cabin that sleeps 4 located along the Russian Lakes Trail on the north shore of Upper Russian Lake. Accessible by trail; 12 miles from the Russian River Campground trailhead and 9 miles from the Cooper Lake trailhead. Area is relatively flat along the lake with scattered spruce and black cottonwood surrounding the cabin. Cabin elevation 700 feet.</td>
</tr>
<tr>
<td>MP 52.6 Sterling Hwy (Russian River Trailhead)</td>
<td></td>
</tr>
</tbody>
</table>


2.3.1.3 Viewing scenery, wildlife, and natural features

A study of visitors to the Chugach National Forest identified that viewing natural features/scenery, viewing wildlife, and driving for pleasure are among the top five recreational activities, as described in Table 14 (USFS 2012). The study identifies “viewing of natural feature” as the major recreation activity in and of itself in the Chugach National Forest, and as a major component in the overall satisfaction of other activities such as hiking, camping, tourism, and fishing. The study notes that about 80 percent of visitors to the Chugach National Forest use the Sterling Scenic Byway (USFS 2012).
### Table 14. Chugach National Forest Visitor Activity Participation and Primary Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>% Participating</th>
<th>% as Main Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viewing Natural Features</td>
<td>66.7</td>
<td>15.7</td>
</tr>
<tr>
<td>Hiking / Walking</td>
<td>63.1</td>
<td>25.8</td>
</tr>
<tr>
<td>Viewing Wildlife</td>
<td>62.1</td>
<td>6.6</td>
</tr>
<tr>
<td>Relaxing</td>
<td>48.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Driving for Pleasure</td>
<td>32.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Nature Center Activities</td>
<td>21.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Fishing</td>
<td>20.4</td>
<td>12.3</td>
</tr>
<tr>
<td>Developed Camping</td>
<td>18.0</td>
<td>6.5</td>
</tr>
<tr>
<td>Nature Study</td>
<td>15.2</td>
<td>0.6</td>
</tr>
<tr>
<td>Visiting Historic Sites</td>
<td>14.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Picnicking</td>
<td>12.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Motorized Water Activities</td>
<td>8.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Gathering Forest Products</td>
<td>8.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Some Other Activity</td>
<td>8.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Non-motorized Water</td>
<td>5.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Backpacking</td>
<td>5.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Resort Use</td>
<td>4.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>4.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Bicycling</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Hunting</td>
<td>3.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Other Non-motorized</td>
<td>2.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Primitive Camping</td>
<td>2.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Cross-country Skiing</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Downhill Skiing</td>
<td>1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Other Motorized Activity</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Horseback Riding</td>
<td>0.9</td>
<td>0.4</td>
</tr>
<tr>
<td>No Activity Reported</td>
<td>0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Motorized Trail Activity</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>OHV Use</td>
<td>0.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Note: Some visitors chose more than one primary activity.

Data Source: USFS. Chugach National Forest Region 10 National Visitor Use Monitoring Results (2012).

The potential to view wildlife in natural habitat within the project area is great and represents a primary reason people visit the study area. One study (Miller and McCollum 1999) estimated that the wildlife-viewing potential brings more out-of-state visitors to Alaska than any other. As described in Table 12, 62.1 percent of visitors to the Chugach National Forest count “viewing wildlife” as an activity they...
participate in, although it was the main activity for only 6.6 percent. Wildlife viewing opportunities exist at many locations in the study area, including:

- Roadside Dall sheep and goat viewing on the south facing slope of Langille Mountain along the Sterling Highway, MP 44–48 (Todd Communications 1987).
- The Juneau Creek valley is suspected as a brown bear travel corridor because of regular sightings (DNR 2001, 3-111).
- The Russian River falls on the border of USFS and KNWR land is a major area for viewing and photographing spawning salmon. The Russian River also has seasonal bear fishing activity, which can be viewed below the confluence with the Kenai River on some sections of the existing Sterling Highway. As motorists stop, park, and walk across and alongside the road, dangerous situations develop where visibility is poor and conflicts occur with fast moving though traffic.

The Russian River Falls and Juneau Creek Falls are two natural visual attractions in the project area.

2.3.1.4 Trail use

Developed trails are a major upland recreation resource, especially in Chugach National Forest, and there are several well-used hiking trails located within the study area. It is the second most popular use in the Chugach National Forest—63.1 percent of visitors say they walk/hike (see Table 14). Table 15 lists all USFS trails in the Cooper Landing region, and Table 16 contains USFS trail registration information for 2006-2010. The most well-known trail is the Resurrection Pass National Recreation Trail, which is part of a historical regional route between Seward and Hope. In terms of user demand, a total of 6,603 hikers registered at the south end trailhead from the years 2006 to 2010. The registered number of Resurrection Pass Trail hikers represents 11 percent of the total hiking population registered for all four hiking areas in the Cooper Landing area with registration stations (see Table 16). Also well-known is the Russian Lakes Trail, which has trailheads at Russian River Campground and at Snug Harbor Road/Cooper Lake. The Russian Lakes Trail also provides a winter connection into the Lost Lake area, and joins the primitive Resurrection River Trail, which heads south to Exit Glacier near Seward.

<table>
<thead>
<tr>
<th>Trails and Routes*</th>
<th>Miles</th>
<th>Horses</th>
<th>Bicycles</th>
<th>Hiking</th>
<th>Snowmobile</th>
<th>Skiing</th>
<th>Dog Sledding</th>
<th>Special Conditions or Seasonal Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bean Creek Trail</td>
<td>2.02</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y*</td>
<td>Y</td>
<td>Y</td>
<td>*Snowmobiles 12/1 - 2/15 Only</td>
</tr>
<tr>
<td>Cooper Lake Cut-off Trail</td>
<td>0.55</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Cooper Lake Trail</td>
<td>3.81</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Cooper Lake Lost Lake Winter Route</td>
<td>15.32</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Crescent Creek Trail</td>
<td>5.46</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Winter travel not recommended</td>
</tr>
<tr>
<td>Crescent Lake Trail</td>
<td>3.81</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 15. Study Area USFS Trails and Allowable Uses
<table>
<thead>
<tr>
<th>Trails and Routes*</th>
<th>Miles</th>
<th>Horses</th>
<th>Bicycles</th>
<th>Hiking</th>
<th>Snowmobile</th>
<th>Skiing</th>
<th>Dog Sledding</th>
<th>Special Conditions or Seasonal Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow Lake Trail</td>
<td>0.27</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Resurrection Pass Trail</td>
<td>36.12</td>
<td>Y</td>
<td>Y</td>
<td>Y*</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>*Snowmobiles alternate years</td>
</tr>
<tr>
<td>Resurrection River Trail</td>
<td>15.15</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Russian Lakes Trail</td>
<td>22.46</td>
<td>Y</td>
<td>Y</td>
<td>Y*</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>*Closed to snowmobiles, Russian River Campground - Aspen Flats Cabin</td>
</tr>
<tr>
<td>Russian River Anglers Trail</td>
<td>3.61</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Russian River Falls Trail</td>
<td>0.20</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Upper Russian Winter Route</td>
<td>3.19</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

*None of the following are allowed on these USFS trails: Highway Vehicles, High Clearance Vehicles, Off Highway Vehicles, Motorcycles. Source: USFS. *Revised Land and Resource Management Plan for the Chugach National Forest (2002) (Appendix B - Roads Analysis and Access Management Plan).*
### Table 16. Trail Registration Statistics, Cooper Landing Area USFS Trails, 2006–2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Crescent Lake</th>
<th>Russian Lakes</th>
<th>Resurrection Pass South</th>
<th>Devil's Pass</th>
<th>Total Registered Trail Users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2010</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total People Registered</td>
<td>1,077</td>
<td>10,134</td>
<td>1,374</td>
<td>611</td>
<td>13,196</td>
</tr>
<tr>
<td>Biking</td>
<td>79</td>
<td>76</td>
<td>68</td>
<td>40</td>
<td>263</td>
</tr>
<tr>
<td>Hiking</td>
<td>297</td>
<td>2,603</td>
<td>370</td>
<td>187</td>
<td>3,457</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>39</td>
<td>378</td>
<td>14</td>
<td>13</td>
<td>444</td>
</tr>
<tr>
<td>Skiing</td>
<td>5</td>
<td>24</td>
<td>5</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td><strong>2009</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total People Registered</td>
<td>1,056</td>
<td>9,110</td>
<td>1,609</td>
<td>461</td>
<td>12,236</td>
</tr>
<tr>
<td>Biking</td>
<td>70</td>
<td>72</td>
<td>63</td>
<td>38</td>
<td>243</td>
</tr>
<tr>
<td>Hiking</td>
<td>223</td>
<td>2,245</td>
<td>434</td>
<td>166</td>
<td>3,068</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>46</td>
<td>364</td>
<td>26</td>
<td>7</td>
<td>443</td>
</tr>
<tr>
<td>Skiing</td>
<td>2</td>
<td>18</td>
<td>4</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td><strong>2008</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total People Registered</td>
<td>1,047</td>
<td>9,495</td>
<td>1,415</td>
<td>510</td>
<td>12,467</td>
</tr>
<tr>
<td>Biking</td>
<td>69</td>
<td>76</td>
<td>52</td>
<td>38</td>
<td>235</td>
</tr>
<tr>
<td>Hiking</td>
<td>198</td>
<td>2,527</td>
<td>420</td>
<td>185</td>
<td>3,330</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>74</td>
<td>406</td>
<td>21</td>
<td>8</td>
<td>509</td>
</tr>
<tr>
<td>Skiing</td>
<td>5</td>
<td>9</td>
<td>10</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td><strong>2007</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total People Registered</td>
<td>723</td>
<td>8,486</td>
<td>1,186</td>
<td>528</td>
<td>10,923</td>
</tr>
<tr>
<td>Biking</td>
<td>61</td>
<td>64</td>
<td>53</td>
<td>32</td>
<td>210</td>
</tr>
<tr>
<td>Hiking</td>
<td>170</td>
<td>2,261</td>
<td>348</td>
<td>167</td>
<td>2,946</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>50</td>
<td>291</td>
<td>16</td>
<td>20</td>
<td>377</td>
</tr>
<tr>
<td>Skiing</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td><strong>2006</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total People Registered</td>
<td>603</td>
<td>6,986</td>
<td>1,019</td>
<td>308</td>
<td>8,916</td>
</tr>
<tr>
<td>Biking</td>
<td>51</td>
<td>68</td>
<td>49</td>
<td>25</td>
<td>193</td>
</tr>
<tr>
<td>Hiking</td>
<td>175</td>
<td>1,821</td>
<td>338</td>
<td>105</td>
<td>2,439</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>14</td>
<td>143</td>
<td>3</td>
<td>2</td>
<td>162</td>
</tr>
<tr>
<td>Skiing</td>
<td>0</td>
<td>9</td>
<td>8</td>
<td>3</td>
<td>20</td>
</tr>
</tbody>
</table>

Data Source: USFS, Chugach National Forest, Seward Ranger District (2012).

Note: These data come from voluntary registration kiosks and likely under-represent participation. A 2009 Observational Use Study at Multi-Use Trailheads during the summer season reported that 19% to 40% of user groups signed in to the trail registration system (USFS 2009).
2.3.1.5  Cabin use

USFS cabins in the project area are highly popular in summer, and on weekends during the winter as destinations for snowshoers, skiers, and (where allowed) snowmobile users. There is limited data on cabin use, except on the Resurrection Pass National Recreation Trail.

Table 17 shows overnight use for the first four cabins at the southern end of the Resurrection Pass Trail. Between 2009 and 2011, overall annual use rose slightly. During the summer, cabins on the trail usually are booked fully and often reserved six months in advance.

### Table 17. Use of USFS Cabins on the Southern Portion of the Resurrection Pass Trail

<table>
<thead>
<tr>
<th>Cabin Location on the Resurrection Pass National Recreation Trail</th>
<th>Number of Nights Occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Trout Lake (7.3 miles)</td>
<td>178</td>
</tr>
<tr>
<td>Romig (8.6 miles)</td>
<td>170</td>
</tr>
<tr>
<td>Juneau Lake (8.7 miles)</td>
<td>192</td>
</tr>
<tr>
<td>Swan Lake (12.8 miles)</td>
<td>145</td>
</tr>
<tr>
<td>Total</td>
<td>685</td>
</tr>
</tbody>
</table>

Data Source: USFS, Chugach National Forest, Seward Ranger District (2012).

*Note: Cabin was not available year round; cabin structure was replaced.

2.3.1.6  Hunting and Trapping

All hunting and trapping in the project area within the Chugach National Forest (CNF) is in ADF&G Game Management Unit (GMU) 7, which includes MP 45–55 of the existing Sterling Highway within a 3,520-square-mile area to the north and south of the highway and east of the KNWR-Chugach National Forest boundary (see Map 4 in Appendix A: Maps). Big game species that are hunted in the project area include moose, caribou, Dall sheep, mountain goat, black bear, brown bear, and wolf (which is also trapped) (Table 18). Other wildlife that are hunted or trapped in or from the project area include marten, beaver, other furbearers, snowshoe hares, spruce grouse, ptarmigan, and waterfowl. All species except caribou can be found in or near the project area. The Kenai Mountains caribou herd occupies a range centered on Big Indian Creek (ADF&G 2012b), approximately 18 miles north of the Sterling Highway.

Generally, hunting and trapping is allowed in the project area and surrounding areas, except for two closed areas. One of these is the Cooper Landing Closed Area (closed to Dall sheep and mountain goat hunting north of the Sterling Highway between Juneau Creek and Quartz Creek), and the other is the Russian River Closed Area (closed to hunting during June and July within 150 yards of the Russian River, below Lower Russian Lake) (ADF&G 2012c). Shooting is not allowed on, from, or across any road or highway (ADF&G 2012d).

Hunting occurs primarily in the fall for most big game species; however, the peak harvest for black bears is in May (although the open season is year-round) (Selinger 2008), and peak harvest (hunting and trapping) for wolves is in January and February (McDonough 2009). Peak trapping harvest is November through February for all other furbearers (McDonough 2010a).
The number of big game hunters using the project area in the CNF for hunting or access to hunting each year cannot be determined precisely, but it is certainly greater than 82 and likely smaller than 496 (see Table 18). This number does not include small game and waterfowl hunters, or furbearer trappers. The CNF estimated that 3 percent of CNF visitors participated in hunting (Table 14), but the related number of individuals was not available, nor trapper numbers (USFS 2012). Hunting in the Cooper Landing area was estimated to increase 16 percent during a five-year period in the 1990s according to local area vendors (Chugach Electric Association 2005), but no updated estimates are available.

The annual trapping harvest in GMU 7 averaged 100 marten and 36 beaver (from fall 2003 to spring 2008) and 9 wolves (includes hunting from fall 2003 to spring 2008). Trapping effort varies widely from year to year depending on snow conditions, fur and fuel prices, and fur quality (e.g., related to disease outbreaks) (McDonough 2010a). There are no estimates available online for the number of trappers using GMU 7.

Primary access to hunting areas is typically by highway vehicles; and then hunters travel by boat, horse, ATV/ORV/snowmachine, dog team, or on foot (ADF&G 2012e). Vehicle-based hunters can gain access to GMU 7 from the Sterling Highway MP 45–55 pullouts, trailheads, side roads, and the Cooper Lake transmission line ROW (Chugach Electric Association 2005). As many as 200 vehicles have parked along Snug Harbor Road, the Cooper Lake Access Road, or at the Cooper Lake Boat Launch area during moose hunting season, but the number of parked vehicles varies greatly from year to year (Chugach Electric Association 2005). Horses and snowmachines are used by a small proportion of hunters in the project area (ADF&G 2012b). The Resurrection Pass Trail is the major access for caribou hunting from both the Cooper Landing and Hope trailheads.

Generally, most trappers in GMU 7 use a highway vehicle to access trapline areas, and then use snowshoes or a snowmachine to travel along their traplines (McDonough 2010a).

Table 18. Summary of Big Game Hunting in the Project Vicinity

<table>
<thead>
<tr>
<th>Species</th>
<th>2012 Hunting Season</th>
<th>Hunt Area or Number</th>
<th>Average Number</th>
<th>Years Used for Average</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black bear</td>
<td>Year-round (primarily May)</td>
<td>All of GMU 7</td>
<td>496</td>
<td>5</td>
<td>2009-2011</td>
</tr>
<tr>
<td>Moose</td>
<td>August 10-September 20 (FM0004; USFWS 2012); August 20-September 20</td>
<td>All of GMU 7</td>
<td>271</td>
<td>26</td>
<td>2007-2011</td>
</tr>
<tr>
<td>Caribou</td>
<td>August 10-December 31 (primarily August – early September)</td>
<td>DC001</td>
<td>82</td>
<td>6</td>
<td>2006-2010</td>
</tr>
</tbody>
</table>
### Species

<table>
<thead>
<tr>
<th>Species</th>
<th>2012 Hunting Season</th>
<th>Hunt Area or Number</th>
<th>Average Number Hunters</th>
<th>Years Used for Average</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dall sheep</td>
<td>August 10–September 20; 3 permits</td>
<td>DS150</td>
<td>2</td>
<td>0</td>
<td>2006–2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The southern border for Hunt DS150 is the Sterling Highway between Fuller Creek Trail and Juneau Creek. The area also includes part of the KNWR.</td>
</tr>
<tr>
<td>Mountain goats</td>
<td>August 10–October 15; 2 permits</td>
<td>DG341</td>
<td>2</td>
<td>0</td>
<td>2005–2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunt area is Cecil Rhoad Mountain bounded by MP 48–50.5 and Snug Harbor Road (Map 4).</td>
</tr>
<tr>
<td>Brown bear&lt;sup&gt;10&lt;/sup&gt;</td>
<td>September 15–November 30; April 1–June 15; 3 permits</td>
<td>DB303</td>
<td>2</td>
<td>0</td>
<td>Fall 2007–Fall 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunt area is bounded on south by MP 45–55 (Map 4). Hunt was closed 2005–2007.</td>
</tr>
</tbody>
</table>

The latest data (up to five years) as of December 2012 were used, as available (from ADF&G 2012e).

#### 2.3.1.7 Snowmobiling / Winter use

Section 522 of the Revised Land and Resource Management Plan for Chugach National Forest (USFS 2002a) addresses the Major Transportation and Utility Systems management classification within the Chugach National Forest. Section 522 identifies roads and corridors within the study area that are on USFS lands. Summer motorized access is restricted to roads, trails, and areas designated for subsistence use. Motorized recreation for winter activities is allowed in Chugach National Forest, except in specifically closed areas.

There are popular snowmobile areas located within the study area, especially to the south near the Cooper Lake power project area, located off of the Sterling Highway at the end of Snug Harbor Road. In a 2004 recreation survey for the area, Cooper Landing residents and vendors were asked to estimate the amount of current use and potential demand associated with the Cooper Lake power project area (Table 19). Cooper Landing residents also have direct snowmobile access to this motorized winter use area via Cooper Creek watershed, the powerline, and Kenai Lake.

<sup>10</sup> In 2012, a registration hunt RB300 was included on ADF&G website, but there were no data posted (ADF&G 2012).
Table 19. Estimated Snowmobile Use on USFS land via Snug Harbor Road

<table>
<thead>
<tr>
<th>Recreational Survey Question</th>
<th>Respondent Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the largest number of cars and trucks you have seen parked on Snug Harbor Road at one time for the purpose of accessing snowmobile areas?</td>
<td>Minimum: 7, Maximum: 90</td>
</tr>
<tr>
<td>How many parking spaces would be adequate for handling peak Snug Harbor Road Parking Demand?</td>
<td>Minimum: 20, Maximum: 200</td>
</tr>
<tr>
<td>How many individual snowmobiles do you think access the Cooper Lake recreation area from Snug Harbor Road in a 24-hour period on a day with ideal snow conditions?</td>
<td>Minimum: 9, Maximum: 200</td>
</tr>
</tbody>
</table>

Data Source: LDN. Cooper Lake Project Re-licensing Recreation Study (2004)

2.3.1.8 Ownership and management for recreation use

Chugach National Forest surrounds most state, KPB, and private lands in the study area, and abuts the existing highway corridor at several places. Management of these lands is directed by the revised Chugach National Forest Revised Land and Resource Management Plan (USFS 2002a). This plan designates lands in the study area as falling into USFS land management “Categories” that have specific prescriptions to help agencies with planning, development, and management. These prescriptions include “Recreation Opportunity Spectrum” objectives that require development to conform to the character of the setting and land use, and “Scenic Integrity Objectives” describing the visual attributes the USFS strives to maintain during development.

USFS land potentially impacted by project alternatives falls into five categories as shown in Map 5 (Appendix A: Maps) and listed below in Table 20. Additionally, Inventoried Roadless Areas (IRAs) are large contiguous areas without roads that may cross other management boundaries. Roadless areas are, in part, an indicator of backcountry or wilderness type recreation qualities, without being designated as part of the National Wilderness Preservation System. Inventoried Roadless Areas were classified as part of a nationwide process to identify lands that may qualify for wilderness designation in the future. In part, they are characterized by natural appearing landscapes with high scenic quality.

Table 20. Chugach National Forest Management Prescriptions for Lands in the Sterling Highway MP 45–60 Project Area

<table>
<thead>
<tr>
<th>Major Transportation/Utility Systems</th>
<th>USFS Land Management Category 5, 522</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Management Intent</td>
<td>Managed for existing and future transportation systems/utility systems (defined in part as state and federal highways). Was developed to specify management direction for existing and reasonably foreseeable future major transportation and utility routes. No conditions on roads built by others.</td>
</tr>
<tr>
<td>Rural Recreation Opportunity Spectrum</td>
<td>The natural environment is substantially modified by land use activities. Opportunity to observe and affiliate with other users is important as is convenience of facilities. There is little opportunity for challenge and risk, and self-reliance on outdoor skills is of little importance. Recreation facilities designed for group use are compatible. Users may have more than 20 group encounters per day.</td>
</tr>
</tbody>
</table>
### Scenic Integrity Objectives

Landscape character moderately altered. Noticeable deviations may dominate the valued landscape character.

### General Management Intent

**Fish, Wildlife, and Recreation**

USFS Land Management Category 3, 312

Managed to provide a variety of habitats for fish and wildlife species and year-round recreational opportunities in developed and dispersed settings. No conditions on roads built by others.

**Roaded Natural Recreation Opportunity Spectrum**

Resource modification and use are evident, in a predominantly naturally appearing environment generally occurring within ½ mile (greater or less depending on terrain and vegetation, but no less than ¼ mile) from better-than-primitive roads and other motorized travel routes. Interactions between users may be moderate to high (generally less than 20 group encounters per day), with evidence of other users prevalent. There is an opportunity to affiliate with other users in developed sites but with some chance for privacy. Self-reliance on outdoor skills is only of moderate importance with little opportunity for challenge and risk. Motorized use is allowed.

### Scenic Integrity Objectives

Landscape character slightly altered. Noticeable deviations must remain subordinate to landscape being viewed.

### General Management Intent

**Fish and Wildlife Conservation Area**

USFS Land Management Category 2, 244

Managed to emphasize the conservation of specific fish and wildlife habitats. Other agencies (non-Forest Service) can build roads with conditions.

**Semi-Primitive Motorized Recreation Opportunity Spectrum**

A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located within ½ mile of primitive roads and other motorized travel routes used by motor vehicles; but not closer that ½ mile (greater or less depending on terrain and vegetation, but no less than ¼ mile) from better-than-primitive roads and other motored travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a moderate probability of experiencing solitude, closeness to nature, and tranquility along with a high degree of self-reliance, challenge, and risk in using motorized equipment. Local roads may be present, or along saltwater shorelines there may be extensive boat traffic.

### Scenic Integrity Objectives

Landscape character moderately altered, Noticeable deviations may dominate the valued landscape character.

### General Management Intent

**Backcountry**

USFS Land Management Category 2, 210

Managed to emphasize a variety of recreational opportunities for backcountry activities in natural appearing landscapes. Other agencies (non-Forest Service) can build roads with conditions.

**Semi-primitive Motorized Recreation Opportunity Spectrum**

A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located within ½ mile of primitive roads and other motorized travel routes used by motor vehicles; but not closer that ½ mile (greater or less depending on terrain and vegetation, but no less than ¼ mile) from better-than-primitive roads and other motored travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a moderate probability of experiencing solitude, closeness to nature, and tranquility along with a high degree of self-reliance, challenge, and risk in using motorized equipment. Local roads may be present, or along saltwater shorelines there may be extensive boat traffic.
**Scenic Integrity Objectives**

| Landscape character slightly altered. Noticeable deviations must remain subordinate to landscape being viewed. |

**Inventoried Roadless Areas**

| Description | The Kenai Lake Inventoried Roadless Area lies south of Cooper Landing, and the Resurrection Inventoried Roadless Area lies north of the existing Sterling Highway. |


In addition to the land management prescriptions mentioned above that apply to Chugach National Forest lands crossed by project alternatives, the 2002 Chugach National Forest Revised Land and Resource Management Plan also has the following goals specific to upland recreation in the study area:

- The Kenai Peninsula geographic area is managed to accommodate high levels of human use, while maintaining its natural-appearing character.
- The Sterling highway corridor (¼ mile from the highway) and other road-accessible areas contain developed recreation sites and provide access points for a variety of dispersed recreational activities. Improvements such as bridges, trails, trailheads, expanded campgrounds, and new cabins will extend the ability of the Kenai Peninsula to accommodate increased summer recreation use without diminishing the area’s natural quality.
- Highway traffic along the Sterling Highway should be improved in the Cooper Landing area with minimal impact on the resources of the Forest or the riparian areas along the Kenai River.
- Continued management of the Resurrection Pass Trail as a National Recreation Trail.
- Maintain the outstanding scenic quality of the Chugach National Forest.
- Maintain the current USFS trail system and facilities in the Kenai geographic area.

**2.3.1.9 Recreation role of USFS lands in the study area and region**

Chugach National Forest is a major recreational resource providing significant opportunities for upland recreation. Most upland recreation originates from the Sterling Highway, which is an important resource and mode of access (USFS 2002a). Although major use of USFS campground and other facilities in the study area is related to sport fishing (nearly 58,000 angler days) and boating (25,000 participants), there are also a number of other activities that draw thousands of visitors through the area, including scenic driving (as high as 200,000 visitors annually on both the Sterling and Seward Highways), hiking and trail use (13,000 annual average of users on four area trails), and cabin use (around 700 rented nights annually). Some activities are harder to quantify but occur in the forest including snowmobiling, hunting, horseback riding, and mountain biking.

**2.3.2 Kenai National Wildlife Refuge**

**2.3.2.1 General location, size, and condition**

A large portion of the study area west of MP 55 on the existing Sterling Highway alignment is Kenai National Wildlife Refuge (KNWR) land managed by the USFWS. Section 303.4 of ANILCA expanded the previous Kenai National Moose Range and established it as the refuge, notably the only refuge in Alaska where providing opportunities for compatible fish- and wildlife-oriented recreation is a major purpose (USFWS 2010).
The refuge’s eastern boundary is located in the study area at MP 55 on the Sterling Highway, and extends north across Round Mountain, and south along the Russian River. Extending west from this boundary, the KNWR encompasses 1.92 million acres, including much of the land area on the Kenai Peninsula, including portions of the Kenai Mountains, and vast acreages rich in small lakes, wetlands, and river drainages and deltas that provide wildlife habitat. The refuge attracts primarily wildlife viewing, fishing, canoeing/boating, hunting, snowmobiling, hiking, and picnicking.

The Mystery Creek Wilderness Unit lies in the project area immediately north of the existing Sterling Highway and comprises 45,373 acres. The unit is generally natural in appearance, and remains largely unaffected by human activities. The unit provides excellent recreation opportunities for hiking, camping, hunting, fishing, and viewing wildlife. Except for the Fuller Lakes Trail, human use of the refuge and the Mystery Creek Wilderness in close proximity to the existing highway is relatively rare, with some hunting and activities such as searching for antlers or mushrooms (USFWS 2009). The Mystery Creek Access Road (accesses a natural gas pipeline) and the Sterling Highway are noted in the plan as “reducing the naturalness of the immediately adjacent areas” (USFWS 2010).

Within the study area, the KNWR has several major facilities focused around the Russian River (primarily fishing and boat access related), including a campground, parking area, ferry across the Kenai River to the Russian River confluence, and a roadside visitor’s center. Several USFWS recreation facilities are located within the study area (i.e., Fuller Lakes Trail, Surprise Creek Trail and Skilak Lake itself). None of these would be directly impacted by any Sterling Highway alternatives (see Section 3, Impacts, for more details).

2.3.2.2 User demand, facilities, and access

Refuge-wide, a 2006 study reported that 659,525 “visits” were made to the KNWR, more than any other refuge in Alaska (Carver and Caudill 2006). The study found that about two-thirds of the visits to the refuge were made by Alaska residents. Additional data indicate that:

- 393,000 visits were for non-consumptive activities, including use of nature trails, wildlife observation and birding, and beach/water use, among other activities.
- 248,000 visits were for sport fishing.
- 18,525 visits were for sport hunting, including relatively equal amounts of big game hunting (5,500) and small game hunting (5,100), and migratory bird hunting (7,925).

Data specific to the study area comes from the KNWR Visitor Contact Station operated by the USFWS at the western end of the project corridor, north of the highway at about mile 58. The site consists of a small, staffed building with interpretive information, book and map sales, parking, and outhouses. Recent visitor statistics for both visitors parking and those visiting the station are available in Table 21.

Access to the Mystery Creek Unit from within the project area is provided from the Sterling Highway. The Comprehensive Conservation Plan notes that the Sterling Highway, and the Mystery Creek Access Road and the Moose River (outside the project area) provide “ample access to the unit” (USFWS 2010).

The KNWR Visitor Contact Station and other KNWR/USFWS facilities in the project area (Table 22) predominantly support sport fishing and boating activity at the confluence of the Russian River, and have high visitation rates as described earlier in Table 10. Of the facilities listed in Table 22, the Fuller Lakes and Surprise Creek Trails are the only USFWS upland recreation-oriented facilities, and are located at the western end of the Sterling Highway alternatives. The Fuller Lakes Trail is popular for day-hiking and overnight backpacking and connects via a ridge-top route to the Skyline Trail, which leaves the Sterling Highway farther west, outside the project area. These Fuller Lakes and Skyline trails provide the only developed access into the Mystery Creek Wilderness, and Surprise Creek Trail provides access into the Andrew Simons Wilderness south of the Kenai River. These are the closest
opportunities for recreation in a federal wilderness area for most of Alaska’s population. The trails provide access to higher elevations where hunters and off-trail hikers can explore further.

### Table 21. Kenai Refuge Visitor Contact Station Visitors, 2005-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Kenai Refuge Contact Station Visitors</th>
<th>Visitor Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>3,789</td>
<td>9,381</td>
</tr>
<tr>
<td>2006</td>
<td>3,599</td>
<td>7,515</td>
</tr>
<tr>
<td>2007</td>
<td>3,265</td>
<td>13,044</td>
</tr>
<tr>
<td>2008</td>
<td>1,800</td>
<td>3,900</td>
</tr>
<tr>
<td>2010</td>
<td>2,871</td>
<td>8,905</td>
</tr>
<tr>
<td>2011</td>
<td>2,524</td>
<td>9,032</td>
</tr>
<tr>
<td>2012</td>
<td>762</td>
<td>2,543</td>
</tr>
</tbody>
</table>


### Table 22. USFWS Study Area Facilities

<table>
<thead>
<tr>
<th>MP</th>
<th>Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Kenai-Russian River Campground /Sportsman’s Landing /Boat Launch /Russian River Ferry</td>
<td>The USFWS operates a small campground at the KNWR border as part of a complex of facilities including a ferry across the Kenai River for anglers and other recreationists and a boat launch ramp. (Note: The boat launch and associated parking are on state land owned by the Alaska Department of Fish and Game but managed by USFWS under an interagency agreement.)</td>
</tr>
<tr>
<td>57</td>
<td>Fuller Lakes Trailhead and Trail</td>
<td>Hiking, Wildlife Viewing, Hunting access</td>
</tr>
<tr>
<td>58</td>
<td>USFWS Visitor Contact Station</td>
<td>Information, Parking, Restrooms</td>
</tr>
<tr>
<td>58</td>
<td>Jim’s Landing</td>
<td>This USFWS boat launch is a heavily used public boat take out point since motor powered boats are not allowed in the upper Kenai River and downstream Class 2 and Class 3 whitewater exists prior to the next takeout. Parking is limited, but there is a graveled, flat launch to the river. Some parking occurs at visitor contact station.</td>
</tr>
<tr>
<td>58</td>
<td>Surprise Creek Trail</td>
<td>Hiking, Wildlife Viewing, Hunting access across the Kenai River from the road system.</td>
</tr>
</tbody>
</table>


#### 2.3.2.3 Wildlife viewing

Based on survey data from the refuge, many visitors—whether traveling through, or visiting the KNWR—are interested in viewing wildlife. The refuge is managed to support healthy wildlife populations, and there are several wildlife viewing opportunities in the Kenai River valley (see Table 23).
Table 23. Wildlife Viewing Resources on or Near the KNWR in the Cooper Landing Area

<table>
<thead>
<tr>
<th>Species</th>
<th>Likelihood of Being Seen</th>
<th>Areas on or Near the Kenai Refuge Where Most Frequent Sightings Occur</th>
<th>Specific Time of Year (if applicable)</th>
<th>Specific Species Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salmon</strong></td>
<td>Very Likely</td>
<td>Russian River Falls (via Russian Lakes Trail); Hidden Creek Trail (off Skilak Road at mouth of creek); Upper Kenai River highway pullouts</td>
<td>Mid-June through Mid-August</td>
<td>Chinook Salmon (king salmon) - The Chinook salmon is the largest of the five species of North American salmon. The current world record on hook and line was a 97 lb. (44 kg) fish taken in the Kenai River in 1985. cohco salmon (silver salmon) - Coho salmon use a wide range of freshwater habitats within KNWR; Coho salmon provide an important late summer and fall recreational fishery in the Kenai River and are highly desirable to anglers because of their fighting and jumping ability. sockeye salmon (red salmon) - Sockeye salmon in the Kenai River may exceed 15 lb. (6.8 kg). The Kenai and Russian River is the major producer of sockeye salmon in Cook Inlet and largest recreational sockeye fishery in Alaska.</td>
</tr>
<tr>
<td><strong>Bald Eagle</strong></td>
<td>Very Likely</td>
<td>Upper Kenai River, esp. from Kenai Lake to Outlet of Skilak Lake</td>
<td>Year Round (best months)</td>
<td>Bald eagles are a common sight within KNWR, nesting in tall cottonwoods, birch, and sometimes spruce trees. Up to 600 bald eagles have been observed overwintering along the upper Kenai river.</td>
</tr>
<tr>
<td><strong>Moose</strong></td>
<td>Very Likely</td>
<td>Skilak Lake Road and Kenai River area</td>
<td>Year-Round</td>
<td>From 1941–1980, the Kenai National Moose Range (now KNWR) was managed primarily “to protect the breeding and feeding ranges of the giant Kenai moose.” The biggest bulls can be 7½ feet tall at the shoulders, weigh 1,800 lbs., and have antlers that span more than 6 feet.</td>
</tr>
<tr>
<td><strong>Dall Sheep &amp; Mountain Goat</strong></td>
<td>Fairly Likely</td>
<td>Round Mountain (with scope/binoculars from Sportsman’s Landing), Skyline Trail, Fuller Lakes Trail, USFS land at Langille Mountain</td>
<td>April–September</td>
<td>KNWR is one of a few refuges in the United States that support Dall sheep. There are an estimated 900 to 1,300 sheep in the eastern Kenai Mountains. Dall sheep share their mountainous habitat in KNWR with 500 to 700 mountain goats, the only goat-like ungulate in North America.</td>
</tr>
<tr>
<td><strong>Black Bear</strong></td>
<td>Infrequent</td>
<td>Kenai River, U.S. Forest Service Trails: Russian Lakes, Resurrection, Skilak Lake area; Skyline, Fuller Lakes, Skilak Lookout, Hidden Creek</td>
<td>April–October</td>
<td>Black bears are common in all forest habitats within KNWR. They also occur above tree line in the Kenai Mountains. Densities average around one bear per 1.6 square miles.</td>
</tr>
<tr>
<td><strong>Brown Bear</strong></td>
<td>Infrequent</td>
<td>Kenai River, USFWS and USFS Trails: Russian River, Resurrection, Skyline, Fuller Lakes, Hidden Creek</td>
<td>April–October</td>
<td>Brown bears are can be seen fishing for salmon in the Kenai River as well as various tributaries and nearby locations during the summer and fall.</td>
</tr>
<tr>
<td><strong>Wolf</strong></td>
<td>Rare</td>
<td>Skilak Lake Road</td>
<td>Year-Round (winter best)</td>
<td>The wolf was exterminated on the Kenai Peninsula around 1915 but by the mid 1970s most wolf habitat was again occupied by wolves.</td>
</tr>
</tbody>
</table>
**Species Likelihood of Being Seen**

<table>
<thead>
<tr>
<th>Species</th>
<th>Areas on or Near the Kenai Refuge Where Most Frequent Sightings Occur</th>
<th>Specific Time of Year (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada Lynx</td>
<td>Skilak Lake Road</td>
<td>Year-Round (winter best)</td>
</tr>
</tbody>
</table>

The lynx is the only native North American cat in Southcentral Alaska, and it is subject to periodic 8 to 13 year cycles of abundance and decline. These 20- to 40-pound cats travel quickly and silently across deep snow as they track their major prey, the snowshoe hare.


### 2.3.2.4 Trail Use and Cabins

The Fuller Lakes Trail and Surprise Creek Trail are located on KNWR lands in the study area. The Fuller Lakes Trail has a trailhead at about MP 57 on the Sterling Highway in the study area. The Surprise Creek Trail is across the Kenai River from the road system and downstream of Jim’s Landing; it is not directly accessible from the Sterling Highway. Neither trail is within the area potentially directly impacted by the proposed project alternatives, except for the Fuller Lake trailhead. These trails provide popular day hikes and overnight backpacking opportunities, and hunting access. The Fuller Lakes Trail connects via a ridge walk to the Skyline Trail, which has a trailhead farther west along the Sterling Highway.

Although KNWR does maintain cabins for public use, no USFWS public-use cabins are located in or near the project area (USFWS N.d.).

### 2.3.2.5 Hunting and Trapping

All hunting and trapping in the project area within the KNWR is in ADF&G GMUs 15A (1,314 square-mile area) and 15B (1,121 square-mile area), which are divided by the Sterling Highway in the MP 55–60 are (see Map 4). Big game species that can be hunted in the project area include moose, Dall sheep, black bear, brown bear, and wolf (which is also trapped; Table 24). Other wildlife that can be hunted or trapped in or from the project area include marten, beaver, other furbearers, snowshoe hares, spruce grouse, ptarmigan, and waterfowl.

Generally, hunting and trapping is allowed in the project area and surrounding areas, except in the Skilak Loop Wildlife Management Area, south of MP 58-60, where hunting and trapping are restricted (ADF&G 2012f). There are also firearms restrictions in the KNWR project area. Shooting is not allowed on, from, or across any road or highway (ADF&G 2012d). Firearms may not be discharged within one-quarter mile of trailheads, waysides, buildings or the Sterling Highway from MP 55-60 (USFWS 2010).

Hunting occurs primarily in the fall for most big game species, however the peak harvest for black bears is in May (although the open season is year-round; Selinger 2008), and peak harvest (hunting and trapping) for wolves is in January and February (McDonough 2009). Peak trapping harvest is November through February for all other furbearers (McDonough 2010a).

Hunting is a popular use of the KNWR (USFWS 2010), but the number of hunters using only the project area in the KNWR is unknown, and likely low for several reasons. The project area only includes Refuge lands along MP 55-60, with limited trails and side roads, and has hunting and shooting restrictions (USFWS 2010). Moose is the most popular game animal sought in the area (Table 24), with lesser numbers of hunters seeking black bears, Dall sheep, brown bears, and wolves. Refuge-wide, big
game hunting activity was relatively equal to small game hunting activity, with greater number of visits for waterfowl hunting (see Section 2.3.2.2, Carver and Caudill 2006). However, due to limited waterfowl habitat and accessibility, waterfowl hunting is likely low in the Sterling Highway project area.

Trapping remains an important activity for some KNWR users (USFWS 2010), although the small amount of project area in the KNWR, limited trails and side roads, and trapping restrictions south of MP 58-60 likely limit the number of trappers using the project area for access to traplines. The numbers of trappers using the project area or the entire KNWR are not available. The annual trapping harvest in the entire GMU 15A and 15B averaged 16 marten, 51 beavers, and 23 wolves (includes hunting) from fall 2003 to spring 2008. Trapping effort varies widely from year to year depending on snow conditions, fur and fuel prices, and fur quality (e.g., related to disease outbreaks) (McDonough 2010a). The trapping harvest from 2003 to 2008 is about half of the 44-year average for the KNWR (USFWS 2010).

Primary access to hunting areas is typically by highway vehicles; and then hunters travel by boat, horse, ATV/ORV/snowmachine, dog team, or on foot (ADF&G 2012b)—most of these are impractical or not allowed in most areas accessible in the MP 55–60 area. Hunters can gain access to GMUs 15A and 15B from Sterling Highway MP 55–60 informal pullouts, the trailhead for Fuller Lake Trail, and from Skilak Loop Road. Access also is possible by boat on the Kenai River. Boats, horses, and snowmachines are used by some hunters in the project area (ADF&G 2012b). Fuller Creek and Surprise Creek trails are used by hunters, and are the only developed trails accessible from the KNWR project area as discussed earlier. Generally, most trappers in GMUs 15A and 15B use a highway vehicle to access trapline areas, and then use snowshoes or a snowmachine to travel along their traplines (McDonough 2010a).

Table 24. Summary of Big Game Hunting in Alaska Game Management Units 15A and 15B* (KNWR)

<table>
<thead>
<tr>
<th>Species</th>
<th>2012 Hunting Season</th>
<th>Average Number Per Year</th>
<th>Years Used for Average</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hunters</td>
<td>Using Horse</td>
<td>Using Boat</td>
</tr>
<tr>
<td>Moose</td>
<td>(August 10-17 bow)</td>
<td>1,171</td>
<td>31</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>August 20-September 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black bear</td>
<td>Year-round (primarily May)</td>
<td>123</td>
<td>4</td>
<td>63</td>
</tr>
<tr>
<td>Dall sheep</td>
<td>August 10-September 20</td>
<td>56</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Brown bear</td>
<td>September 15-November 30; April 1-June 15</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

2.3.2.6 Source: ADF&G 2012e. Ownership and management for recreation use

The KNWR Comprehensive Conservation Plan was updated in 2010 (USFWS 2010). Although only the western four to five miles of the project area (Sterling Highway MP 55–60) are within the Refuge, much of this area has a Congressional designation as part of the National Wilderness Preservation System, and carries legal restrictions on development and recreational use. According to the KNWR

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11 In 2012, a registration hunt RB300 was included on ADF&G website, but there were no data posted (ADF&G 2012g).
plan, lands designated as “Wilderness lands” (see Map 1, Appendix A: Maps) are managed to preserve their “pristine and unmodified character.” Wilderness is the most protective of the National Wildlife Refuge management categories, and Congressional approval is required to construct roads in these areas. As the only National Wildlife Refuge in the state’s Southcentral region, these Wilderness lands provide the closest opportunity for a designated wilderness experience to most of Alaska’s population, although ample de facto wilderness exists outside the KNWR.

The area surrounding the Kenai River within the Refuge and within the project area is designated by the plan as “intensive management.” Overall, the Comprehensive Conservation Plan calls for little or no change to management of “intensive management” areas such as the Sterling Highway corridor, and no new facilities are planned for the corridor in the project area (Campellone, personal communication 2008; Ernst, personal communication 2011).

2.3.2.7 Recreation role of KNWR lands in the study area and region

KNWR lands are adjacent to the Sterling Highway between MP 55 and 60. In the study area, USFWS facilities primarily are focused around fishing at the mouth of the Russian River, or are far enough west that they would not be impacted by the Sterling Highway project alternatives. Upland recreation in the KNWR (i.e., not sport-fish or boating related) is primarily wildlife viewing from the road, hiking/backpacking on Fuller Lakes Trail, or wildland activities such as hunting trapping, and berry-picking. Designated Wilderness lands are the only road-accessible federal Wilderness in Southcentral Alaska.

2.3.3 State Land

2.3.3.1 General location, size, and condition

State of Alaska land in the Cooper Landing area consists of more than 9,608 acres in state selections and patents that are largely overseen by the Alaska Department of Natural Resources (DNR) Division of Mining Land and Water (DMLW), with some properties managed by the Division of Parks and Outdoor Recreation (DPOR) and Alaska Department of Fish & Game (see Map 1, Appendix A: Maps). Additionally, the state holds interest through a right-of-way easement for the Sterling Highway, which is designated a State Scenic Byway from MP 37 to 75, and is managed by DOT&PF.

State land in the Cooper Landing area provides essential recreational access via the Sterling Highway, including turnouts, bike paths, trailheads, and waterfront access facilities. The state also has lands in the study area that are designated for recreational purposes, primarily related to trail, habitat, and scenic values. State lands in the study area attract primarily waterfront activities, but also serve for hiking, hunting, winter recreation (motorized and non-motorized), wildlife viewing and scenic driving.

2.3.3.2 User demand, facilities, and access

The State of Alaska’s land base in the Cooper Landing area is intended for broad public and community interest, including access and recreational purposes. State recreation-oriented facilities are listed in Table 25.

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12 Title XI of the Alaska National Interest Lands Conservation Act (ANILCA) is invoked for transportation and utility projects that propose use of refuge lands classified as Wilderness.

13 Kenai Area Plan (DNR 2001) estimates that there are 9,608 acres of state-owned and -selected uplands in the Cooper Landing area, not including shorelands which have not been calculated.

14 Ibid.
Table 25. State of Alaska Recreation Facilities and Lands

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenai River Special Management Area</td>
<td>A major proportion of State lands in the project area is within the Kenai River Special Management Area (KRSMA). The river itself in the project area was established by the Alaska Legislature as a unit of the State Park system. Many of the state uplands surrounding tributary streams are proposed additions to KRSMA and, like the river, are managed by DPOR as if they were part of the park unit. (Refer to Sections 2.2.1.1 and 2.2.2.2 for more information on KRSMA and the Kenai River)</td>
</tr>
<tr>
<td>Cooper Landing Boat Launch and Day Use Area</td>
<td>The Cooper Landing boat launch is immediately adjacent to the existing Sterling Highway at the Cooper Landing Bridge. It is jointly owned by the ADF&amp;G and the Alaska DNR. The DPOR manages the entire parcel through an Interagency Land Management Assignment from DNR and a cooperative agreement with ADF&amp;G. The property is proposed to be an official addition to the KRSMA park unit as part of the legislation described above. The boardwalk and area by the boat launch have interpretive signs that cover a variety of topics including fishing, Dall sheep, rafting, and boating safety. The boardwalk offers a winding excursion along the river and is easily accessible from the parking area. This is one of the few recreational access sites open year-round in the study area.</td>
</tr>
<tr>
<td>Sportsman’s Landing Boat Launch</td>
<td>The boat launch and associated parking at MP 55 are on ADF&amp;G land, for sport fishing access. Access to the USFWS Russian River Ferry is via the same driveway. The ferry operation largely occurs on the river itself and its banks, which are state land of the KRSMA managed by DPOR. (Parking located on state land, and the entire ferry/Sportsman’s area is managed by KNWR under interagency agreements.)</td>
</tr>
</tbody>
</table>

Data Source: HDR. *Sterling Highway MP 45-60 Reconstruction Project, Preliminary Identification of Section 4(f) Properties.*

2.3.3.3 Recreational access / Driving for pleasure

A major recreation resource in the study area owned by the state is the Sterling Highway, which is essential for enabling access to recreation resource areas. Additionally, data from Chugach National Forest (shown in Table 14) list very high participation rates in activities that relate to the experience of driving, and viewing scenery and wildlife in the study area:

- 62.1 percent of visitors to the Chugach National Forest participate in viewing wildlife
- 66.7 percent of visitors to the Chugach National Forest participate in viewing natural features / scenery
- 32.5 percent of visitors to the Chugach National Forest participate in driving for pleasure

According to traffic counts and surveys by DOT&PF, there are an estimated 400,000 annual vehicle trips for recreation on the Seward and Sterling highways (DNR 2001).

The Sterling Highway’s designation as a State Scenic Byway (from the junction of the Sterling and Seward Highways at MP 37 to MP 75, near Skilak Lake) recognizes that public lands and the natural
characteristics of the Kenai River valley support scenic driving, and draw economic benefit through road-based tourism, primarily during the summer. DOT&PF and stakeholder planning for the Sterling Highway MP 45–60 project has identified the need to “maintain the scenic quality of the corridor” as one of the top six criteria for selecting a preferred alternative (HDR 2003). In 1998 the State of Alaska completed a study for the Sterling Highway entitled Trails and Recreational Access for Alaska (DOT&PF 1998), recognizing that “well-designed waysides, rest-areas, and scenic view opportunities are needed for residents and visitors.” The TRAAK study was followed by a Sterling Scenic Byways Corridor Partnership Plan (DOT&PF 2006) that looked at recreational driving along the Sterling Highway. Both studies detailed recreational access, resources, and other needs in the study area corridor, and these are loosely compiled and paraphrased in Table 26.

Table 26. Identified Recreational Access and Roadside Facilities along the Existing Sterling Highway in the Project Area

<table>
<thead>
<tr>
<th>MP*</th>
<th>Location Identifier</th>
<th>Description and Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.8</td>
<td>Quartz Creek Day Use Area</td>
<td>USFS Quartz Creek Day Use Area via Quartz Creek Road; boat launch, picnic, and restroom.</td>
</tr>
<tr>
<td>44.8</td>
<td>Crescent Creek Campground</td>
<td>Campground via Quartz Creek Road; 9 sites and restroom; trail to Crescent Lake and recreation opportunities.</td>
</tr>
<tr>
<td>44.8</td>
<td>Quartz Creek Campground</td>
<td>45 sites and restroom adjacent to Kenai Lake.</td>
</tr>
<tr>
<td>45</td>
<td>Kenai Lake</td>
<td>Popular recreation area with scenic water and mountain views.</td>
</tr>
<tr>
<td>45.6</td>
<td>Interpretive Site Opportunity</td>
<td>Gravel area for 20 vehicles; good potential of interpretation and Dall sheep viewing.</td>
</tr>
<tr>
<td>46.4</td>
<td>Small gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>47</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>47.7</td>
<td>Bean Creek Road</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>47.8</td>
<td>Cooper Landing Bridge</td>
<td>Crosses outlet of Kenai Lake; major recreation destination.</td>
</tr>
<tr>
<td>47.9</td>
<td>Snug Harbor Road</td>
<td>Road leads to Cooper Lake (12 miles) and trailhead for the 23 mile Russian River Trail.</td>
</tr>
<tr>
<td>47.9</td>
<td>Cooper Landing Boat Launch / View Point</td>
<td>Accessible boat launch with parking, boardwalk, interpretation &amp; host cabin.</td>
</tr>
<tr>
<td>48.7</td>
<td>Cooper Landing Museum</td>
<td>Small but interesting;</td>
</tr>
<tr>
<td>49.4</td>
<td>Paved pull-off</td>
<td>Opportunities for scenic views of Kenai River; various rafting guides, tours and cabins for next half mile; river access for rafting.</td>
</tr>
<tr>
<td>49.5</td>
<td>Paved parking</td>
<td>Area for 12 vehicles and RVs; along Kenai River.</td>
</tr>
<tr>
<td>50.5</td>
<td>Cooper Creek Bridge and Campground</td>
<td>23 campground sites; opportunity for bald eagle viewing; trail opportunity on old Stetson Creek Trail</td>
</tr>
<tr>
<td>50.6</td>
<td>Cooper Creek Campground</td>
<td>7 campground sites; access to creek; opportunity for bald eagle viewing; campground is small with limited area.</td>
</tr>
<tr>
<td>50.7</td>
<td>Gravel parking</td>
<td>Informal area for 10 vehicles.</td>
</tr>
<tr>
<td>51</td>
<td>Stetson Creek Trailhead</td>
<td>Improved backcountry trail 6.5 miles long. No formal trailhead.</td>
</tr>
<tr>
<td>MP*</td>
<td>Location Identifier</td>
<td>Description and Features</td>
</tr>
<tr>
<td>------</td>
<td>---------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>52.3</td>
<td>Russian River Campground and Russian Lakes Trailhead</td>
<td>83 campground sites extremely popular due to access to fishing. Improved backcountry trail 21.5 miles long. Also access to Russian River Falls.</td>
</tr>
<tr>
<td>52.4</td>
<td>K’Beq Footprints Heritage Site</td>
<td>Cultural heritage site of Kenaitze Indian tribe; parking, and interpretive trail for Native culture.</td>
</tr>
<tr>
<td>53</td>
<td>Schooner Bend Bridge</td>
<td>Bridge over Kenai River. Western limit of Cooper Landing.</td>
</tr>
<tr>
<td>53.1</td>
<td>Resurrection Pass Trailhead</td>
<td>Popular 38.5-mile recreation trail with cabins along route; large parking area, restrooms, interpretive facilities; mountain bike and horseback use allowed.</td>
</tr>
<tr>
<td>53.5</td>
<td>Beginnings Interpretive Trail</td>
<td>Kenaitze Indian Tribe and USFS interpretive trail; short cultural trail along river; (Note: as of 2010, interpretation no longer occurs on this trail).</td>
</tr>
<tr>
<td>53.7</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>54</td>
<td>Chugach National Forest sign; Enter/leaving National Forest</td>
<td>Small gravel pullout</td>
</tr>
<tr>
<td>54.6</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>54.8</td>
<td>Sportsman’s Landing/Russian River Ferry</td>
<td>Paved parking for 75 vehicles, 30 trailers, and RVs; major non-motorized boat launch area for fishing; restrooms; river/bear viewing with some interpretive material; major fishing destination; fish cleaning stations, and restrooms; Russian River Ferry provides access to other side of river and additional fishing and recreation; major fishing destination.</td>
</tr>
<tr>
<td>55</td>
<td>Enter/leaving</td>
<td>Boundary between USFWS KNWR and USFS Chugach National Forest.</td>
</tr>
<tr>
<td>55.1</td>
<td>Small gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>55.6</td>
<td>Small gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>56.2</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>56.4</td>
<td>Double-ended gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>56.5</td>
<td>Gravel parking</td>
<td>Informal area for 25 vehicles and RVs.</td>
</tr>
<tr>
<td>56.6</td>
<td>Parking</td>
<td>Potential area for parking and trail to river</td>
</tr>
<tr>
<td>56.7</td>
<td>Gravel parking</td>
<td>Informal area for 12 vehicles.</td>
</tr>
<tr>
<td>56.9</td>
<td>Gravel parking</td>
<td>Informal area for 40 vehicles and RVs.</td>
</tr>
<tr>
<td>57.2</td>
<td>Fuller Lake Trailhead</td>
<td>Gravel parking for popular trailhead; 20 vehicle capacity.</td>
</tr>
<tr>
<td>57.7</td>
<td>KNWR Sign</td>
<td>Begin/end paved shoulder; views of Kenai River.</td>
</tr>
<tr>
<td>57.9</td>
<td>KNWR Visitor Contact Station</td>
<td>Skilak Recreation Area Visitor Center/day-use area; open in summer only; staffed office and restrooms.</td>
</tr>
<tr>
<td>58.1</td>
<td>Skilak Lake Loop Road intersection</td>
<td>East intersection; provides access to USFWS Skilak Recreation Area, with more than 12 USFWS trails, 4 campgrounds, several cabins and boat launches, and numerous recreation opportunities, including access to Skilak Lake; Skilak Lake Loop road is the old Sterling Highway.</td>
</tr>
<tr>
<td>59.6</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
</tbody>
</table>
Sterling Highway Milepost 45 to 60 SDEIS Project
Alaska Department of Transportation & Public Facilities
January 2013

<table>
<thead>
<tr>
<th>MP*</th>
<th>Location Identifier</th>
<th>Description and Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.8</td>
<td>Gravel pull-off</td>
<td>(no description provided)</td>
</tr>
<tr>
<td>59.8</td>
<td>USFWS Jean Lake Campground</td>
<td>3 sites, boat launch and fishing; expand camping facilities.</td>
</tr>
<tr>
<td>60.2</td>
<td>Recreation Water Access</td>
<td>Gravel pull-off; fishing access.</td>
</tr>
</tbody>
</table>

*Because of mileage discrepancies between two sources, some pullouts and parking areas may be duplicated.


2.3.3.4 Ownership and management for recreation use

Kenai Area Plan (DNR 2001)

The Kenai Area Plan for State Lands identifies management objectives for state-owned and state-selected lands. In the project area, lands important to the Kenai River watershed are generally proposed as additions to KRSMA (see Section 2.2.1 for discussion of KRSMA) with support from local residents for “protecting the scenic value of these parcels.” Additionally, recreation, habitat, and scenic concerns have been identified for several other parcels in the project area. Important goals of the KPB are to provide a quality recreational experience for users of the Kenai River, to protect and perpetuate wildlife resources and habitat, and to ensure public safety (DNR 2001). Other goals and considerations identified in the Kenai Area Plan that are specific to the project area include:

- Retaining a scenic buffer and limiting direct access along the re-routed highway (Cooper Landing bypass; i.e., this project), in order to avoid commercial strip development and to retain the existing community/business center of Cooper Landing.

- Providing buffers to protect viewsheds and opportunity for construction of bike trails along the Sterling Highway, including management agreements and other methods for addressing legal access, maintenance, and enforcement on trail systems that cross both federal and state lands, including the Bean Creek and Resurrection Pass trails.

- Adding to KRSMA. Consistent with the Kenai River Comprehensive Management Plan, state-owned and state-selected land along Kenai River, Kenai Lake, Cooper Lake, and the tributaries of the Kenai River and Quartz Creek are proposed for addition to KRSMA and will be managed for Public Recreation and Tourism and/or Fish and Wildlife Habitat (depending on the units’ designations). These include Units 388, 390, 391A-E, 391G-N, 391Q, 392A-G, 393, 394A, 394C, 394D and 397.

- Conveying land to KPB contingent upon the Sterling Highway Project. If the Sterling Highway is re-routed to the north side of the Kenai River, a large state parcel north of the river (Unit 395) is to be conveyed by DNR to the KPB to facilitate community development. If it is not re-routed to the north side of the river, DNR may retain Unit 395 to better retain its value for wildlife habitat and movement, and convey Unit 394B on the south side of the river to the KPB instead, and may do so without plan amendment. See Map 1, Appendix A: Maps, for locations of Units 394B and 395.

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North and South Sterling Byways Corridor Partnership Plan (Jensen Yorba Lott, Inc. 2008, for DOT&PF)

The Byways Corridor Partnership Plan (DOT&PF) is a “blueprint for tourism and infrastructure investments to serve both residents and visitors along the Sterling Highway.” The plan is part of a nominating package that seeks national byway status for the Sterling Highway Angler’s Paradise State Scenic Byway, and has specific recommendations to enhance the six traits that make a great byway: recreational, cultural, scenic, natural, historical, and archaeological resources. The “Angler’s Paradise/North Sterling” implementation plan, which contains the core recommendations, addresses safety, seasonal congestion, and a bypass in the study area. These recommendations are paraphrased below:

- Create interpretive materials for motorists, including a graphic theme and logo for the area, an interpretive plan, a web site and brochure, signs, and an audio tour.
- Coordinate with the Sterling Highway MP 45–60 Project to ensure Corridor Partnership Plan suggestions are built into the project design, including rest areas at each end of any bypass segment, pullouts along any new bypass with trails connecting to the old highway, and other suggestions listed.
- Obtain trail planning and development funding for a separated trail along the byway.
- Work with Byway partners to identify and upgrade three existing informal pullouts along the byway at choice locations, and to close or modify other existing informal pullouts that have safety issues.
- Work with DOT&PF to lower the speed limit within the community of Cooper Landing.
- Obtain funding for the Kenaitze K’beq Footprints interpretive site and Cooper Landing Historical Museum.
- Seek funds to resurface Skilak Lake Road.
- Work with USFWS on recreation priorities along the Sterling Highway and Skilak Lake Road.

2.3.3.5 Recreation role of State lands in the study area and region

State of Alaska recreational access facilities and park land are key public resources in the study area. Beyond the Kenai River and state parcels selected and managed for park and recreational use, the major state upland resource is the scenic Sterling Highway, both for recreation and scenic driving and for providing recreation and tourism access in the study area. However, there are serious concerns about existing highway conditions, traffic volumes, and use patterns related to traffic flow, congestion, and safety in the study area.

Physical characteristics of the existing highway—including poor visibility, narrow shoulders, lack of passing opportunities, numerous intersections with side roads and driveways, and inadequate space for roadside parking—contribute to traffic congestion and undesirable driving conditions that negatively impact recreation, particularly near roadside businesses, roadside attractions, and fishing areas. Highway users include local drivers, in-state visitors, and through-travelers whose dissimilar driving behaviors can make for irregular traffic flows. The profile of vehicle types may also adversely affect traffic conditions, especially during summer traffic peaks, when oversize RVs, trailer trucks, and tour buses comprise a larger share of the traffic stream.

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16 The major state recreation resources, KRSM and waterfront access, are covered in Section 2.1.
The Sterling Highway provides the only overland access for the western Kenai Peninsula, including unincorporated areas as well as the cities of Soldotna, Kenai, and Homer. The highway also provides the only access to the many recreational destinations located on the western Kenai Peninsula. It is the National Highway System link to the western Kenai Peninsula and Alaska Marine Highway (ferry) system. Within the study area, the Sterling Highway accommodates local traffic, destination traffic to local recreational sites, and through-traffic between the western Kenai Peninsula and Anchorage or the eastern Kenai Peninsula.

An origin-destination study conducted in the project area by DOT&PF during July 2001 found that approximately 63 percent of vehicles passed through the study area without stopping (DOT&PF 2001). Another six percent took more than 22 minutes but less than two hours to pass through Cooper Landing, suggesting that the vehicles had stopped for a limited period of time to purchase food or fuel, or some other travel related reason, and then continued on their journey. The remaining 31 percent of vehicles entered the study area and stayed for two or more hours. This same traffic study found that trucks comprised one percent, buses less than one percent, and large recreational vehicles (RVs) 10 percent of Sterling Highway traffic in the study area. The remaining 89 percent were passenger vehicles, including pick-up trucks, automobiles, and trucks with trailers.

Traffic patterns are highly seasonal, reflecting the popularity of the western Kenai Peninsula, including the project area, as a summer recreation destination. Using traffic figures from 2009, DOT&PF estimated that average daily traffic volumes were about 8,000 in the summer and 3,400 when considered year round (Lounsbury & Associates 2011). This set of existing conditions compromise safety and the ability for users to fully explore and enjoy the recreational, natural, and scenic resources in the study area.

2.3.4 Borough Land / Cooper Landing Community

2.3.4.1 General location, size, and condition

Borough lands in the project area were acquired primarily from the State of Alaska under the Mandatory Borough Act of 1964 and the Municipal Land Entitlement Act of 1978. The Borough was able to select 156,000 acres of State land under these acts, including lands in and around the unincorporated community of Cooper Landing (KPB 2005). The Borough has retained and currently owns about 14.8 percent (2,012 acres) of land in the project area (see Map 1, Appendix A: Maps).

The Cooper Landing Land Use Classification Plan, which was adopted by the KPB in 1996, provides recommendations for State-selected\textsuperscript{17} lands: Units 394B and 395. See details on these lands and their recreation use under Section 2.3.3.4 of this report. KPB has worked with the unincorporated community of Cooper Landing to address how borough land can be used to meet community recreation needs, including providing trails and roadside bike/walking paths, a town center park, campground and picnic sites, playground, wildlife viewing areas, and greenbelt buffer zones to protect scenic views and waterways.

2.3.4.2 User demand, facilities, and access

The Kenai River valley’s significant public land base, limited development footprint, and small community population (289) provide significant acreage of undeveloped land that may serve as informal recreational, scenic and wildlife viewing resources (2010 U.S. Census). Within and near the

\textsuperscript{17} “State-selected” refers to Federally owned land that has been selected by the State but for which the selections are not finalized. Some selected lands may never end up being conveyed to the State, and would be relinquished depending on finalization of other selections. For this reason, the State over-selects Federal lands.
Cooper Landing community, KPB land is largely undeveloped and serves recreation, habitat, and scenic values. A number of trails cross borough land in the study area (Table 27). The Stetson Creek, Bean Creek, Russian Lakes, and Juneau Bench trails are USFS trails KPB has an interest in (Bean Creek Trail and Stetson Creek Trail, in part, cross KPB lands). The others are less formal trails with no formal maintenance or oversight. They are located on a variety of lands, including KPB, state, USFS, private/easements held by others.

Table 27. Kenai Peninsula Borough Study Area Recreational Trails and Facilities, and Recommendations

<table>
<thead>
<tr>
<th>Name</th>
<th>Use Type</th>
<th>Recommendations and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bean Creek Trail</td>
<td>Hiking, biking</td>
<td>Trailhead needed, multiple land ownership, signage</td>
</tr>
<tr>
<td>Stetson Creek Trail</td>
<td>Hiking, biking</td>
<td>Borough and State Land, public access dedication needed</td>
</tr>
<tr>
<td>Russian Lakes Trail</td>
<td>Hiking, biking, snowmobile</td>
<td>--</td>
</tr>
<tr>
<td>Juneau Bench Trails</td>
<td>Hiking</td>
<td>USFS trails, need formal public access dedication (?)</td>
</tr>
<tr>
<td>Slaughter Ridge (Art Anderson) Trail</td>
<td>Hiking</td>
<td>Trailhead needed, possible public access dedication needed</td>
</tr>
<tr>
<td>Slaughter Gulch Trail</td>
<td>Hiking</td>
<td>N/A</td>
</tr>
<tr>
<td>Kenai River Nature Trail</td>
<td>Hiking</td>
<td>--</td>
</tr>
<tr>
<td>Russian Gap Trail</td>
<td>Hiking, biking, snowmobile, equestrian, 4 wheeler</td>
<td>USFS/Borough agreement needed, potential residential development in area, multiple land owners</td>
</tr>
<tr>
<td>Shackleford Creek/Powerline Trail</td>
<td>Hiking, skiing, snowmobile</td>
<td></td>
</tr>
</tbody>
</table>


2.3.4.3 Ownership and management for recreation use

Kenai Peninsula Borough Comprehensive Plan (KPB 2005)


Additional details on land use designations and intent adopted by the KPB are provided under the Cooper Landing Land Use Classification Plan for Borough-Owned and Borough-Selected Lands below.


The Kenai Peninsula Borough Trail Plan adopted by the KPB Assembly in 1998 is intended to be used as a Borough policy guideline. The plan documents that there are a few improved trails, but many unimproved, unmanaged trails that are used, but have no legal status as trails, and in many cases cross multiple land ownership (private, borough, state, federal). Over time as development has occurred, rights-of-way and section line easements used as trails have been vacated, to the dissatisfaction of the public (KPB 1998). The plan encourages preserving these trails by pursuing and dedicating legal public access and coordinating maintenance. Table 27 lists the primary existing trails and preliminary
recommendations from the plan for the trails identified. However a review of the approved KPB Assembly Ordinances in KPB’s online database for the intervening fourteen years since 1998 revealed that the KPB has not dedicated any new legal public access for trails or established any trail maintenance groups in the Cooper Landing area.

**Cooper Landing Land Use Classification Plan for Borough-Owned and Borough-Selected Lands**  
(Cooper Landing Advisory Planning Commission 1996)

Working with the KPB, the community of Cooper Landing in 1992 and 1996 established community goals and designated land uses for KPB land in the community. The 1996 plan was adopted in its entirety by the KPB in 2005, essentially making this local plan a KPB plan.

The plan classifies 2,280 acres of KPB-owned land as “preservation” land under the KPB land-use classification system. Preservation was defined in the plan as “lands needed for stabilization or maintenance of natural features, historic value, known nesting areas of migratory birds or required to maintain the integrity of certain types of easements or as buffers, green belts, water sheds or other reservations to preserve natural resources and aesthetic qualities. Soils may be of such a nature as to not be usable for construction of buildings” (KPB 2005/ Cooper Landing Advisory Planning Commission 1996). The preservation designation protects aesthetic qualities which can be of importance in recreation activities, such as scenic viewing.

Another 1,390 acres of KPB lands were classified for “recreation.” Recreation was defined in the plan as “land located in an area where the potential for recreational use exists. This may include both indoor and outdoor uses such as gun ranges, archery ranges, camping, golf courses, snow machine trails, cross country trails, skiing, boating, fishing or which may provide access to those activities. Recreational [sic] does not include use of lands for amusement parks. Site conditions for any authorized use must be appropriate and suited for such uses. Recreational lands disposed of to private parties must allow public use unless specifically waived by ordinance. If recreational lands are for sale or lease then restrictions may be imposed for appropriate uses given conditions and surrounding use. Not all activities are suitable for all sites” (KPB 2005/ Cooper Landing Advisory Planning Commission 1996).

Recreation-oriented goals adopted by the KPB Assembly included:

- Maintaining the scenic qualities, unique character, and pristine setting of Cooper Landing.
- Encouraging a safe environment for children, pedestrians, and tourists.

Additional provisions identified by the Planning Commission anticipate the potential Sterling Highway MP 45–60 Project with an alignment through KPB lands north of the Cooper Landing community. The following recommendations are included:

- Provision for a 200-foot preservation greenbelt along either side of new portions of the Sterling Highway MP 45–60 Project, with limited public access, and no roadside commercial development. A buffer would maintain the sense of quality “wilderness” experience that attracted many residents to the community, and maintain the community's tourism economic base.
- Underpasses should be planned for the Slaughter Gulch, Bean Creek, and Resurrection Trails.
- No sales and/or leases of recreation cabins in the Slaughter Ridge Trail area or in a locally used recreational trail area just east of Juneau Creek and west of the Knaack Subdivision, sometimes referred to locally as the “golf course.” This area has been designated for addition to the Kenai River Special Management Area.
Provision for a greenbelt along the Sterling Highway in the Milepost 46–47 area, restricting commercial and residential development in the area of the intersection of the anticipated new Sterling Highway “bypass” segment and the existing highway.

Additional recreational classification recommendations adopted by the borough include:

- Connecting Shackleford Creek Power Line Trail to the Cooper Lake Dam Road.

- Retaining portions of Russian Gap Road for non-motorized use immediately adjacent and north of the Sterling Highway, and for motorized use by snowmobile and four wheelers using the lower Russian Gap accesses. The Coyote Notch Ski Trail would intersect the lower Russian Gap trail to the north of Sunrise Residential.

- Creating a new trail from Quartz Creek Campground, following the transmission line corridor to Crescent Creek, where the trail would adjoin the road. This proposed trail would be a major recreation corridor that would continue for several miles to the junction of the Sterling and Seward highways, connecting to opportunities beyond the Cooper Landing area.

- Classifying lands as recreational that lie south and west of Russian Gap subdivision, immediately south and east of the existing Sunrise residential area, and immediately adjacent to the east of the Kenai Lake Estates Subdivision. Maintaining access to the Cooper Creek Campground at Stetson Creek Trail, which includes several historic mining claims and other features.

- Creating a buffer for habitat protection along Bean Creek, viewshed protection of the Kenai River corridor, and a greenbelt area along the Resurrection Pass Trail.

- Possibly relinquishing the KPB-selected lands between the Sterling Highway, Quartz Creek Road, and Kenai Lake to the State of Alaska for inclusion in the Kenai River Special Management Area.

- Establishing greenbelts along both Snug Harbor and Cooper Lake roads, with preservation of land units 388, 389, and 390 along Snug Harbor Road to Cooper Lake, which are important to the community of Cooper Landing as both high value habitat and recreation lands.

- Classifying land unit 393A for recreation, leaving the western portion along the edge of the Juneau Creek Canyon below the falls for retention by State Parks for trail development, habitat protection, and scenic values.

- Including state shoreline lands along Kenai Lake and its tributary streams in the Alaska State Park System (KRSMA).
2.3.4.4 Recreation role of borough lands in the study area and region

KPB lands support recreational trails and activities for Cooper Landing residents, and surround the traditional community center. The Kenai Peninsula Borough Comprehensive Plan (2005) and the Cooper Landing Land Use Comprehensive Plan (1996) anticipate the Sterling Highway Project based on an alignment previously proposed, but the alignment is not exactly the same as any of the current alignments. The plan appears to create a 200-foot-wide buffer on each side of the new highway, regardless of the alignment, but land classification maps locate these buffers north of the Cooper Landing community. The designated buffers and access restrictions would help preserve recreational, scenic, and habitat values. All alignments for new portions of the Sterling Highway have implications for the trails noted above, including the Juneau Bench Trails (known as West Juneau Road by the USFS) and the Cooper Lake Trail (known as the Cooper Lake Dam Road by the USFS), which are classified by the USFS as roads but recognized by the borough as trails for the recreational use they receive.

2.4 Recreation User Patterns and Characteristics

This section outlines basic recreational use patterns and characteristics for the study area. Recreation surveys conducted for the Cooper Lake Hydroelectric Project re-licensing (Chugach Electric Association 2005) provide a good overview of recreation in the general area. Although the hydroelectric project surveys were not specific to the proposed Sterling Highway MP 45–60 project, they provide general information regarding recreation users of the Cooper Landing area, which overlaps most of the Sterling Highway MP 45-60 study area (Cooper Landing, Cooper Lake, Cooper Creek, and Kenai Lake), including National Forest, State, and borough lands. These results are supplemented with Chugach National Forest National Visitor Use Monitoring (NVUM) results, which cover a larger study area, i.e., either the State of Alaska or the entire Chugach National Forest. Data on KNWR recreation use from the 2006 national report Banking on Nature: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation (Carver and Caudill 2006) is also included, but that report includes findings for the entire Refuge, not the immediate Sterling Highway project area near Cooper Landing. Since no specific study was conducted as part of the Sterling Highway MP 45–60 project, the results of the Cooper Lake hydroelectric project recreation surveys are likely the closest to actual use patterns and characteristics in the study area because the survey area is of a similar size, compared to the CNF- and Refuge-wide studies and because they targeted users of the area. However, findings from the broader Forest and Refuge-wide surveys provide an interesting background that is accurate at a larger scale and illustrative.

Three specific surveys were conducted in the current study area for the Cooper Lake hydroelectric re-licensing project during 2003 and 2004:

- Recreation Survey: 330 recreationists were surveyed along the road corridor in the Kenai River valley.  
- Vendor Survey: A survey of residents and vendors that reside in Cooper Landing regarding recreation use patterns.
- Winter Recreation Survey: A survey of recreationists taken at the Cooper Lake winter parking area on Snug Harbor Road (referenced above at Table 19).

18 Quartz Creek Campground, Cooper Creek Campground, the Kenai Lake Boat Launch facility, Kenai River Boat Launch, Russian River Campground, and Jim’s Landing.
2.4.1 Who Is Using Recreation Resources and Where are Users From?

The 2003 Recreation Survey was conducted by Land Design North and issued to 330 recreationists at major study area campgrounds and river access facilities. Among respondents to the survey, 64.5 percent were from Alaska and 46 percent were from Anchorage. The KNWR economic study reported that 66 percent of visitors to the Refuge were residents (USFWS 2007), which confirms the results of the 2003 Recreation Survey. The average age of participants was 46 years old (Chugach Electric Association 2005). Slightly more respondents were male (54 percent compared to 46 percent females) (Chugach Electric Association 2005). The average number of people arriving in the same vehicle was 2.9, somewhat lower than the 3.4 persons per vehicle reported in the Chugach National Forest NVUM Study that characterized recreation users forest-wide (USFS 2012).

2.4.2 Duration of Use / Length of Stay

According to the 2003 Recreation Survey, the median number of days spent by respondents in the study area in the 12 months before the survey was three. Respondents spent 16 days in the same 12-month period in other recreation areas. Of the total survey participants, 22 percent were day visitors (15 percent of those were from Anchorage, Cooper Landing, and elsewhere on the Kenai Peninsula), and 78 percent were overnight visitors (33 percent of whom were from Anchorage). Most day visitors planned to spend eight hours or less in the area, and overnight visitors planned to stay about three nights. This can be compared with the Chugach National Forest NVUM Study, which estimated the average visitor stay for the entire Chugach National Forest at 18 hours, and indicated that just over half of the visiting population stayed overnight (USFS 2012). This demonstrates that durations of use and lengths of stay in the study area is more intensive and longer than those in the Chugach National Forest as a whole.

2.4.3 Secondary Characteristics (e.g., contribution to the economy)

The 330 Recreation Survey respondents also were asked to estimate trip-related spending for themselves and all traveling companions in their party (typically all arriving in the same vehicle). Table 28 shows rounded average estimates of daily spending by each party. Wide variation in spending levels was reported because longer-term visitors purchased more supplies during a trip. Respondents of the Recreation Survey also were asked to identify where they spent recreation funds; the rounded average percentages for locations of spending are summarized in Table 29. Vendors who participated in the Vendor Survey reported that 96 percent of summertime business income and 26 percent of wintertime business income was derived from recreation users.

Table 28. Estimated Daily Trip Spending by Respondents to the Recreation Survey

<table>
<thead>
<tr>
<th>Type of Purchase</th>
<th>Amount per Party ($)</th>
<th>Amount per Person ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sporting Goods</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Fuel</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Restaurants</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Guiding</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Groceries</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Lodging</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Other Services</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Total Spent</td>
<td>108</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: LDN. Cooper Lake Project Re-licensing Recreation Study (2004)
Table 29. Proportion of Recreation User Spending by Location (Recreation Survey responses)

<table>
<thead>
<tr>
<th>Location</th>
<th>Proportion of Total Recreation Spending (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper Landing</td>
<td>20</td>
</tr>
<tr>
<td>Elsewhere on the Kenai Peninsula</td>
<td>22</td>
</tr>
<tr>
<td>Anchorage</td>
<td>38</td>
</tr>
<tr>
<td>Roadside from Anchorage to Portage</td>
<td>2</td>
</tr>
<tr>
<td>Somewhere else in Alaska</td>
<td>7</td>
</tr>
<tr>
<td>Outside Alaska</td>
<td>9</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: LDN. Cooper Lake Project Re-licensing Recreation Study (2004).

The 2008 Chugach National Forest NVUM study reported higher spending trends forest-wide—about half of visitors spend $216 or less per party, per visit within 50 miles of the forest. Economic analysis of the impacts of the KNWR on the local economy (defined by the study as the Kenai Peninsula Borough) reported that in 2006, $54.5 million was expended as a result of recreation visits, with non-residents accounting for $45.9 million or 84 percent of all expenditures (USFWS 2007). Of this amount, about 65 percent was spent on fishing, 34 percent on non-consumptive activities, and 1 percent on hunting.

2.4.4 National and Statewide Recreational Values

When assessing tradeoffs associated with effects of highway development on recreational resources, it is important to consider national trends in recreation and public opinion, as well as Alaska trends and public opinion. In general, in the past few decades, the mix of preferred outdoor activities has been changing, with an increase in nature-based outdoor recreation (Cordell 2012). Within this category, the largest increase has been in viewing and photographing nature (Cordell 2012). Table 30 shows trends in number and percentage of people participating in outdoor recreation, and demonstrates that the top recreation activities nationally are walking, gathering with family/friends, gardening, and viewing natural scenery.

Table 30. Trends in Number and Percentage of People Ages 16 and Older Participating in Recreation Activities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk for pleasure</td>
<td>85.0</td>
<td>13.9</td>
</tr>
<tr>
<td>Gathering of family/friends</td>
<td>74.0</td>
<td>10.5</td>
</tr>
<tr>
<td>Gardening/landscaping for pleasure</td>
<td>67.1</td>
<td>12.1</td>
</tr>
<tr>
<td>View natural scenery</td>
<td>63.7</td>
<td>17.90</td>
</tr>
<tr>
<td>Visit outdoor nature center/zoo</td>
<td>56.6</td>
<td>10.2</td>
</tr>
<tr>
<td>Sightseeing</td>
<td>52.7</td>
<td>13.7</td>
</tr>
<tr>
<td>Picknicking</td>
<td>51.7</td>
<td>2.8</td>
</tr>
<tr>
<td>View wildflowers/trees</td>
<td>51.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Driving for pleasure</td>
<td>51.2</td>
<td>11.6</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>View wildlife besides birds and fish</td>
<td>50.2</td>
<td>25.4</td>
</tr>
<tr>
<td>Visit historic sites/monuments</td>
<td>44.1</td>
<td>8.1</td>
</tr>
<tr>
<td>Swimming in an outdoor pool</td>
<td>43.3</td>
<td>20.0</td>
</tr>
<tr>
<td>Visit a beach</td>
<td>43.3</td>
<td>20.7</td>
</tr>
<tr>
<td>Swimming in lakes, streams, etc.</td>
<td>41.5</td>
<td>14.0</td>
</tr>
<tr>
<td>Bicycling</td>
<td>37.5</td>
<td>7.8</td>
</tr>
<tr>
<td>View or photograph birds</td>
<td>35.7</td>
<td>22.8</td>
</tr>
<tr>
<td>Day hiking</td>
<td>33.9</td>
<td>15.4</td>
</tr>
<tr>
<td>Visit a wilderness</td>
<td>33.6</td>
<td>17.7</td>
</tr>
<tr>
<td>Gather mushrooms/berries</td>
<td>32.8</td>
<td>28.6</td>
</tr>
<tr>
<td>Visit farm or agricultural setting</td>
<td>32.0</td>
<td>28.6</td>
</tr>
<tr>
<td>View salt/freshwater fish</td>
<td>27.0</td>
<td>21.4</td>
</tr>
<tr>
<td>Visit waterside besides beach</td>
<td>24.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Developed camping</td>
<td>23.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Warmwater fishing</td>
<td>23.7</td>
<td>17.1</td>
</tr>
<tr>
<td>Motorboating</td>
<td>23.4</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Source: Cordell 2012.

Figure 6 depicts what Americans in general view as relatively important about wilderness. Natural areas are most highly valued, particularly for protecting water and air quality and the preservation of wildlife habitat.
In 2009, a survey of Alaska residents’ recreation uses and values was conducted as part of the Alaska Statewide Comprehensive Outdoor Recreation Plan (SCORP; DNR 2009). The study notes that “Alaskans place a high value on the availability and quality of outdoor recreation opportunities: 96 percent of all respondents said parks and outdoor recreation were important or very important to their lifestyle” (DNR 2009). The top ten activities that survey respondents participated in were (in order); hiking, fishing, bird/wildlife viewing, walking the dog, backpacking, berry picking, playgrounds, driving/sightseeing, biking, and beach activities (DNR 2009). This list is different than the national trends list, with more emphasis on active sports such as hiking and fishing. However, both the national and Alaskan respondents identified wildlife and scenery viewing in the top ten recreation activities.

The 2009 SCORP study also asked respondents to agree or disagree with a variety of value-based statements of recreation resources. The findings are shown in Table 31. Overall, the study reports that “Alaskans want better access to outdoor recreation opportunities” (DNR 2009). The facility improvements that Alaskans support include establishing new parks and recreation areas, expanding the public use cabin system, and developing more trailheads along roads and highways for trail activities (see Table 32 for details, DNR 2009).
## Table 31. Alaskan Attitudes on Recreational Resources Use and Protection, 2009

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of park areas should be controlled to project the environment, if necessary</td>
<td>78%</td>
<td>11%</td>
</tr>
<tr>
<td>Parks and recreation facilities are often too crowded when I want to use them</td>
<td>39%</td>
<td>36%</td>
</tr>
<tr>
<td>If overcrowding occurs, commercial uses should be limited before personal uses are limited.</td>
<td>80%</td>
<td>9%</td>
</tr>
<tr>
<td>There are enough parks and recreation lands that are convenient and accessible to me.</td>
<td>60%</td>
<td>29%</td>
</tr>
<tr>
<td>The state should increase protection of areas with historical or archaeological value.</td>
<td>63%</td>
<td>17%</td>
</tr>
<tr>
<td>The state should acquire private land when it blocks or restricts access to existing parks and facilities.</td>
<td>66%</td>
<td>18%</td>
</tr>
<tr>
<td>Trails should accommodate many different types of activities, rather than be designated for a limited number of specific activities.</td>
<td>78%</td>
<td>13%</td>
</tr>
<tr>
<td>Public parks and recreation programs help to reduce crime and juvenile delinquency in my community.</td>
<td>65%</td>
<td>12%</td>
</tr>
<tr>
<td>Parks and recreation lands should be used to promote tourism.</td>
<td>65%</td>
<td>19%</td>
</tr>
<tr>
<td>Existing parks should be expanded to include adjacent land that is important to recreation.</td>
<td>67%</td>
<td>15%</td>
</tr>
<tr>
<td>I seek out recreational places that have historic significance.</td>
<td>40%</td>
<td>31%</td>
</tr>
<tr>
<td>Access to military lands for recreation purposes should be improved.</td>
<td>64%</td>
<td>13%</td>
</tr>
<tr>
<td>Hearing motors or motorized vehicles negatively affects my recreation experience.</td>
<td>52%</td>
<td>39%</td>
</tr>
</tbody>
</table>
Table 32. Support for Facility Improvements and Developments, 2009

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide more facilities for the disabled</td>
<td>56%</td>
<td>64%</td>
</tr>
<tr>
<td>Provide more boat launches and ramps.</td>
<td>42%</td>
<td>55%</td>
</tr>
<tr>
<td>Establish new parks and recreation areas.</td>
<td>71%</td>
<td>27%</td>
</tr>
<tr>
<td>Expand the public use cabin system.</td>
<td>71%</td>
<td>27%</td>
</tr>
<tr>
<td>Provide more RV dump stations.</td>
<td>31%</td>
<td>63%</td>
</tr>
<tr>
<td>Provide roadside toilets at regular intervals.</td>
<td>62%</td>
<td>37%</td>
</tr>
<tr>
<td>Provide more organized recreation programs in parks.</td>
<td>31%</td>
<td>65%</td>
</tr>
<tr>
<td>Develop more trailheads along roads and highways for trail activities.</td>
<td>69%</td>
<td>28%</td>
</tr>
<tr>
<td>Develop more trails for the legal use of off-road vehicles.</td>
<td>48%</td>
<td>50%</td>
</tr>
<tr>
<td>Develop more trails for non-motorized use only.</td>
<td>61%</td>
<td>36%</td>
</tr>
<tr>
<td>Develop more RV campgrounds.</td>
<td>30%</td>
<td>66%</td>
</tr>
<tr>
<td>Upgrade existing park roads.</td>
<td>49%</td>
<td>48%</td>
</tr>
<tr>
<td>Develop more visitor centers.</td>
<td>27%</td>
<td>70%</td>
</tr>
<tr>
<td>Provide more picnic areas.</td>
<td>41%</td>
<td>57%</td>
</tr>
<tr>
<td>Develop tourist resort facilities on park lands.</td>
<td>31%</td>
<td>66%</td>
</tr>
</tbody>
</table>

2.4.5 Local Recreational Trends and Values

In the Vendor Survey, residents and vendors of Cooper Landing were asked to rank the importance of a range of recreational improvements. As illustrated in Figure 7, respondents preferred recreational development that manages visitors while leaving the environment as undisturbed as possible.

Figure 7. Importance of Facility Development to Cooper Landing Vendors and Residents

1= Not Important  2=Slightly Important  3=Average Importance  4=Somewhat Important  5=Very Important

Source: Chugach Electric Association 2005. Cooper Lake Project Re-licensing Recreation Study
2.4.6  **Local Importance of Recreational Resources**

Recreation resources within the study area give the Kenai River valley and Cooper Landing area a reputation for providing “unlimited recreational opportunities” (DOT&PF 2006, 107). When DOT&PF and stakeholders developed evaluation criteria for analysis of alternatives for the Sterling Highway MP 45–60 Project, the criteria were based in part on impacts to the following resources that help support study area recreational activities (HDR 2003):

- Project alternative minimizes impacts to water quality and fish habitat.
- Project alternative minimizes impacts to the Kenai River.
- Project alternative minimizes impacts to wildlife habitat.
- Project alternative maintains the scenic quality of the corridor.

Recreation-related tourism employment and seasonal businesses provide the majority of employment in the Borough. Tourism is the KPB’s fastest growing industry (ADOLWD 2011). Many bed and breakfasts, resorts, and fishing lodges in Cooper Landing accommodate recreation-related visitors. The Kenai and Russian rivers are a major draw for salmon and trout fishing for tourists and in-state recreationists. Flight-seeing trips and floatplane trips are available locally as well. Many Cooper Landing businesses provide goods or services to visitors. Most of the fishing and rafting guides and accommodations businesses rely on the Kenai River. Many other retail businesses are focused on the Sterling Highway and capturing recreational traffic, including eating establishments, gas stations, and gift shops. Because many of the visitors to the Kenai Peninsula in general are focused on river-based recreation and tourism, even the highway-focused businesses are dependent on the river and sport fishing to some degree.

2.4.7  **Public Lands Management**

Given the significant public land acreage and recreation opportunities within the study area, the area’s recreational capacity and user demand are influenced by many overlapping interests and entities.

Access to the study area via the Sterling Highway is just one element affecting recreational use in the area. State, federal, borough, and private resource management also play a significant role in determining recreational use. For example, restrictions on a fishery or construction of a new public or private campground facility can significantly impact opportunities and demand associated with a recreational resource. Public lands management is discussed above in Sections 2.2 and 2.3.

**SECTION 3  IMPACTS**

This section presents an analysis of the impacts of the Sterling Highway MP 45–60 Project alternatives on recreational resources in the study area. Alternatives are evaluated to assess consistency with existing recreation plans,19 and to describe direct and indirect impacts to recreation lands, facilities, and recreation activities. Mitigation measures have not been incorporated. Refer to the SEIS for a complete discussion of current mitigation measures.

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19 Alternatives are not required by law to be consistent with federal, state and local plans. However, if an alternative is not consistent with a plan, the plan may need to be amended, which would be an impact. In addition, many agencies (USACE, USFWS, USFS, NMFS, ADEC, ADNR, and the Borough) require permits or approvals to implement a project. Temporary construction activities also require permits or approval from the above entities. Consistency with a plan can be an indicator of how simple or complex it may be to acquire necessary permits or approvals from the agencies.
3.1 No Build Alternative

3.1.1 Direct Impacts

3.1.1.1 Overall recreational character / access

The recreational character of the Cooper Landing and Upper Kenai River area would not be directly altered. Traffic congestion would continue to worsen during the busy summer recreation period, and would continue to detract from the recreational experience with congestion, traffic noise, exhaust, and dust. Safety issues associated with the mix of through-traffic with parked and slow-moving recreational traffic and pedestrians, particularly on the stretch of highway near MP 54–55 (Sportsman’s Landing-Russian River Ferry area), would continue to be a management problem for the DOT&PF, Alaska State Troopers, and the managers of the recreation resources. All recreation facilities—including guiding, lodging, and other businesses centered mostly in the Cooper Landing community (MP 47–50.5) and recreation sites centered mostly in the area between Cooper Creek and Russian River (MP 51–55)—would be accessed directly from the existing highway. Conflicts between the needs of local/recreational traffic and through-traffic would continue. The roadway would remain winding and picturesque but during busy periods would remain difficult to enjoy by car (“driving for pleasure”), on foot, or by bicycle because of other traffic and the need for heightened alertness.

3.1.1.2 Recreation plans

The No Build Alternative would be consistent with existing recreation and land management plans.

3.1.1.3 Trails, recreation lands, and KRSMA additions

The No Build Alternative would have no direct impact to trails, other recreational lands, or lands proposed as additions to the KRSMA. These lands and trails would continue to function much as they do today, likely with increasing use and increasing formality of the trails over time.

3.1.2 Indirect Impacts

No indirect impacts from the No Build Alternative are anticipated.

3.1.3 Impacts to Recreation Activities

3.1.3.1 Fishing

The No Build Alternative would not accommodate the expected increased demand on existing fishing resources or the access to them. High traffic volumes would continue to present an inherent conflict between individuals slowing traffic to gain access to parking, and those seeking to drive efficiently through the project area.

3.1.3.2 Camping

Impacts to camping under the No Build Alternative would result from increased traffic congestion at turns to campgrounds, and higher levels of noise generated as volume of traffic on the existing road increased (HDR 2011).

3.1.3.3 Hiking

Hiking resources generally would not be affected under the No Build Alternative. Turning traffic that exits the roadway to gain access to trailheads would continue to slow traffic and add to overall congestion. Hikers exiting trailheads would continue to have trouble during the busy summer period re-entering the traffic stream.
3.1.3.4 Boating

Those accessing the Kenai River at the Cooper Landing Boat Launch, Sportsman’s Landing, and Jim’s Landing would continue to contend with ever-increasing levels of traffic on the Sterling Highway under the No Build Alternative. The experience on the river would be only slightly altered by increasing levels of traffic in the view, and noise (HDR 2011) from the traffic.

3.1.3.5 Hunting

Most hunting seasons coincide with lower traffic volumes on the Sterling Highway. Though traffic volumes would increase above existing levels, these levels are at seasons when volumes are not generally considered to be problematic. Subsequently, there would be little effect to sport hunting under the No Build Alternative.

3.1.3.6 Snowmobiling

Because snowmobiling generally occurs during seasons of lower traffic volumes, it is not expected that increasing levels of traffic on the Sterling Highway would have an impact on snowmobiling. The effect on snowmobiling would thus be negligible under the No Build Alternative.

3.1.3.7 Other

Under the No Build Alternative, the road would continue to provide a high-volume mix of traffic that would not be conducive to shoulder use by pedestrians or bicyclists. Also, the high volumes and mix of traffic would provide a poor environment for those recreational users driving for pleasure.

3.2 Cooper Creek Alternative

3.2.1 Direct Impacts

3.2.1.1 Overall recreation character / access

The recreational character of the Cooper Landing and Upper Kenai River area would change under the Cooper Creek Alternative scenario. Through-traffic would follow the new highway south of Cooper Landing, and users of the existing highway through the MP 48-50 portion of Cooper Landing (southwest of the Cooper Landing Bridge) would benefit from lower congestion, traffic noise, dust, and exhaust, and increased safety and ease for pedestrians, bicyclists, and drivers. Farther west, between MP 52 and 55, through-traffic and recreational traffic would remain combined and would function almost identically to the G South Alternative.

Access to recreation-oriented sites located on the “old” highway would be easier because the 70 percent of traffic that is through-traffic would be on the new highway. The sites benefitting from easier access/lower congestion would be:

- Cooper Landing Boat Launch and Day Use Area
- Commercial services, lodges, and guides located in the MP 48–50 portion of Cooper Landing (southwest of the Cooper Landing Bridge)
- Cooper Creek Campground

Recreation-oriented sites located directly on the Cooper Creek Alternative would have a wider, straighter road with shoulders and turning lanes but still would be subject to conflicts between through-traffic (70 percent of the traffic) and recreation/local traffic (30 percent of the traffic). The recreation-oriented sites accessed from the Cooper Creek Alternative on approximately the existing alignment would be:
- Commercial services located at Quartz Creek
- Commercial services, lodges, and guides located in MP 46-48 portion of Cooper Landing (northeast of the Cooper Landing Bridge)
- Gwin’s Lodge
- Russian River Campground
- K’Beq Footprints Heritage Site
- Trailhead for Resurrection Pass Trail
- Sportsman’s Landing/Russian River Ferry
- Trailhead for Fuller Lakes Trail
- Refuge Visitor Contact Station

In addition, the highway and 100 percent of traffic in the core area for recreation (MP 46–55) would remain adjacent to the Kenai River, retaining visual and noise impacts at the river and potential for spills into the river that would affect independent and guided recreational boaters and sport fishers. The improved highway curves and width would reduce congestion issues but likely would result in higher average speeds in an area heavily used by recreational traffic during the busy summer recreation period for access to campgrounds, trailheads, interpretive sites, and fishing, including the highly popular Sportsman’s Landing-Russian River Ferry site. Safety issues associated with the mix of through-traffic with parked and slow-moving recreational traffic and pedestrians, particularly on the stretch of highway near MP 54–55 (Sportsman’s Landing-Russian River Ferry area), would continue to be a management problem for DOT&PF, Alaska State Troopers, and the managers of the recreation resources. Informal pullouts within the existing right-of-way would be used to expand the shoulder, so some informal parking and pullouts would no longer be available. Wider shoulders would make it safer for people to park and walk along the road but also would encourage such use.

### 3.2.1.2 Recreation plans

The Cooper Creek Alternative would conform to the Kenai River Comprehensive Management Plan recommendation to keep river crossing structures to a minimum as it would locate no new bridges across the Kenai River. The Cooper Landing Bridge and Schooner Bend Bridge would be replaced on an alignment that is slightly different than those of the existing bridges, to improve roadway geometry and allow the existing bridges to be used during construction, which would result in 0.8 acres of new fill in the Kenai River. The existing bridges would be entirely removed, including piers in the river, except for components of the Cooper Landing Bridge that may be used in the new bridge. Physical use of the KRSMA for bridge abutments and piers would be different than the current bridges, and fewer piers likely would be used than the existing bridges. The two replacement bridges over the Kenai River would be designed in consultation with landscape architects with aesthetics from the river and its banks in mind, and would be designed to minimize permanent impact to river hydraulics, fish passage, and navigability. The Cooper Creek Alternative would include a cut 55 feet high and 350 feet long uphill of the new highway just east of the Russian River Campground entrance. Although this cut would be located well outside the KRSMA (across the highway from the river), it likely would be easily visible to boaters from some points on the Kenai River over an area of up to 1 mile. The highway itself in this area would be located up to about 80 feet farther from the river and at slightly higher elevation than the existing highway alignment. The overall effect of the finished bridges would be similar to the existing

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20 See Section 2.2.1.1.
bridges, and no substantial impact to the functions of KRSMA—including fish habitat and fish movement, river boating, fishing, and viewing—is expected. Although the Cooper Creek Alternative would locate the highway corridor away from the Kenai River, as recommended in the plan, for several miles, the western portion of the alternative on the existing Sterling Highway alignment would not alleviate concerns about hazardous material transport near the river.

The Cooper Creek Alternative would cross a narrow piece of currently undeveloped USFS land in the Cooper Creek area managed under the land management category “Fish, Wildlife, and Recreation Management Area” in the CNF Land and Resource Management Plan\(^2\) (USFS 2002a). The Cooper Creek Alternative would maintain consistency with USFS recreation planning in the area by keeping roadway development in the study area within this category, which supports a maximum Recreational Opportunity Spectrum class of “Roaded Natural” and allows for scenery that is “moderately altered” and where development “may dominate,” in other words, the proposed rural highway would be consistent with this land management category (see Table 20).

The KPB Comprehensive Plan adopted recommendations of the Cooper Landing Advisory Planning Commission and classified borough lands in the Cooper Landing area. The plan anticipated the Sterling Highway MP 45-60 Project and left a corridor for the project north of Cooper Landing and classified lands on either side of the corridor as Preservation lands to create a buffer and limit access in order to prevent development of a second business district along the new alignment. The Cooper Creek Alternative would not be located on or near this corridor. The Cooper Creek Alternative would use KPB lands classified as Preservation lands immediately west of Cooper Landing and south of the existing Sterling Highway (HDR 2002a). Land classified for Recreation also would be used. These uses would be counter to the intent of such classifications, especially for Preservation lands, however the remaining lands along the new corridor would serve the purposes of a minimum 200-foot Preservation buffer around new portions of the highway corridor, as called for in the plan, just in a different location. The KPB may need to reclassify lands in order to create a Preservation buffer around the final, selected alternative.

The Cooper Creek Alternative would parallel and cross the Powerline Trail, which is proposed for improvement in the KPB Comprehensive Trails Plan. Effects to the trail are addressed further in the Trails and Hiking discussions below. The plan suggests formalizing trail easements for public access. Such easements have not been created, so the trails do not have any legal protection of public access.

### 3.2.1.3 Trails, recreation lands, and KRSMA

The new portion of the Cooper Creek Alternative would negatively impact recreational trails on the south side of the Kenai River valley, by crossing the existing Stetson Creek Trail and the Cooper Dam Lake Road, both of which are used by hikers and mountain bikers, as well as occasionally by snowmobilers (although snowmobile use is not specifically allowed).

#### Shackelford Creek/Powerline Trail

The Cooper Creek Alternative would cross the Shackelford Creek/Powerline Trail at grade in two locations roughly 0.4 miles apart. The Cooper Creek Alternative would run parallel to the trail between these two areas. This trail is an access track associated with the Homer Electric Association transmission line right-of-way and is not managed for recreation use, although it is used for recreation, primarily by local residents. The highway would create a barrier for some local users (hikers, skiers, and snowmachiners) who would not want to cross the highway to access portions of the trail, which

\(^2\) See Section 2.3.1, and Map 5 (Appendix A).
may reduce use. Others likely would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents.

**Stetson Creek Trail**

The existing Stetson Creek Trail begins at the southern end of the Cooper Creek Campground. No trail marker or parking area denotes the trailhead. The lack of signage and parking at the trail, and its poor condition in contrast to the availability of other high-quality trail experiences in the area, contribute to a low volume of hiking on the trail.

**Cooper Lake Dam Road**

The alternative also would cross the Cooper Lake Dam Road. The highway would create a barrier for some local users (hikers, skiers, and snowmachiners) who would have to cross the highway to continue on the trail, which may reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents.

**Sportsman’s Landing**

The widened Cooper Creek Alternative, where it would pass the Sportsman’s Landing boat launch, would follow the existing highway alignment and would remain immediately parallel to the north side of the Sportsman’s Landing parcel. The highway cut and fill line would be immediately adjacent to the Sportsman’s parcel, and the contractor likely would need to use the northern edge of the parcel temporarily during construction. Public access to the parcel and along the access road at the northern edge of the parcel would be maintained throughout construction during the summer use season. Permanent access to the property would be improved with addition of a turning lane on the highway. The relationship of the boat ramp parking facilities to the highway would be unchanged following construction.

**Cooper Landing Boat Launch and Day Use Area**

The Cooper Creek Alternative includes replacing the Cooper Landing Bridge with a new, wider bridge on a slightly different alignment. The boat launch ramp itself is built within the existing Sterling Highway right-of-way immediately adjacent to the existing bridge abutment. No permanent effect on the boat launch and day use area is anticipated. The recreation facilities are located immediately adjacent to the highway today. During the reconstruction period, the Cooper Landing Boat Launch would be closed for short periods while the area was occupied for pile driving and for lifting bridge girders into place. Pile driving noise would make use of the day use area unpleasant. The new, wider portion of the bridge would be built on the upstream side of the existing bridge (the opposite side from the boat launch ramp). Through-traffic and access to the boat launch would remain via a temporary bridge while the new, wider bridge was built. Once complete, access to the boat launch and day use area would be off the “old” highway, which may make coming and going easier and would reduce impacts of turning traffic on through traffic.

**USFS Kenai River Recreation Area**

The existing highway right-of-way would be widened in some locations adjacent to the Kenai River Recreation Area to accommodate the wider, straighter alignment of the Cooper Creek Alternative, using 41.8 acres of the Recreation Area. The recreation area was formed around the highway as a sort of buffer, providing for a natural corridor along the Kenai River and between the highway and the river. None of the developed sites within the recreation area that have a recreation function (i.e., the K’Beq Footprints and Beginnings Heritage Sites, the trailhead for Resurrection Pass Trail, and the entrance and overflow parking area for the Russian River Campground) would be permanently affected. Trees and vegetation would be cleared to establish the required clear zone for the wider highway.
KPB Lands

The Cooper Creek Alternative would cross Borough lands classified as recreation and preservation lands south of the community. These lands are not likely to be otherwise developed. The Helen Rhode Community Wildflower Park is a non-permitted use of DOT&PF right-of-way. The area appears to have not been maintained much in recent years. The park would likely be eliminated when the Bean Creek Road intersection with the revised highway alignment is designed.

3.2.1.4 KRSMA and KRSMA Additions

The Cooper Creek Alternative would impact KRSMA by replacing and enlarging two bridges over the Kenai River and by placing fill material or riprap (rock) in the river at several small areas within the existing highway right-of-way for a total of 0.8 acres. These areas would have almost no impact on normal Kenai River processes but would impact recreationists who would see the rip rap from the river rather than vegetated slopes. The overall effect of the finished bridges would be similar to the existing bridges, and no substantial impact to the recreation functions of KRSMA—including river boating, fishing, and viewing—is expected. The Cooper Creek Alternative would have minimal impact on proposed additions to KRSMA.

3.2.2 Indirect Impacts

The Cooper Creek Alternative would provide access from the new alignment to areas that may be used for hunting or hiking or other recreational activity that were previously difficult to reach. This would include undeveloped lands on the slopes south of Cooper Landing. While a few hunters and hikers may park on the roadside to access the trails and nearby public lands, most would likely use formal trailheads. Use of the shoulders for parking and recreational activity could increase safety risks for recreationists and drivers.

One recreation site in which indirect impacts could be an issue under the Cooper Creek Alternative is the Cooper Creek Public Camp and Picnic Ground. The Cooper Creek Alternative would pass uphill of the Cooper Creek Campground, which could somewhat diminish the campground experience (the old highway would lie to the north and the new highway to the south and west). The new highway would cross the creek canyon at an elevation of approximately 100 feet above the creek and about 2,000 feet upstream from the campground. The new highway would follow the hillside west of the creek toward the existing Sterling Highway, coming within about 1,300 feet of the developed campground. While forest would screen the highway during the May–September period that the campground is open, campground users would be aware of its presence, including engines laboring uphill and trucks downshifting for the downhill, and likely sometimes the sounds of tires on the bridge abutments, leaving the impression that the campground was backed by a highway and bridge rather than quiet woodland. Traffic on the existing Sterling Highway would decrease substantially, improving access to and from Cooper Creek Campground and making the area safer for pedestrians and bicycles. Noise analysis indicated no substantial noise increase, although the traffic noise would come from multiple sides of the campground.

The effects of the Cooper Creek Alternative adjacent to the Refuge visitor contact station and the Refuge Fuller Lakes Trailhead would be identical to those of the other build alternatives. The widened roadway fill under all four build alternatives would come to the edge of the western cul-de-sac at the visitor contact station, which was built within the highway right-of-way, but there would be no use of the contact station and its grounds. Vehicles on the cul-de-sac would not be within the new highway’s clear zone and would therefore not be a safety hazard. The trailhead for the Fuller Lakes Trail also lies within the Sterling Highway right-of-way and adjacent to the existing highway. There would be no direct impact to the Fuller Lakes Trailhead by any of the alternatives. In both cases, highway noise would be an evident and continual part of the experience at these locations, and the highway and its
traffic would be readily visible. However, these noise and visual effects would be substantially similar to those experienced at these locations today and under the No Build Alternative. Access to and from these facilities may be improved with the wider, safer road.

3.2.3 Impacts to Recreation Activities

3.2.3.1 Fishing

The only major new bridge location under the Cooper Creek Alternative would be at Cooper Creek. The Recreation Survey findings (Chugach Electric Association 2005) indicate that the creek is fished; however, the creek does not produce enough fish to be considered a major recreational fishery. Enhancement of the salmon run is expected to occur over time as a result of Cooper Lake Dam management. The present analysis assumes current levels of fishing. The proposed bridge would be located upstream of the Cooper Creek South campground and high above the creek on pilings. The design would avoid intrusion of pilings into the creek, and the fishery would not be impaired with respect to water volumes or the creek substrate, or the ability to enhance the salmon run. Thus, the physical characteristics of the stream are assumed to remain the same under the Cooper Creek Alternative. Currently, the lower 4 miles of Cooper Creek offer no barriers to fish passage (USFS 2002a). Assuming that the majority of fishing effort would be expended in the first 1/2 to 1 mile of creek, based on terrain and access issues, the proposed alignment of the Cooper Creek Alternative would provide a relatively urban experience within or at the upper limit of an area that would provide access for fishing. Assuming that a major reason that individuals fish a creek such as Cooper Creek is for the ability to be in a relatively pristine setting, the creation of a major transportation project within the fished area of the creek would thus impact the experience. Because the current fishing effort on the creek is very low, the presence of the Cooper Creek Alternative is not expected to affect current fishing effort and is not expected to affect the fishing experience in the entire project area.

To construct two replacement bridges, the Cooper Landing Bridge and Schooner’s Bend Bridge, fill material or riprap (rock) would be placed in the Kenai River at several small areas within the existing highway right-of-way for a total of 0.8 acres. The overall effect of the finished bridges would be similar to the existing bridges, and no substantial impact to the recreation functions of KRSMA—including river boating, fishing, and viewing—is expected.

3.2.3.2 Camping

The Cooper Creek Alternative would be located approximately 0.3 mile south and east of the Cooper Creek Campground. Removing through-traffic (70 percent of the traffic) from the existing road would make turning movements into and out of the campground safer and easier. The presence of new highway near the campground would have no direct impact on the camping facilities. The noise study conducted for the project indicates no substantial noise increase at the Cooper Creek Campground, although the traffic noise would come from multiple sides of the campground leaving the impression that the campground was backed by a highway and bridge rather than quiet woodland (HDR 2006).

3.2.3.3 Hiking

The new portion of the Cooper Creek Alternative would negatively impact recreational trail use on the south side of the Kenai River valley, as follows. The Cooper Creek Alternative would cross the existing Stetson Creek Trail and the Cooper Dam Lake Road, both of which are used by hikers and mountain bikers, as well as occasionally by snowmobilers (although snowmobile use is not specifically allowed). The highway would create a barrier for some local users (hikers, skiers, and snowmachiners) who would have to cross the highway to continue on these trails, which may reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents.
The Cooper Creek Alternative would also cross the less well-known Powerline Trail. As illustrated on Map 3 (Appendix A: Maps) the Cooper Creek Alternative would cross the Powerline Trail in two locations, roughly 0.4 miles apart. The Cooper Creek Alternative would run parallel to the trail between these two areas. Powerline Trail users would need to cross the highway at-grade at these two locations, or (more likely) would need to end their trail experience at the new highway, resulting in a shorter trail experience. Snowmobile crossings of the new highway during the winter in the dark could pose safety problems both for highway traffic and trail users. Some trail users may park on the highway shoulder to access Powerline Trail from the highway.

Cooper Lake Dam Road is used for recreational hiking. The new highway would cross the road. Without mitigation, trail users would be required to cross the highway at grade, or they would park along the shoulder of the new highway to access the trail from the highway.

The existing Stetson Creek Trail begins at the southern end of the Cooper Creek Campground. The new highway would cross the trail and, without mitigation, would create a barrier to use from the existing trailhead, although it is likely users would drive to a pullout to be provided near the crossing.

The Fuller Lakes and Surprise Creek Trails would not be directly affected new highway. The Fuller Lakes Trail may be subject to slightly higher average noise levels because of higher average road speeds (DOT 2011).

3.2.3.4 Boating

Because boating on the upper Kenai River is limited to non-motorized use, the outlet of Kenai Lake is the logical place where most rafters put in and begin float trips, and the Cooper Landing Boat Launch facilities are highly valued by recreationalists and local residents. The Cooper Creek Alternative would require the Cooper Landing Bridge to be reconstructed. During the reconstruction period, the Cooper Landing Boat Launch would be closed for short periods (the boat ramp itself is located within the highway right-of-way and immediately adjacent to the bridge). Otherwise, the boat launch would remain at its present location, and there should be negligible effects to boating activity on the Kenai River under the Cooper Creek Alternative.

3.2.3.5 Scenery viewing

The impact to visual quality along the Cooper Creek Alternative is addressed in an analysis completed for this project (HDR 2012). The Cooper Creek Alternative would provide additional scenic viewing opportunities by providing new views from an elevated location above the valley, particularly given widened right-of-way clearing associated with the new roadway. Also, a decrease in traffic on the bypassed portion of the existing Sterling Highway (by approximately 70 percent) would allow slower speeds through Cooper Landing, and increase the value of the existing roadway for scenery and possible wildlife viewing.

The Cooper Creek Alternative would pass through a small area classified by the USFS as part of the Forest’s “inventoried roadless area” (IRA) for 0.1 mile, incorporating 3.8 acres into the right-of-way. The land in question is a remnant of an area mapped by the USFS, but portions were subsequently conveyed to the State of Alaska, so this segment is not part of a contiguous roadless area. No practical reduction to IRA lands on the Forest would result, therefore this change to the IRA would not result in any changes to scenery viewing or visual quality.

3.2.3.6 Hunting and Trapping

The area surrounding the new route of the Cooper Creek Alternative is in GMU 7 and is considered moose rutting and wintering habitat (Map 3-24 SEIS). Also, Cooper Creek is an area of “predicted use” for black bears (Map 3-22 SEIS). The Cooper Landing community is active in the harvest of game
animals, particularly moose (ADF&G 2012b). Additional game species, hunters, and trappers likely use undeveloped sections of the proposed Cooper Creek Alternative currently. The addition of the Cooper Creek Alternative will remove habitat for wildlife, and may displace moose, bears, and other wildlife farther south from the newly built section between the Kenai Lake crossing and the Cooper Creek area (Shanley and Pyare 2011, Waller and Servheen 2005) which would reduce hunting opportunity to some degree for local residents and others.

Construction activities may reduce wildlife presence near the highway in the project area. The new highway may reduce hunting and trapping access from existing Sterling Highway pullouts, trailheads, and side roads but may provide some new, easier access to the benchlands and mountain slopes south of the Cooper Landing community.

3.2.3.7 Snowmobiling

Snowmobiling is not allowed on the Cooper Lake Dam Road, but it does occur. Pressure to open these trails to snowmobiling may increase under this alternative. The Powerline Trail, an informal local trail, would be crossed at grade in two locations by the Cooper Creek Alternative, which may result in a shortened trail experience, altered use pattern (potential new access from the highway), and potential risk of snowmobile-vehicle collisions on the new highway.

3.2.3.8 Other

Removal of through-traffic from the old roadway resulting from the construction of the Cooper Creek Alternative would lower traffic volumes and could slow traffic speeds, enhancing the experience and improving access for pedestrians and bicyclists travelling along the 4-mile segment of old highway by reducing the visual effects, noise, dust, and potential safety concerns associated with high levels of traffic. Similarly, shoulders 8 feet wide throughout the new alternative would greatly enhance the cyclist experience over the current conditions where shoulders are non-existent or 1 to 2 feet wide.

3.3 G South Alternative

3.3.1 Direct Impacts

3.3.1.1 Overall recreation character / access

The recreational character of the Cooper Landing and Upper Kenai River area would change under the G South Alternative. Most through-traffic would follow the new highway north of Cooper Landing. The old highway through the community (developed areas both southwest and northeast of the Kenai Lake outlet) would benefit from lower congestion, traffic noise, dust, and exhaust, and increased safety and ease for pedestrians, bicyclists, and drivers. Farther west, from MP 52 to 55, through-traffic and recreational traffic would remain combined, and the G South Alternative would function almost identically to the Cooper Creek Alternative.

Access to recreation-oriented businesses and sites located on the “old” highway would be easier because the 70 percent of traffic that is through-traffic would be on the new highway and separated from many of the recreational businesses. The sites benefitting from easier access/lower congestion would be:

- Commercial services, lodges, and guides located in both the MP 46–48 and MP 48–50 portions of Cooper Landing (both northeast and southwest of the Cooper Landing Bridge)
- Cooper Landing Boat Launch and Day Use Area
- Cooper Creek Campground
Recreation-oriented sites located directly on portions of the upgraded or newly built G South Alternative would have a wider, straighter road with shoulders and turning lanes but still would be subject to conflicts between through-traffic (70 percent of the traffic) and recreation/local traffic (30 percent of the traffic). The recreation-oriented sites accessed from the G South Alternative would be the same as those accessed from the Cooper Creek Alternative, except that G South would have no impact to businesses in the MP 46–48 portion of Cooper Landing (northeast of the Cooper Landing Bridge).

3.3.1.2 Recreation plans

The G South Alternative would build a new bridge across the Kenai River near MP 51.5, which is not in keeping with recommendations in the Kenai River Comprehensive Management Plan (the plan suggests restricting crossings to one new bridge at Funny River for the full Kenai River corridor). Also, although the G South Alternative would locate the highway corridor “away from the Kenai River,” as recommended in the plan to protect fishing and habitat resources, for about 6 miles, the western portion of the alternative on the existing Sterling Highway alignment would not be removed from the river and would not alleviate concerns about hazardous material transport near the river in these locations, both because of the new bridge and the continuation of roadway presence near the river. Therefore, the G South Alternative would meet some of the plan’s intent to provide separation between the highway and the river, but not to the same extent as the Juneau Creek alternatives, where the highway and river would be separated for a longer distance.

The G South Alternative would cross USFS land that is currently undeveloped and under two land management categories in the CNF Land and Resource Management Plan (USFS 2002a): “Fish and Wildlife Conservation Management Area” and “Fish, Wildlife, and Recreation Management Area.” Placing the G South Alternative on a small portion of land managed under the Fish and Wildlife Conservation classification would not be consistent with the management plan, and CNF may need to amend the plan to reclassify the area if this alternative were selected. However, only a small area is affected, minimizing this potential impact. The G South Alternative otherwise would maintain consistency with USFS recreation planning in the area by limiting roadway development in the study area to the Fish, Wildlife, and Recreation category, which supports a maximum Recreational Opportunity Spectrum class of “Roaded Natural.” The Fish, Wildlife, and Recreation category allows for scenery that is “moderately altered” where development “may dominate.” In other words, the proposed rural highway would be consistent with this land management category (see Table 20).

The KPB Comprehensive Plan adopted recommendations of the Cooper Landing Advisory Planning Commission and classified borough lands in the Cooper Landing area. The plan anticipated the Sterling Highway MP 45–60 Project and left a corridor for the project north of Cooper Landing. The plan classified lands on either side of the corridor as Preservation lands to create a buffer and restrict access. The G South Alternative follows roughly the same corridor but does not fall precisely in the corridor identified in the plan. The KPB may need to reclassify lands in order to create a Preservation buffer around the final, selected alternative.

The G South Alternative would cross the Slaughter Gulch Trail in two locations, a trail that is in the KPB Comprehensive Trails Plan. The Plan promotes the protection of trails from development. Due to the G South Alternative’s impact to 0.5 miles of trail, the Alternative conflicts with the intent of the trails plan. More specific information is provided in the Trails and Hiking discussions below.

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22 See Section 2.2.1.1.
23 See Section 2.2.1.6 and Map 4 (Appendix A).
3.3.1.3  Trails

The G South Alternative would cross the Bean Creek Trail twice near its trailhead. Without mitigation, the highway would create a barrier for users who would have to cross the highway to continue on the trail, which may reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents. The G South Alternative would cross and shorten the Birch Ridge and Art Anderson/Slaughter Gulch trails, two informal trails in the area used primarily by local residents.

For both the Bean Creek Trail and Slaughter Gulch Trail, the highway would create a barrier for some local users who would not want to cross the highway to access the upper portions of the trails. Others likely would cross the highway on foot and could pose a risk of pedestrian-vehicle accidents. Others may park on the shoulder to access these trails. However, the number of users is thought to be low for the Slaughter Ridge Trail and moderately higher for the Bean Creek Trail. For the Bean Creek Trail in particular, the new highway has potential to provide easier access via the Bean Creek Trail to the Resurrection Pass Trail, and long-distance trail users may seek to park on the highway shoulder or immediately off the highway to access the trail. Without mitigation, this access point could become a substantial draw and lead to unsafe conditions along the edge of the highway.

3.3.1.4  Facilities

Impacts to Sportsman’s Landing would be identical to those anticipated under the Cooper Creek Alternative. In short, some temporary construction impacts are anticipated, but no longer term impacts to the facility. See Section 0.0.0.0 for more details.

3.3.1.5  Recreation lands

USFS Kenai River Recreation Area

The existing highway right-of-way would be widened in some locations adjacent to the Kenai River Recreation Area to accommodate the wider, straighter alignment of the G South Alternative, using 29.6 acres of the Recreation Area. The recreation area was formed around the highway as a sort of buffer, providing for a natural corridor along the Kenai River and between the highway and the river. Although the G South Alternative has a lower acreage of impact than the Cooper Creek Alternative, the effect on the functions of the recreation area are similar. None of the developed sites within the recreation area that have a recreation function (i.e., the K’Beq and Footprints Heritage Sites, the Resurrection Pass Trail trailhead, and the entrance and overflow parking area for the Russian River campground) would be affected. Trees and vegetation would be cleared to establish the required clear zone for the wider highway, and clearing would permanently reduce wildlife habitat in a narrow strip along the highway.

KPB Lands

The G South Alternative would cross Borough lands classified as recreation and preservation lands north of the community. These lands are not likely to be otherwise developed, and in the land classification plan are specifically designed to create a buffer around a presumed highway alignment for this project. The buffer likely would serve to restrain development along the highway and contain development mostly to areas within the existing community. The presumed alignment in the land classification plan and the current alignment are not identical, and the Borough may need to amend its plan to reflect the final alignment.

3.3.1.6  KRSMA and KRSMA additions

The G South Alternative would impact KRSMA by replacing and enlarging one bridge over the Kenai River near Schooner Bend (where there is an existing bridge), and by constructing a new, third bridge over the Kenai River in a formerly undeveloped location west of Juneau Creek. The new bridge would
be substantial visual impact at that particular point in the river and an intrusion of an engineered structure on a river corridor valued for its mountain and forest scenery. This alternative would involve placing fill material or riprap (rock) in the Kenai River at several small areas, for a total of 2.8 acres (including bridge piers and abutments). These areas would have almost no impact on normal Kenai River processes but would impact recreationists who would see the rip rap from the river rather than vegetated slopes. The bridge abutments and piers would use portions of the KRSM. At the Schooner Bend replacement bridge, the resulting impact would be much the same as existing effects of the highway crossing the Kenai River. The bridge would be wider than the existing bridge, but likely there would be fewer piers in the river, and certainly no more piers than exist today. The existing bridge would be removed, including all piers and abutments. Boaters in this corridor are aware today that they are not on a pristine Wilderness river but are paralleling a highway, but a new bridge would increase awareness of the development in the valley.

Construction would result in the substantial noise of construction equipment, particularly during pile driving, and would result in closure of the river at the locations of bridges to boats and fishing when cranes were lifting bridge girders into place and during pile driving near the middle of the river. Pile driving near the edges of the river would likely allow sufficient space so that boats could safely pass on the opposite side of the river.

Besides the bridges, and besides the retaining walls and rip-rap noted as a visual impact under all build alternatives, the G South Alternative would include a cut 55 feet high and 350 feet long uphill of the new highway just east of the Russian River Campground entrance. This cut would be easily visible to boaters on the Kenai River for perhaps a mile.

The G South Alternative would have substantial impact to proposed additions to KRSM from Bean Creek to Juneau Creek, inserting the highway and a large bridge on tall piers across the lower portions of Juneau Creek Canyon, with associated noise and visual impacts, in what is currently an undeveloped area. These lands, particularly those at lower Juneau Creek, are valued for their salmon habitat, which in turn supports recreational sport fishing in the area. The area is also valued as bear habitat and is lightly used for dispersed recreation. The highway and construction access roads into the bottom of the valley for bridge construction could lead to more recreational use in this area and to greater human-bear conflicts.

### 3.3.2 Indirect Impacts

Some recreationalists may choose to park on the highway shoulder. A short distance west of Juneau Creek, staging areas and an access road necessary for constructing the large bridge have the potential to create new, easier public access after the work is complete. It may be difficult to keep people from hiking in and thereby keeping the access open and evident, potentially leading to a new fishing access point, conflicts with bears, and a recreation management issue for DPOR and the USFS.

The effects of the G South Alternative adjacent to the Refuge visitor contact station and the Refuge’s Fuller Lakes Trailhead would be identical to those of the other build alternatives. The widened roadway fill under all four build alternatives would come to the edge of the cul-de-sac at the visitor contact station, which was built within the existing highway right-of-way, but there would be no direct impacts to the contact station and its grounds. Vehicles on the cul-de-sac would not be within the new highway’s clear zone and would therefore not be a safety hazard. There would be no direct use of the Fuller Lakes Trailhead by any of the alternatives. In both cases, highway noise would be an evident and continual part of the experience at these locations, and the highway and its traffic would be readily visible. However, these noise and visual effects would be substantially similar to those experienced at these locations today. Access to and from these facilities may be improved with the wider, safer road.
Indirect effects on the KRSMA also could result from the portion of the G South Alternative just east of the Russian River Campground entrance where a cut 55 feet high and 350 feet long uphill of the new highway would be required to straighten a curve that does not meet current standards. Although this cut would be located well outside the KRSMA (across the highway from the Kenai River), it likely would be easily visible to boaters from some points on the Kenai River over an area of up to 1 mile. The highway itself in this area would be located up to about 80 feet farther from the Kenai River and at slightly higher elevation than the existing highway alignment. This would be one location along the Kenai River with a distinct change in the visual environment, but no impact to the functions of KRSMA—including fish habitat and fish movement, river boating, fishing, and viewing—is expected.

The G South Alternative would cross lands along Bean Creek, Juneau Creek, and the Kenai River that are within the proposed additions to KRSMA. DOT&PF would own the transportation corridor (or control an easement) through these proposed KRSMA additions. This would reshape the land ownership pattern and could make this KRSMA additions area more difficult for DNR to manage because of increased public access from the highway. It is a possible that placing a highway through the area would diminish the value of the lands as a park in the eyes of state legislators and reduce the prospects for actual addition of these lands to the KRSMA state park unit through state legislation.

### 3.3.3 Impacts to Recreation Activities

#### 3.3.3.1 Fishing

The G South Alternative would add a third bridge across the Kenai River in the upper Kenai River area. The new bridge would be located west of the mouth of Juneau Creek in a stretch of the Kenai River that is approximately 750 feet from the existing Sterling Highway, in an area that currently has a natural, undeveloped setting. The new bridge location is a place where drift boats sometimes stop for bank fishing because of the presence of a sandbar and low-sloping bank. The G South Alternative would alter the atmosphere of this location, effectively removing it as an attractive stopping point, and would introduce a built structure in a currently natural setting, therefore affecting the recreational fishing and scenery resources.

The G South Alternative would remove through-traffic from the existing Sterling Highway in the area where float fishing parties begin their trips, enhancing access for fishing. However, this alternative would direct all highway traffic along the river’s edge from about MP 51.5 to MP 58, past the popular Russian River campground and Sportsman’s Landing/Russian River Ferry fishing access points. Growing traffic on this section of the existing highway would exacerbate access conflicts between through-traffic and traffic trying to reach fishing destinations in the vicinity of the busiest fishing use area near the Russian River.

#### 3.3.3.2 Camping

The G South Alternative would not directly affect any campgrounds. With the removal of 70 percent of Sterling Highway traffic to the new highway, Cooper Creek Campground users would enjoy safer and easier turns in and out of that campground. New turn lanes would be constructed at Sportsman’s Landing and at the entrance to the UFSF Russian River Campground, which would improve access and decrease congestion and turning conflicts somewhat over existing conditions.

#### 3.3.3.3 Hiking

The G South Alternative would cross Bean Creek Trail 1.8 miles from the trailhead. This crossing would interject highway development in an area where trail users have grown accustomed to a generally undisturbed area, fragmenting the trail experience. Without mitigation, the highway would create a barrier for users who would have to cross the highway to continue on the trail, which may
reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents. Also, the G South Alternative would cross the lesser-known Slaughter Gulch Trail (also known as the Art Anderson Trail) and would bisect an area known locally as “the golf course” where there are a number of local-use trails west of Knaak Subdivision, some of which may be terminated as a result. The “golf course” is a parcel of state land proposed as an addition to KRSMA. With the construction of the G South Alternative, like with other alternatives, users may develop unregulated parking and access points to existing recreational resources.

This Alternative would create new access to segments of the Resurrection Pass Trail at higher elevations; this could increase the number of snowmobilers in Resurrection Pass and attract new roadside snowmobile parking. However, it is unlikely that USFS management of the area in winter would change. Current management of the Resurrection Pass National Recreation Trail is to minimize user conflict by allowing motorized on alternating years only. With increased user activity, USFS enforcement of motorized access regulations could possibly become somewhat more difficult, and user conflicts may increase.

The G South Alternative would cross Slaughter Gulch Trail (a.k.a. Art Anderson Trail) in two places and would force users to park on the highway to access the trail or to cross the highway at grade. As a result, use could be shifted from this trail to other local trails, some of which already see significant use during the peak summer months, or the use pattern may change for how people access this trail.

The Fuller Lakes and Surprise Creek Trails would not be directly affected by this alternative. The Fuller Lakes Trail would be subject to slightly higher average noise levels because of higher average road speeds (DOT&PF 2011). The Surprise Creek Trail is across the Kenai River from the proposed alternative route and would not be affected at all.

3.3.3.4 Boating

The G South Alternative would provide a new bridge crossing of the Kenai River near Juneau Creek. The bridge would be 20 to 25 feet above the water surface. This distance would be more than adequate for the typical small vessels that use this portion of the river, and would thus not prevent or unduly complicate boating use. Due to the introduction of a bridge in a currently undeveloped area of the river, the scenic quality experienced by boaters would decrease (see details in Section 3.3.1.6). Additionally, the G South Alternative would remove through-traffic from the existing Sterling Highway for a portion of the road that currently provides recreationalists with Kenai River boat launching access and therefore reduce existing conflicts with through-traffic.

3.3.3.5 Scenery viewing

The G South Alternative would not provide significant change to scenery viewing opportunities from the existing roadway, although the wider and somewhat straighter highway is expected to create better access to some vistas. The alternative’s elevated location where separated from the existing highway would provide views from the highway to the Kenai River and Juneau Creek valleys for short distances. Most views would be precluded by vegetation and low-angled topography. The removal of up to 70 percent of the traffic from the bypassed portion of the existing Sterling Highway may allow slower speeds, more comfortable driving for pleasure (scenery viewing), and more possible wildlife viewings for motorists on the segment of existing highway remaining after construction.

The G South Alternative would cross about 1.2 miles of USFS “inventoried roadless area” lands incorporating 50 acres into the right-of-way. This would reduce the amount of IRA lands (by definition, lands with natural landscapes with high scenic quality) in Chugach National Forest, thereby reducing scenic viewing opportunities.
3.3.3.6 Hunting and Trapping

The area surrounding the new route of the G South Alternative is in GMU 7 and is considered rutting and winter habitat for moose (Map 3-24 SEIS). The Juneau Creek area is an area of “predicted use” for brown bears (Map 3-22 SEIS). Additional game species, hunters and trappers likely use undeveloped sections of the proposed G South alignment. The addition of new highway from the G South Alternative will remove habitat for wildlife, and may displace moose, bears, and other game species (Shanley and Pyare 2011, Waller and Servheen 2005), which would reduce hunting opportunity to some degree. The new route could provide shorter access to the Resurrection Pass Trail (via the Bean Creek trail) which may benefit hunters seeking caribou in the Kenai Mountains. However, the number of hunters is limited by permit and would not be expected to change substantially. The new route would not likely affect legal brown bear harvest (limited by permit), but could increase the number of Defense-of-Life-and-Property kills of brown bears, because the highway would introduce greater access opportunity in some areas of bear habitat, including the lower end of Juneau Creek Canyon.

Construction activities may reduce wildlife presence near the new highway.

3.3.3.7 Snowmobiling

The G South highway location higher in elevation and closer to the Resurrection Pass National Recreational Trail could facilitate easier access, greater use over all, and higher demand for snowmobiling in Resurrection Pass, via the Bean Creek Trail. Opportunistic use of the highway shoulder would likely occur and could cause safety concerns both for recreationists and for drivers on the highway.

3.3.3.8 Other

This alternative would remove most through-traffic from the old roadway resulting in lower traffic volumes and could result in slower average traffic speeds on the remaining segment of old highway. This could enhance the opportunity for pedestrians and bicyclists to travel along the old corridor. New shoulders along the length of the G South Alternative would substantially improve use of the highway corridor for cyclists and pedestrians.

3.4 Juneau Creek Alternative and Juneau Creek Variant Alternative

3.4.1 Direct Impacts

3.4.1.1 Overall recreation character / access

The recreational character of the Cooper Landing and Upper Kenai River area would change substantially under the Juneau Creek and Juneau Creek Variant alternatives. Most through-traffic would follow the new highway north of Cooper Landing and north of the primary recreational portion of the upper Kenai River (MP 51–55).

Juneau Creek Alternative and Juneau Creek Variant Alternative avoid most recreation resources along the existing highway in the Cooper Landing area. Access to recreation-oriented sites located on the “old” highway would be easier because the 70 percent of traffic that is through-traffic would be separated on the new highway. The sites benefitting from easier access/lower congestion would be:

- Commercial services, lodges, and guides located both in the MP 46–48 and MP 48–50 portions of Cooper Landing (both northeast and southwest of the Cooper Landing Bridge)
- Cooper Landing Boat Launch and Day Use Area
- Cooper Creek Campground
- Gwin’s Lodge
- Russian River Campground
- K’Beq Footprints Heritage Site
- Trailhead for Resurrection Pass Trail
- Sportsman’s Landing/Russian River Ferry

Recreation-oriented sites located directly on those portions of the Juneau Creek and Juneau Creek Variant alternatives that follow the existing alignment would benefit from a wider, straighter road with shoulders and turning lanes. These segments still would be subject to conflicts between through-traffic (70 percent of the traffic) and recreation/local traffic (30 percent of the traffic). The recreation-oriented sites located directly on these alternatives would be:

- Commercial services located at Quartz Creek
- Trailhead for Fuller Lakes Trail
- Refuge Visitor Contact Station

Removing the main highway and 70 percent of traffic from the core area for recreation would reduce visual and noise impacts to the Kenai River and would reduce potential for spills into the river that could affect independent and guided recreational boaters and sport fishers. Travelers on the old highway through the community both northeast and southwest of Cooper Landing Bridge and throughout much of the upper Kenai River area (westward to MP 55) would benefit from lower congestion, traffic noise, dust, and exhaust, and increased safety and ease for pedestrians, bicyclists, and drivers. Through-traffic and recreational traffic would remain combined west of MP 55 (west of MP 56 for the Juneau Creek Alternative) and east of MP 46, but these are areas with fewer recreational facilities or attractions and much less intensive recreational use. Most recreational sites, including campgrounds, trailheads, interpretive sites, and fishing, including the highly popular Sportsman’s Landing-Russian River Ferry site, would be accessed from the “old” (existing) highway, which would remain a curving, lower-speed, park-like road suited for such uses. Safety issues associated with the mix of through-traffic with parked and slow-moving recreational traffic and pedestrians would remain but would be much less critical, because the traffic volumes and speeds would be lower by eliminating most through-traffic.

There would be one difference between these alternatives. The Juneau Creek Variant Alternative would be located immediately north of Sportsman’s Landing. With new wide shoulders, it is possible that some recreationists would prefer to park along the new highway overlooking Sportsman’s Landing rather than along the old highway in the same area, potentially creating a new version of the same safety hazard that exists today. The Juneau Creek Alternative would be located farther north so that this use would not be a temptation. The Juneau Creek Variant in this area also would be plainly visible as a large new engineered structure (roadway embankment and overpass) from the Russian River confluence area of the Kenai River, the most popular recreation site in the project area. The existing highway is visible from this area today, but the new highway would be an addition and would be more evident.

In terms of upland recreation, the Juneau Creek Alternative would change the character of largely undisturbed USFS land area that is categorized in the CNF Land and Resource Management Plan 24 as “Fish and Wildlife Conservation Area” and “Backcountry Management Area.” The Juneau Creek and Juneau Creek Variant Alternatives would cross the Resurrection Pass National Recreation Trail and the

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24 See Section 2.2.1.6 and Map 4 (Appendix A).
Juneau Falls recreation withdrawal area 0.5 miles below the Juneau Creek Falls viewing area, and 3.4 miles from the trailhead located along the existing Sterling Highway. It also would cross a number of local use trails on the south slope of Juneau Mountain including the Slaughter Ridge Trail, Russian Gap Trail, and Bean Creek Trail. The alternative would increase access to Resurrection Pass Trail, including by snowmobilers, possibly increasing conflicts between motorized and non-motorized recreational users.

3.4.1.2 Recreation plans

The Juneau Creek and Juneau Creek Variant Alternatives would conform to the Kenai River Comprehensive Management Plan\(^ {25} \) recommendation to keep river crossing structures to a minimum as it would require no new bridges across the Kenai River and would not widen or replace any of the existing bridges that cross the river. These alternatives would locate the new highway corridor “away from the Kenai River,” as recommended in the plan, for 9.5 and 8.5 miles, respectively, for the longest distance of separation of all the alternatives. This would go farthest towards protecting fish and fish habitat, a key goal of the plan.

The Juneau Creek and Juneau Creek Variant Alternatives would alter the character of USFS land area that is categorized in the CNF Land and Resource Management Plan\(^ {26} \) as “Fish and Wildlife Conservation Area” and “Backcountry Management Area.” On these lands, other agencies (non-Forest Service) may build roads with conditions; however it appears the intent of the conditions is primarily for providing access to private or mining lands via relatively small roads and not for the Interstate Highway System. The maximum Recreation Opportunity Spectrum class is “Semi-Primitive Motorized” use, and the “Scenic Integrity Objectives” prescribe that development is intended to be subordinate to the landscape. In other words, the proposed rural highway would not likely be consistent with this land management category. The USFS may need to re-designate lands adjacent to these alternatives via a plan amendment. As an indirect impact, re-designation of the land to a less restrictive classification could result in future land use changes and greater development. Near the Forest boundary with the Kenai National Wildlife Refuge, the Juneau Creek Variant Alternative would pass through a short segment of CNF land in the “Fish, Wildlife, and Recreation Management Area” category, for which the maximum Recreational Opportunity Spectrum class is “Roaded Natural.” The project would not appear to conflict with the plan in this area.

The KPB Comprehensive Plan adopted recommendations of the Cooper Landing Advisory Planning Commission and classified borough lands in the Cooper Landing area. The plan anticipated the Sterling Highway MP 45–60 Project and identified a corridor north of Cooper Landing and classified lands on either side of the corridor as Preservation lands to create a buffer and restrict access. The Juneau Creek and Juneau Creek Variant Alternatives follow roughly this same corridor but do not fall precisely within the corridor identified in the plan. The KPB may need to reclassify lands in order to create a Preservation buffer around the final, selected alternative.

The Juneau Creek and Juneau Creek Variant Alternatives would cross the Resurrection Pass National Recreation Trail, and also would cross the Slaughter Gulch and Juneau Bench trails that are listed in the KPB Comprehensive Trails Plan and are illustrated on (Appendix A: Maps). Effects to trails are further discussed below in the Trails and Hiking discussions.

\(^{25}\) See Section 2.2.1.1.

\(^{26}\) See Section 2.2.1.6 and Map 4 (Appendix A).
3.4.1.3 Trails

Bean Creek Trail

The Juneau Creek and Juneau Creek Variant alternatives would cross the Bean Creek Trail (see Map 3). The impact would be identical under both alternatives. The trail crossing would be located about 2,000 feet south of the junction of the Bean Creek and Resurrection Pass trails. The highway would cross the trail about 1.75 miles from the existing Bean Creek trailhead (the end of Slaughter Ridge Road). Without mitigation, the highway would create a barrier for users who would have to cross the highway to continue on the trail, which may reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents.

The highway would pass within 950 feet of the Bean Creek trailhead at Slaughter Ridge Road and then roughly parallel the Bean Creek Trail at distances of approximately 1,800 feet (closing gradually to zero as the highway approached the trail crossing). The trail is used particularly in winter as alternate access to the Resurrection Pass Trail and upper Juneau Creek drainage. It is anticipated that virtually all users from outside the local area would gravitate to the new highway crossing for access to the Bean Creek Trail (and then to the Resurrection Pass Trail) rather than using the old trailhead. The lower 1.75 miles of the Bean Creek Trail would remain useful primarily for local traffic. Without mitigation, local users would be forced to cross the highway at grade, and others likely would park on the highway shoulders.

The Highway Traffic Noise Assessment Summary (HDR 2011) completed for this project modeled a site along the Bean Creek Trail near the proposed highway alignment. The Bean Creek Trail crossing area currently is undeveloped except for the trail itself, so the noise report indicates background noise levels should be assumed to be 40 dBA, as measured at a similar undeveloped location. The modeled noise level for 2035 was 62 dBA, an increase of 22 dBA from existing and from the No Build Alternative. A noise increase of 15 dBA or more is considered a substantial noise impact by DOT&PF.

Finally, the Juneau Creek and Juneau Creek Variant alternatives include a gravel extraction area and an overburden disposal area west of the trailhead for Bean Creek Trail. A portion of the trail that crosses Bean Creek and a spur immediately west of this crossing are the most likely routes to be used for truck access from the proposed highway alignment to these areas. The proposed hauling route and the trail would overlap for about 1,600 lineal feet (about 3 acres of the 100-foot-wide trail corridor would be affected, based on the tentatively mapped 80-foot width of the permit for the access road corridor; it is likely that the footprint of the road actually would be substantially narrower). Trail users would encounter the haul route within about 1,200 feet of the usual trailhead. Trucks and pedestrians would share the route for most of the project construction period—with most activity in summer and over at least two summers, and possibly up to five. Winter construction activity on the road also is possible, although likely at low levels and intermittently. The trail crossing of the creek is currently on an old logging road, and upgrading this route for truck traffic ultimately would improve the existing soft trail with an embankment and improve a rough log bridge with a new bridge (see EIS for discussion of mitigation).

Resurrection Pass Trail

The Juneau Creek Alternative and Juneau Creek Variant Alternative would cross the Resurrection Pass National Recreation Trail near Juneau Creek Falls. The impact would be identical under both alternatives. The recreation resource associated with the trail is considered to be a corridor 1,000 feet wide, and 7.4 acres would be impacted by the alternative(s). The highway would cross over the trail itself (typically about 3 feet wide) on a proposed new highway bridge. It is likely that there would be 15 feet or more of clearance beneath the bridge. Depending on the ultimate bridge design, there may or may not be piling supports between the trail and the canyon rim. Where the trail crossed the new highway right-of-way, it would lie within the new highway right-of-way (crossing under the highway
bridge at a right angle), but there would be no permanent direct physical use of the trail itself. It is likely the USFS would retain a trail easement 100 feet wide up to perhaps 1,000 feet wide.

As discussed above under the Juneau Falls Recreation Area heading, there would be temporary impacts to the trail during construction. Bridge construction activities and associated noise, dust, and visual impacts of disturbed earth could last up to 5 years (HDR 2006b), but more likely would take three to four years, before the highway opened to traffic.

The new highway would cross the trail 3.4 miles northeast of the trail’s existing Sterling Highway trailhead via the bridge that would also span the Juneau Creek canyon. Once the bridge was complete, trail users could continue to use the trail without crossing the highway at-grade. Because of the curving alignments of the trail and also of the proposed highway, the highway west of the trail crossing would roughly parallel the trail over most of the 3.4-mile segment leading up to the crossing. Background sound level in these undeveloped areas was measured at a low average sound level (40 dBA), and there is sufficient distance—2,200 to 4,200 feet—between the trail and highway that noise and visual impacts associated with the highway would be negligible compared to current conditions, once the distance between the highway and trail was greater than several hundred feet.

Snowmobilers use old logging roads that cross the proposed highway alignment as alternate routes because the main Resurrection Pass Trail often is less suitable for winter travel. Without mitigation, these routes could be truncated or require snowmobilers to cross the new highway at grade.

If the trailhead is replaced at the new location, 3.4 miles from the existing trailhead, it would effectively reduce the overall trail trip length by 9 percent for those using the entire trail, most of whom would no longer start at the existing, lower trailhead if a new trail access point were available. Those who desired still could use the entire trail.

Based on an Internet search of trail difficulty rankings, the 3.4-mile length is approximately half of a typical “moderate” hike, attractive to average hikers. The existing 7- to 8-mile round trip hike to the Juneau Creek Falls area from the Sterling Highway trailhead would remain but likely would not be used, as a practical matter for many hikers, because the falls would be effectively road accessible, with a walk of ½-mile or less round trip.

The trail over its lower 3.4 miles would remain, but use likely would change substantially. Use of the lower trail would be more incidental and no longer particularly relevant as part of a longer journey along the Resurrection Pass Trail for most users. It is possible that mountain bikers would use this trail segment along with old logging roads (accessible at the existing Resurrection Pass trailhead) to form a loop route, possibly including the new highway as a link, or that people staying in the area would drive to the top and hike down, to be picked up at the existing trailhead.

The trail portion north of the new highway would become much more accessible. The highway would cross the Resurrection Pass Trail at approximately elevation 1,100 feet, in the Juneau Falls area. The existing trailhead on the existing Sterling Highway is at approximately 390 feet. North of the Juneau Falls area, the Resurrection Pass Trail is relatively level for another 9 miles to the Swan Lake area (elevation 1,400 ft). Eliminating the 700-foot climb in the first 3.4 miles of trail would provide direct and easier access to a level trail in relatively open and very scenic terrain. Trout Lake would be 4.4 miles from the new highway instead of 7.75 miles from the existing trailhead. Romig Cabin would be 5 miles instead of 8.75 miles. Juneau Lake Cabin would be 5.9 miles instead of 9.25 miles. Swan Lake Cabin would be 9.6 miles instead of 13 miles. All four of these cabins and all three lakes would be within a day’s hike for average hikers, instead of just one cabin and lake. For mountain bikers and snowmobilers, all these cabins and lakes would be much more accessible for an out-and-back day trip.

Competition for the cabins and camp sites, and general use of the area, likely would increase. The increased accessibility would be a beneficial impact to some individual users who otherwise might be
inhibited from using the forested and steeper first 3.4 miles of trail, but effectively reducing the long-distance trail experience by 9 percent would be a substantial adverse impact to other users for whom the Resurrection Pass Trail is one of few accessible, point-to-point, long-distance trails in Alaska and to those who value the backcountry camping and cabins experience in the upper Juneau Creek valley precisely because of the effort it takes to reach the area. The backcountry recreation experience overall would be reduced, with more “front country” uses expected. That is, because the trail would be relatively flat and destinations closer, more casual uses are likely—a higher percentage of larger groups, tour groups, and day hikers and lower percentage of overnight backpackers; and a somewhat greater likelihood of fires outside designated fire rings, litter, underage drinking, and other less desirable activities. The area would likely require greater management by the USFS (2009).

The long-distance trail experience, at 34.6 miles instead of 38 miles, and without the hill at the Cooper Landing end, would be more achievable to more people. Because it already is popular, and because cabins already are booked solid virtually all summer and much of the winter, the decreased length and decreased difficulty would likely increase pressure on the entire trail.

The new highway alignment would introduce new highway traffic noise at the point that the highway crossed the Resurrection Pass Trail. A noise report completed for this project in 2011 indicated that the average noise level would increase 12 dBA at a distance of greater than 200 feet from the highway centerline, from 40 dBA to 52 dBA. This would be a substantial change but not a change that approached or exceeded the DOT&PF/FHWA noise abatement criteria. Users accustomed to average background noise levels of around 40 dBA would be subject to this noise level. Sound would diminish with greater distance and likely would increase closer to the bridge but diminish beneath the bridge. The bridge itself would be at least 55 feet wide and would insulate trail users from the highest noise levels as they passed beneath it (see the discussion below of noise under the Juneau Falls Recreation Area heading for further detail on noise modeling for this project. The permanent visual and noise impacts of the Juneau Creek bridge crossing over the Resurrection Pass Trail would be substantial—changing a quiet natural experience to a near-urban underpass environment for a short stretch).

Even distant from the highway, new noise effects likely would occur. The NPS, USFWS (including the Refuge), and others have studied human-generated noise in natural settings and documented that sound can be audible over many hundred yards and up to several miles (Horonjeff and Anderson 2005, Morton 2008). Because the highway would reach the same elevation as the upper Juneau Creek Valley without topographic constraint to block noise, some instantaneous loud noises likely would carry well north into upper Juneau Creek Valley—perhaps 1 to 2 miles or more, particularly under certain still conditions. (Per Morton [2008], maximum short-duration sound levels of 120 dBA were measured along the Sterling Highway in parts of the Refuge). Even though the valley is open to winter snowmobile use in alternating winters, faint highway noise would reduce the sense of a natural or backcountry type environment, particularly in summer and in winters during which the trail was closed to snowmobiles, when the expectation for natural quiet would be highest.

The concentration of people from the new highway, walking to viewpoints of the falls or for a short stroll out the trail would likely lead to greater litter and vegetation impacts in the falls area. The USFS considers the likelihood of meeting other parties and group size to be important parts of its assessment of backcountry recreation impacts and important consideration in its nationwide Leave No Trace backcountry ethics program. Thus, the additional people themselves, particularly those on short scenic viewing excursions, would constitute a visual and noise impact, compared to current conditions.

Despite these changes in use and resulting impacts, the increase in access, the elimination of the 3.4-mile up-grade from the existing Cooper Landing trailhead, and the proximity of the falls to the highway would provide a taste of this particular National Recreation Trail experience to a greater number of people and to people with a greater cross-section of ages and abilities. There is no indication that the
adverse effects would be so severe that the trail in its entirety would lose its National Recreation Trail status or that the USFS would close or restrict use on any part of it. It is likely to continue to be popular and heavily used, although the use pattern and types of users likely would be different (e.g., trips would be more likely to start at Juneau Falls).

**Birch Ridge, Art Anderson/Slaughter Gulch, and Juneau Bench Trails**

The Juneau Creek and Juneau Creek Variant alternatives would cross and shorten the Art Anderson/Slaughter Gulch trails. These alternatives also would cross the Juneau Bench trails/USFS logging roads. The two alternatives would take slightly different alignments through the Juneau Bench trails, but impacts would be of the same type. For these and other informal trails, the highway would create a barrier for some users who would not want to cross the highway to access the upper portions of the trails. Others likely would cross the highway on foot and could pose a risk of pedestrian-vehicle accidents. Others may park on the shoulder to access these trails. However, the numbers of users are thought to be low.

### 3.4.1.4 Facilities

**Sportsman’s Landing**

Under the Juneau Creek Alternative, there would be no temporary or permanent impact to the Sportsman’s Landing site. Under the Juneau Creek Variant Alternative only, the connection between the new highway and the existing highway would be constructed immediately north of the Sportsman’s Landing property. The contractor would need to use a portion of the parcel temporarily to realign the Sportsman’s Landing driveway and connect it to a realigned existing Sterling Highway. (The existing highway would be realigned slightly at this location to pass under the new highway and connect to it on the north side of the new highway.) There would be no change to the parking layout, entrance fee station, or boat launch itself. Access would be maintained to the facility during construction. Ultimately, realigning the driveway and adjacent existing Sterling Highway would improve access to Sportsman’s Landing with separate right- and left-turn lanes when exiting and a straighter driveway more easily managed by trucks towing boat trailers. The work done on the driveway would occur outside the primary fishing season when Sportsman’s Landing was busy (that is, construction of the driveway would take place in early spring or in fall) to the greatest extent possible. No permanent adverse impacts are anticipated, and all activities, features, and attributes would be maintained both during construction and permanently.

### 3.4.1.5 Recreation lands

**USFWS Kenai National Wildlife Refuge**

The Juneau Creek Variant Alternative would not impact the Refuge. The Juneau Creek Alternative, however, would use land from the Refuge in the area immediately east of MP 56. Under the Juneau Creek Alternative, the new highway would deviate from the existing highway right-of-way for about 2,500 linear feet within the Refuge, and a new connection to the existing highway would use 25.7 acres of land out of 1.94 million total Refuge acres (18.7 acres of Wilderness out of a Refuge total of 1.32 million acres of Wilderness within the Refuge). About half of this acreage would be cleared of forest vegetation and would be effectively lost as an area for dispersed recreation. However, this particular area is not thought to receive a lot of dispersed recreation use.

**USFS Kenai River Recreation Area**

The Juneau Creek Variant Alternative’s western junction with the existing Sterling Highway would occur just east of the Refuge/Chugach National Forest boundary, at MP 55 (Map 3). At the junction, the Variant would cross the 400-foot-wide Kenai River Recreation Area, and a highway overpass would
be placed in this location. The existing Sterling Highway would be routed under the overpass to connect with the new alignment. This would be necessary to accommodate the Sportsman’s Landing/Russian River Ferry entrance, separating the entrance from the main highway (see Sportsman’s Landing, above). The total acreage of use of Kenai River Recreation Area would be 7.4 acres. None of the developed features of the recreation area would be affected. The area used would be north of the existing highway, where the ground is principally steep and forested. No substantial dispersed recreation use of this area is known to occur. With minimal recreation use, the primary impact would be loss of wildlife habitat and natural forest foreground views as seen from the Kenai River and the existing highway. These impacts would not occur under the Juneau Creek Alternative.

**Juneau Falls Recreation Area**

The Juneau Creek Alternative and Juneau Creek Variant Alternative would use a portion of the Juneau Falls Recreation Area (Map 3). The impact would be identical for both alternatives. The 17.1 acres impacted represents the full highway right-of-way width across the entire recreation area. However, several acres would be under a clear-span bridge over Juneau Creek Canyon. The recreation withdrawal is not heavily developed for recreational purposes but does contain portions of the Resurrection Pass Trail and Bean Creek Trail, informal viewpoints, and a designated backcountry campsite associated with the Resurrection Pass Trail. Because most of the impacts are trail-related, there is a great deal of overlap between this discussion and the discussions of the Resurrection Pass Trail and Bean Creek Trail, reported in detail above.

The USFS places particularly high value on the Juneau Falls Recreation Area because it surrounds a scenic waterfall. The USFS has greater overall concern about impacts to this recreation area than impacts of the alignment crossing the Resurrection Pass Trail (Vaughan, personal communication 2006). The highway would cross the canyon about 1,300 feet downstream of the waterfall and would be a substantial new structural presence in an otherwise natural environment—a substantial visual and noise impact, as further described in the paragraphs prior and in the Resurrection Pass Trail discussion, prior. The Juneau Falls Recreation Area impacts are primarily the aesthetic impacts of placing a bridge in the down-valley view from the edge of the gorge (see Figure 8) and the impact of changing the character and use of the area, as further described in the paragraphs below. The bridge is not expected to provide a direct view of the falls themselves. However, the potential for views from the bridge is likely to attract pedestrians to the bridge; the attraction of views could create a hazard to pedestrians and motorists. See the trails discussions above and mitigation details in the SEIS.

An area approximately 140 feet wide would be cleared of forest to make way for the highway west of the canyon, permanently eliminating wildlife habitat. East of the canyon, because of topography, the cleared area would vary from about 100 feet wide to about 280 feet wide, and earth would be removed from a hillside, leaving a cut about 45 feet high.

The only developed campsite in the recreation area, located on the east side of the creek immediately upstream of the falls, would be approximately 2,000 feet from the proposed

**Figure 8. Simulated view of proposed bridge crossing of Juneau Creek Canyon, as seen from the existing informal Juneau Falls overlook area.**

From this location, the view of the falls is upstream, and the view of the bridge would be downstream.
highway (Map 3). Portions of the new bridge may be visible downstream from view points on the canyon edge, but not likely from the campsite area. Where visible, the bridge would be a substantial new, engineered element in the view. Figure 8 and the project’s visual assessment (HDR 2012) provide a simulation of the bridge appearance.

The *Highway Traffic Noise Assessment Summary* (HDR 2011) completed for this project measured sound levels at the Resurrection Pass Trail footbridge over Juneau Creek (near the center of the Juneau Falls Recreation Area) at 65 dBA, with substantial influence from the sound of fast-running water. The study assumed 40 dBA as the average sound level for undeveloped areas not adjacent to running water, based on the level measured in an example area farther west.

The noise study modeled four sites within the Juneau Falls Recreation Area: a backcountry camp site, the Resurrection Pass Trail near the proposed highway crossing of the trail, and the Bean Creek Trail near the proposed crossing. The trail noise levels are reported above under trail headings. The campsite lies centrally in the recreation withdrawal off the main trails and away from the canyon and creek. The modeled average hourly noise level in 2035 indicates a 1-dBA increase to 41 dBA. A change of 3 dBA is commonly accepted as the threshold of perceptible change in noise levels that an adult with normal hearing can detect in an outdoor environment. Therefore, a 1-dBA change would not be a perceptible difference in average hourly noise levels at the campsite. Highway traffic from individual vehicles may still be audible from the site, but average hourly noise levels generally would be the same as they are today. This is likely to be the case over much of the recreation area. Some of the recreation area, including the trails, would be located beneath the new highway bridge. Those portions of the recreation area within the canyon would be separated by up to 250 vertical feet from the noise source on the bridge overhead, and the bridge itself would insulate areas under it from much of the automobile noise. Areas near fast-running water of the creek and falls, where the natural sound level is expected to be 65 dBA, may be minimally affected because the water noise would help to mask highway noise. No noise abatement is proposed for the recreation area as a whole, because there is no reasonable way to mitigate the impact. It appears there would be no impacts that would prevent use of the campsite for sleeping. Recreationists in the area would hear the new highway, and trail users would hear it quite strongly when closest to the highway.

During construction, noise and dust from operation of heavy equipment, chainsaws, pile drivers or rock drilling equipment, and rock blasting equipment are likely. Bridge construction is anticipated to take four construction seasons, though it may require as few as three seasons or as many as five. The trail and camp sites are expected to remain open for use during the construction period, but the trails would be closed for safety when construction of that portion of the bridge directly over the trail was underway. When the Resurrection Pass Trail was closed, the camp sites would be accessible via a trail detour and via the Bean Creek Trail. Construction noise and activity may reduce the desirability of the campsites during some periods. Trail closures could last multiple days, and trail users would be diverted to a detour or to the Bean Creek Trail (see SEIS for discussion of mitigation and further discussion of trail impacts under the Resurrection Pass Trail heading prior). These construction impacts would be temporary but would be substantial to trail users and those intending to camp at the camp sites during portions of the construction period.

Because the Juneau Falls Recreation Area as a whole is not managed differently for recreation than the USFS land around it, the permanent impacts are primarily to the intrinsic value of the location. The opportunity to experience the area as an almost entirely natural area would be lost (see also Resurrection Pass Trail, above).

Also related to the trail discussions above is a probable changed use pattern involving the Resurrection Pass Trail, the Bean Creek Trail, and the new highway bridge over the canyon. The USFS has indicated
that recreationists are likely to desire to use the new highway bridge, including use to make a loop of the Resurrection Pass Trail and Bean Creek Trail (HDR 2009).

**KPB Lands**

The Juneau Creek and Juneau Creek Variant alternatives would cross Borough lands classified as recreation and preservation lands north of the community. Because these lands are classified Preservation, in part as a buffer for the highway, and because ADOT&PF would classify the highway as controlled access, new driveways, or roads on these lands would not occur, and these lands likely would remain undeveloped except for the highway itself. The presumed alignment in the land classification plan and the current alignment for these alternatives are not identical, and the Borough may choose to amend its plan to reflect the final alignment.

### 3.4.1.6 KRSMA and KRSMA additions

The Juneau Creek and Juneau Creek Variant alternatives would have some impact to KRSMA (the river itself). Fill areas at the edge of the Kenai River west of MP 55 would be common to all alternatives. These areas would have almost no impact on normal river processes but would impact recreationists who would see the rip rap from the river rather than vegetated slopes. These alternatives would impact proposed additions to KRSMA at and east of Bean Creek, inserting the highway, with associated noise and visual impacts, in what is currently a mostly undeveloped area and placing Bean Creek in a culvert. Community concepts for formalizing loop trails in this area for skiing and for summer hiking are still developing; building the new highway in this area could mean that the community would need to alter these plans.

### 3.4.2 Indirect Impacts

As discussed above under Direct Impacts and the Recreation Plans headings, under the Juneau Creek and Juneau Creek Variant alternatives, re-designation of some lands to a less-restrictive classification could result in future land use changes and greater development by the USFS. If the USFS chose further development in the future, it likely would be recreation-oriented but would be a change in recreation character from today’s conditions.

The effects of the Juneau Creek alternatives adjacent to the Refuge visitor contact station and the Refuge Fuller Lakes Trailhead would be identical to those of the Cooper Creek and G South alternatives. The widened roadway fill under all four build alternatives would come to the edge of the cul-de-sac at the visitor contact station, which was built within the existing highway right-of-way, but there would be no use of the contact station and its grounds. Vehicles on the cul-de-sac would not be within the new highway’s clear zone and would therefore not be a safety hazard. The trailhead for the Refuge Fuller Lakes Trail also lies within the existing Sterling Highway right-of-way and adjacent to the existing highway. There would be no direct use of the Fuller Lakes Trailhead by any of the alternatives. In both cases, highway noise would be an evident and continual part of the experience at these locations, and the highway and its traffic would be readily visible. However, these noise and visual effects would be substantially similar to those experienced at these locations today. Access to and from these facilities may be improved with the wider, safer road. The activities, features, and attributes of the contact station, the trailhead, and Refuge as a whole would not be substantially impaired.

### 3.4.3 Impacts to Recreation Activities

#### 3.4.3.1 Fishing

The Juneau Creek and Juneau Creek Variant Alternatives would not cross creeks that provide opportunities for fishing access. These alternatives would relieve conflicts on the existing Sterling
Highway between fishing-access traffic and through-traffic in the MP 46–55 area. The Juneau Creek Alternative would remove the largest amount of through-traffic from the busy fishing area near the confluence of the Russian River and Kenai River, which would make fishing access safer and easier. The Juneau Creek Variant Alternative also would separate through traffic in the confluence area, but the connection of the old highway and new highway would be immediately north of Sportman’s Landing, and some recreationalists could be tempted to park along the new highway shoulder, creating potential safety hazards similar to those in this area today. Both the Juneau Creek and Juneau Creek Variant Alternatives would remove the highway the farthest from the Kenai River, thus reducing the potential for spills into the river that could affect recreational boaters and fishers. These alternatives, and particularly the Variant at Sportman’s Landing, would introduce additional man-made features into the environment, which may change the character of the fishing experience along the river.

3.4.3.2 Camping
The Juneau Creek and Juneau Creek Variant Alternatives would move approximately 70 percent of Sterling Highway traffic away from existing Cooper Creek and Russian River campgrounds and from private recreational facilities in the Cooper Landing area. This relocation of traffic could provide a more enjoyable campground setting at Cooper Creek and Russian River, and reduce the noise associated with existing through traffic at these campgrounds (HDR 2011). Reduction of through-traffic also would make turns into and out of the Cooper Creek, USFS Russian River, and USFWS Kenai-Russian River campgrounds safer and easier.

The Juneau Creek Bridge proposed under these alternatives would be located less than 0.5 mile south of Resurrection Campsite 19, a designated tent camping area along the Resurrection Pass Trail. The bridge is unlikely to be visible from the campsite because of topography and vegetation and no road noise is anticipated to be heard (HDR 2011). Although these alternatives would have no direct impact to the camping facilities, they would interject a large road south of the campground in an area where one currently is not present and would probably induce recreationists to start and stop their trips at the new highway, likely increasing activity in the area of Campsite 19 and at the campsite itself.

The Resurrection Pass National Recreation Trail is well used as a hut-to-hut hiking, biking, ski, and snowmobile trail. The presence of a highway at a higher elevation on the trail may change use of the cabins and lakes nearest to the project by reducing the access distance by approximately half and removing most of the elevation gain. During the summer season, this would mean four cabins and three lakes were accessible within a single day’s excursion, and competition for the cabins and camp sites, and general use of the area, likely would increase. In the winter recreation season, ease of access by snowmobile and more reliable snow conditions at higher elevation could increase snowmobile day use. More snowmobiling activity could change the characteristics of users along the trail, possibly resulting in less use by skiers and snowshoers and less desirable overnight conditions for non-motorized users. However, USFS winter use management (alternating years of motorized winter use) is unlikely to change, so any increase in pressure for greater snowmobiling would make managing winter use more challenging for the USFS, for example, more monitoring and enforcement of snowmobile management policies may be needed on the trail potentially requiring an increase in budget and or staffing.

3.4.3.3 Hiking
The Juneau Creek and Juneau Creek Variant Alternatives would impact existing trails, including the Resurrection Pass National Recreation Trail. These alternatives also would cross the Bean Creek, Slaughter Gulch, and several other Juneau Bench trails illustrated on Map 3 (Appendix A: Maps).

The crossing of the Resurrection Trail by the Juneau Creek and Juneau Creek Variant Alternatives occurs about 3.4 miles from the trailhead. The crossing of the Bean Creek Trail occurs nearly 2 miles from the trailhead. These alternatives therefore would fragment the initial portion of the trails from the
remainder of the trails, interjecting traffic and noise at locations that are currently removed from strong evidence of human presence.

Shortening the Resurrection Pass trail would provide direct and easier access to a level trail in relatively open and very scenic terrain. Because the trail would be relatively flat and destinations closer, more casual uses are likely—a higher percentage of larger groups. Competition for the cabins and camp sites, and general use of the area, likely would increase.

The Juneau Creek Alternative also would cross lesser-known trails including the Slaughter Gulch Trail (sometimes known locally as the Art Anderson Trail) and Slaughter Ridge Trail. Without mitigation, the highway would create a barrier for users who would have to cross the highway to continue on the trails, which may reduce use. Others would cross the highway at grade which could pose a risk of pedestrian-vehicle accidents.

With a new highway crossing these trails, recreational use could shift to other trails in the area, or replacement trails may develop. Informal trails, established by pedestrians or snowmobiles, or additional cars parked on the highway shoulders could potentially create hazards and the need for additional management and enforcement by land managing agencies and Alaska State Troopers, if replacement trail segments, formal crossings, or new trailheads were not provided.

3.4.3.4 Boating

Because Juneau Creek is not used for boating, and because these alternatives would not bridge the Kenai River at all, no direct adverse impacts to boating would occur. New construction under these alternatives would introduce additional man-made features into the environment, which may change the character of the boating experience along the river at a few locations between MP 55 and MP 58. Because these alternatives would rejoin the existing highway at or west of Sportsman’s Landing, conflicts would be reduced between through-traffic and boating traffic, especially for guides shuttling boats along the old Sterling Highway to reach the boat launch and takeout areas. Traffic on the segment of existing highway bypassed by the new highway still would be visible from the river but would be reduced in quantity and noise. This generally would improve the boating experience.

3.4.3.5 Scenery viewing

The Juneau Creek and Juneau Creek Variant Alternatives would impact current views of the Kenai River valley from near Juneau Creek Falls. From some points along the Juneau Creek canyon rim, accessible from the Resurrection Pass Trail, the large new bridge over the canyon would dominate the view. See the separate Visual Analysis for more discussion of this issue. Views of the valley from the new highway likely would be quite spectacular from certain vantage points.

Additionally, the removal of up to 70 percent of the traffic from the existing Sterling Highway may allow slower speeds and more possible wildlife viewings for motorists on the old road.

The Juneau Creek and Juneau Creek Variant Alternatives would cross 2.4 and 3.7 miles, respectively, of USFS “inventoried roadless area” lands and reduce the amount of IRA lands (by definition, lands with natural landscapes with high scenic quality) in Chugach National Forest. The Juneau Creek Alternative would incorporate 96 acres of IRA lands into its right-of-way, with the Variant would incorporate 127.5 acres.

3.4.3.6 Hunting

The areas surrounding the Juneau Creek and Juneau Creek Variant alternatives are considered rutting and winter habitat for moose (ADF&G 1985, 2011), and “predicted use” areas for moose and bears (HDR 2004). Additional game species, hunters, and trappers likely use undeveloped sections of the
proposed Juneau Creek and Juneau Creek Variant proposed alignments. The construction of new highway will remove habitat for wildlife, and may displace moose, bears and other game species (Shanley and Pyare 2011, Waller and Servheen 2005), which would reduce hunting and trapping opportunities to some degree.

The new route could provide shorter access to the Resurrection Pass Trail which may benefit hunters seeking caribou in the Kenai Mountains herd. However, the number of hunters is limited by permit and would not be expected to change substantially. New access into this area would likely not affect legal brown bear harvest (limited by permit). Goat and sheep hunting in the area west of Juneau Creek is controlled by permits, and the number of hunters would not increase due to these alternatives.

Construction activities may reduce wildlife presence near the new highway.

### 3.4.3.7 Snowmobiling

The Resurrection Pass National Recreation Trail is open for snowmobiling every other winter when snow cover is adequate. The area is highly desirable for snowmobiling because of the presence of wide open spaces; therefore, easier access to land that receives earlier and more consistent snow that would result under these alternatives could greatly increase interest in snowmobiling in the Resurrection Pass area. More snowmobiling could result in vehicles with trailers parked along the roadway, potentially slowing traffic and increasing safety hazards. Snowmobiling levels likely would increase primarily on “allowed” years, with somewhat greater USFS management and enforcement resources needed every year, potentially requiring an increase in budget and or staffing.

### 3.4.3.8 Other

Removal of through-traffic from the existing roadway under the Juneau Creek and Juneau Creek Variant Alternatives would result in lower traffic volumes and could result in slower average traffic speeds on 8.5–9.5 miles of the existing highway. This reduction in traffic volume could enhance the opportunity for pedestrians and bicyclists to travel along the existing corridor. Broad shoulders along the entire length of these two alternatives would substantially improve cycling and pedestrian access in the new corridor.

### 3.4.4 Differences between the Juneau Creek and Juneau Creek Variant Alternatives

The Juneau Creek Variant Alternative would be, with a few exceptions, identical to the Juneau Creek Alternative. See discussion above. The notable differences between the Juneau Creek and Juneau Creek Variant Alternatives would be as follows:

- The Juneau Creek Alternative would pass through a corner of Kenai National Wildlife Refuge’s Mystery Creek Wilderness unit. Although the particular corner of Wilderness in question is not thought to receive significant recreational use, the Juneau Creek Alternative would reduce Wilderness acreage in the area, theoretically reducing Wilderness recreation opportunities, although little use is thought to occur in this area.

- The Juneau Creek Alternative would avoid proximity to Sportsman’s Landing and would locate the junction of the old and new Sterling highways nearly a mile west in the KNWR.

- The Variant would divert from the existing Sterling Highway right-of-way at Sportsman’s Landing. The new highway would form an overpass over the old highway to provide a connection between the old highway and the new highway. The overpass would be located immediately behind the Sportsman’s Landing parcel and would be visible to floaters on the river and to some sports fishers fishing from banks and islands at the confluence of the Russian and Kenai Rivers. Because the existing highway already is visible in this area, the change
would not be substantial, but it would present an incremental change in the recreational environment in the Russian River area.

- The overpass connection associated with the Variant would relieve traffic congestion in the Sportsman’s Landing area. However, with the Variant’s connection to the existing highway immediately adjacent to the seasonally busy Sportsman Landing and Russian River Ferry entrance, the Variant may attract vehicle parking on its new, wide shoulders, with people climbing and descending the road embankment to move from their vehicles to the river. Similar activity is not uncommon today, and has been a management issue. “No Parking” signs have been posted and vehicles ticketed. The new highway would be established with a “No Parking” zone in this vicinity to help alleviate this issue.
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APPENDIX A: MAPS

MAP 1. STUDY AREA & LAND OWNERSHIP
MAP 2. STUDY AREA RECREATION RESOURCES
MAP 3. COOPER LANDING AREA RECREATION RESOURCES
MAP 4. HUNTING/TRAPPING AND WILDLIFE MANAGEMENT AREAS
MAP 5. CHUGACH NATIONAL FOREST MANAGEMENT PRESCRIPTIONS
Map 1. Study Area and Land Ownership
RECREATION FACILITIES

US Forest Service
1. Quartz Creek Campground
2. Cooper Creek Campground
3. Juneau Creek Falls Rec. Area
4. Resurrection Pass National Recreation Trail
5. Trent Lake Forest Service Cabin
6. Retney Forest Service Cabin
7. Juneau Lake Forest Service Cabin
8. Bear Creek Forest Service Cabin
9. Russian Lakes Trailhead and Trail
10. Russian River Campground

Lower Russian Lakes Rec. Area
11. Russian Lakes Camp Cabin

12. Russian Lakes Cabin
13. Upper Russian Lakes Cabin
14. Bear Creek Trail
15. Cooper Lake Dam Access Road
16. Cooper Lake to Lost Lake Winter Road
17. Russian Lakes Trail
18. Crescent Creek and Crescent Lake Trails
19. Crescent Creek Campground
20. Resurrection River Trail
21. Russian Lakes Trail
22. Devil's Pass Trail
23. Devil's Pass Forest Service Cabin

US Fish & Wildlife Service
24. USFWS Visitor Contact Station
25. Jer’s Landing
26. Spicee Creek Trail
27. Fuller Lakes Trail

State of Alaska
28. Soo Latch
29. Russian River Ferry and Sweetwater Landing

Kenai Peninsula Borough
30. Stetson Creek Trail
31. Slaughter Gulch and Act Anderson Trails
32. Russian Gap Trail
33. Shadowd Pond Trail
34. Kenai River Nature Trail

Legend
- Project Alternatives
  - Cooper Creek
  - G South
  - Juneau Creek
  - Juneau Creek Variant
- Milepost
- Existing Highway
- Local Road
- Trail
- Boundary

Map 2. Study Area Recreation Resources
Map 3. Cooper Landing Recreation Resources
Map 4. Hunting/Trapping and Wildlife Management Areas
Map 5. Chugach National Forest Management Prescriptions