3.2 Land Use Plans and Policies

3.2.1 Affected Environment

Federal, State, and Kenai Peninsula Borough (Borough) governments exercise planning authority within the project area. Multiple Federal, State, and local plans acknowledge the likelihood of this project. Some of the plans appear to await the outcome of this highway project before making firm plans for lands in the project area. This Final Environmental Impact Statement (Final EIS) examines these plans to disclose whether the project is generally consistent with planning direction or not. The following plans guide land use decisions within the project area:

Federal Plans

- *Revised Land and Resource Management Plan: Chugach National Forest* (Forest Service 2002a)
- *Comprehensive Conservation Plan: Kenai National Wildlife Refuge* (USFWS 2010a)

State Plans

- *Kenai Area Plan for State Lands* (DNR 2001)
- *Kenai River Comprehensive Management Plan* (DNR et al. 1997)

Borough Plans

- *Cooper Landing Land Use Classification Plan* (CLAPC 1996)
- *Kenai Peninsula Borough Comprehensive Plan* (KPB 2005b)
- *Kenai Peninsula Borough Coastal Management Program* (KPB 1990)
- *Cooper Landing, Alaska, Walkable Community Project: Alternative transportation planning to address congestion and road impacts near the Russian and Kenai Rivers* (LDN 2010a).

Other Pertinent Plans

- *North and South Sterling Byways Corridor Partnership Plan* (Jensen Yorba Lott, Inc. 2008)
- *Kenai Mountains-Turnagain Arm National Heritage Area Management Plan* (KMTA 2012)

3.2.1.1 Federal Plans and Management Direction—U.S. Fish and Wildlife Service Kenai National Wildlife Refuge

General management policies for the Kenai National Wildlife Refuge (KNWR) are contained in the *Kenai National Wildlife Refuge Comprehensive Conservation Plan* (USFWS 2010a) and supplemented by more specific local management plans. The KNWR is managed to conserve habitat for moose, bears, mountain goats, Dall sheep, wolves, salmon, waterfowl, and other animal species. It also is managed to fulfill treaty obligations and ensure water quality and quantity.

The conservation plan classifies the entire Sterling Highway road corridor that traverses the KNWR within the project area (west of Milepost [MP] 55) as an "intensive management" area. Within the project area, the areas both north and south of the road corridor are designated for Wilderness management. Intensive management lands are areas of high public use where natural processes are modified and the influence of activities by people is evident. The intensive management land areas allow for road construction. Wilderness lands have been designated by Congress under the Wilderness Act. The U.S. Fish and Wildlife Service (USFWS) manages these areas to preserve the pristine and unmodified character of these areas. Wilderness is a protective management category, and constructing roads in designated Wilderness within the KNWR requires approval by the President of the United States and a joint resolution of both houses of Congress in a process described in the Alaska National Interest Lands Conservation Act (ANILCA) Title XI (see Section 3.2.1.4). The Mystery Creek Wilderness is located north of the highway and north of power transmission line easements. The Andrew Simons Wilderness is located south of the highway corridor, south of the Kenai River (see Map 3.2-1).

Wilderness Management

Based on its role as a Cooperating Agency, the USFWS provided the following information regarding Wilderness management on the refuge:

The Wilderness Act of 1964 (Pub. L. 88-577) provides the following purposes for the Kenai Wilderness Area (in the project area, this includes the Mystery Creek and Andrew Simons Wilderness units):

(i) To secure an enduring resource of wilderness;

(ii) To protect and preserve the wilderness character of areas within the National Wilderness Preservation System; and

(iii) To administer [the areas] for the use and enjoyment of the American people in a way that will leave them unimpaired for future use and enjoyment as wilderness.

The history and intent behind the Wilderness Act make Wilderness more than just another category of management. Wilderness encourages having a broadened perspective of the Refuge landscape, one that extends beyond managing it solely as wildlife habitat. Wilderness is managed as an area "retaining its primeval character and influence." The definition of Wilderness found in Section 2(c) of the Wilderness Act identifies the four fundamental qualities of Wilderness character as "untrammeled," "undeveloped," "natural," and with "outstanding opportunities for solitude or a primitive and unconfined type of recreation."

Wilderness provides human visitors with such opportunities, which may be characterized in terms of experiential dimensions such as discovery, self-reliance, and challenge. Research has shown that some values of Wilderness extend beyond Wilderness area boundaries to people who may never visit but who benefit from the protection of natural ecological processes—benefits such as clean air and water and the simple knowledge that such places exist. Wilderness areas are managed to preserve their experiential, aesthetic, scientific, and other related values.

The Wilderness Act requires that the KNWR maintain the wilderness character of designated Wilderness areas. Public comments received during scoping for the June 2010 revision to the KNWR's Comprehensive Conservation Plan (CCP) indicated that people value the KNWR's wilderness character, its accessibility, and the role it plays in conserving fish, wildlife, and their habitats. Natural sounds are an essential component of functional habitats. Additionally, they may influence the human experiential opportunities of some users in Wilderness.

Both Wilderness units within the project area offer areas of solitude for those willing to traverse the sometimes rugged country. The Mystery Creek Wilderness Unit, for example, provides excellent opportunities for hiking, camping, hunting, fishing, and wildlife viewing. Solitude in the wilderness context is generally understood to mean freedom from sights, sounds, and other evidence of modern man. While the relative amount of freedom from these things necessary to experience solitude is highly personal and variable, the Wilderness Act states only that outstanding opportunities for solitude be provided.

Accordingly, encountering other people, hearing mechanized sounds (e.g., from aircraft overflights), or seeing the lights of a distant population center are all examples of things that may negatively affect solitude opportunities, while remoteness, low visitor density, and vegetative or topographic screening are things that may enhance solitude opportunities.

The 1985 Kenai Refuge CCP established management programs to protect those areas of the Refuge designated as Wilderness. Conserving the pristine and unmodified character of these wild areas was a central purpose of the ANILCA legislation and the establishment of Kenai National Wildlife Refuge. Backcountry hiking and camping, rafting, canoeing, and a host of other primitive recreation opportunities are plentiful in the varied portions of Kenai Wilderness. Trail and off-trail access opportunities are abundant.

Wilderness supports a wide range of habitats, including estuarine, alpine, shrub-lichen, lowland subalpine shrub, mature forest, lakes, and streams. These habitats, in turn, support a variety of wildlife, including wilderness-dependent species such as wolves, caribou, trumpeter swans, brown bear, Dall sheep, mountain goat, marten, wolverine, and lynx.

3.2.1.2 Federal Plans and Management Direction—Chugach National Forest

Management of Chugach National Forest (CNF) lands is directed by the *Revised Land and Resource Management Plan: Chugach National Forest* (Forest Plan)(Forest Service 2002a).[1] The plan designates land in the project area into several management areas, each with a "prescription" for management. These management prescriptions are listed below with their identified goals and are shown on Map 3.2-2:

- Backcountry Management Areas are managed to emphasize a variety of recreational opportunities for backcountry activities in natural-appearing landscapes with opportunities for solitude, isolation, and quiet when travelling cross-country. In the project area, this prescription applies only to the Juneau Creek drainage, including lands

[1] The Forest Service, U.S. Department of Agriculture, is currently revising the 2002 Forest Plan under guidance of the 2012 National Forest System Land Management Planning Rule (36 Code of Federal Regulations [CFR] § 219). This EIS addresses only the existing 2002 Forest Plan.

west of the Juneau Creek canyon and otherwise generally from the Juneau Falls area northward.

- Fish and Wildlife Conservation Area Management Areas are managed to emphasize the conservation of specific fish and wildlife habitats. Landscapes are mostly natural-appearing. Vegetation may be modified for the benefit of wildlife. Recreation provides opportunities for solitude, isolation, and quiet when traveling cross-country. In the project area, this prescription applies to the upper Juneau Bench area (rolling and flat lands above the Kenai River and west of Juneau Creek) and lower slopes of the mountains north of the Kenai River and Kenai Lake.
- Fish, Wildlife and Recreation Management Areas are managed to provide a variety of habitats for fish and wildlife species and year-round recreational opportunities in developed and dispersed settings. Opportunities for isolation, solitude, and quiet may be limited. In the project area, this prescription applies to lands north and south of the Kenai River and continues over the mountains to the south and southeast.
- Recreational Rivers Management Areas are managed to maintain, enhance, and protect the free-flowing character and scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values for the benefit and enjoyment of present and future generations. In the project area, this prescription applies to the lower Russian River downstream to the Russian River Campground.
- Major Transportation/Utility Corridor Management Areas are managed for existing and future transportation systems/utility systems (defined as State and Federal highways, etc.). This prescription was developed to specify management direction for existing and reasonably foreseeable future major transportation and utility routes. In the project area, this prescription applies to the existing Sterling Highway and to electric transmission lines that parallel the highway on the hillside to the south.

Each of these management prescriptions is accompanied in the Forest Plan by descriptions and charts regarding allowed uses, uses conditionally allowed, and uses not allowed. The plan outlines scenic objectives (see Section 3.16 of this Final EIS). The plan also outlines recreational objectives in terms of a Recreational Opportunity Spectrum, a range of recreational environments from primitive to urban.

Routes on CNF classified as roads (rather than trails) are defined as routes wholly or partially within or adjacent to National Forest System lands that are determined to be needed for motor vehicle access, such as State roads, county roads, privately owned roads, National Forest System roads, and roads authorized by the Forest Service, U.S. Department of Agriculture (Forest Service) that are intended for long-term use. Roads are shown on Map 3.6-1 in the Transportation section.

The Fish and Wildlife Conservation management areas north of the Kenai River have been modified, as allowed in the management plan, to remove beetle-killed spruce for fire protection around the Cooper Landing community and to enhance moose habitat. These efforts have involved construction of logging roads, some of which remain in use as trails used by skiers, snowmobilers, hikers, and others, and by motorized vehicle for Forest Service management activity. In 2013, further vegetation management and trail enhancement efforts were observed in the Bean Creek area.

The Forest Service also has withdrawn several areas from mineral entry and from various forms of land disposal (transfer of ownership) and has set them aside as recreation areas. These include the Cooper Creek Campground, Russian River Campground, Russian Lakes Recreation Area, Kenai River Recreation Area, Juneau Falls Recreation Area, and (just outside the project area) Quartz Creek Campground—all depicted on Map 3.8-1 in the Recreation section. Some of the recreation withdrawals are perpetual and some expire every 20 years unless renewed. The Forest Service has renewed recreation withdrawals when necessary. Additional information on the recreation withdrawals appears in Section 3.8, Park and Recreation Resources, and Section 4(f).

3.2.1.3 Federal Management—Forest Service Roadless Areas

The Roadless Area Conservation Rule (36 Code of Federal Regulations [CFR] § 294[2]) applies to the National Forest System. Roadless areas were inventoried by the Forest Service nationwide beginning in the 1970s. Inventories and evaluations examine such areas for multiple special characteristics and values and in part examine the suitability of such areas for possible future designation as part of the National Wilderness Preservation System (Federal Wilderness). The Roadless Rule generally protects values and characteristics of inventoried roadless areas (IRAs), as listed in the following pages.

The project area includes portions of two classified IRAs: 1,125 acres of the Kenai Lake IRA (total IRA is approximately 213,200 acres), located south of the Kenai River and south of the existing Sterling Highway, and 3,040 acres of the Resurrection IRA (total IRA is approximately 224,600 acres), located north of the existing highway (Map 3.2-3 and Forest Service (2006a)).

The Roadless Rule defines "Roadless Area Characteristics" as:

> Resources or features that are often present in and characterize inventoried roadless areas, including:
>
> 1. High quality or undisturbed soil, water, and air;
> 2. Sources of public drinking water;
> 3. Diversity of plant and animal communities;
> 4. Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;
> 5. Primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation;
> 6. Reference landscapes;
> 7. Natural appearing landscapes with high scenic quality;
> 8. Traditional cultural properties and sacred sites; and
> 9. Other locally identified unique characteristics.
>
> [36 CFR § 294.11]

[2] All references in this document to 36 CFR § 294 refer to the 2001 version of the CFR. The current version of the CFR has not been updated to reflect that the Roadless Area Conservation Rule was reinstated.

The Roadless Rule provides a general prohibition on construction of new roads within IRAs, but also provides an exception for projects like the Sterling Highway Project. The prohibition on road building is excepted if:

> The Secretary of Agriculture determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists… [36 CFR § 294.12(b)(6)]

The following text addresses the roadless area characteristics indicated above for the Resurrection IRA, which overlaps the north side of the project area, and the Kenai Lake IRA, which overlaps the south side of the project area (see Map 3.2-3). Both IRAs extend well outside the project area. The Forest Service provides information on the IRAs, as a whole, in Appendix C of the *Chugach National Forest Land Management Plan Revision Final EIS* (Forest Service 2002a). The following discussion focuses on the affected portions of those IRAs. Neither the Resurrection IRA nor the Kenai Lake IRA was recommended for Wilderness status in the *Revised Forest Plan* (Forest Service 2002a). Part of the Forest Service assessment of IRAs addresses suitability and need for Wilderness, based in part on where other Wilderness areas may be located. No designated Wilderness occurs within Chugach National Forest. The 2002 Forest Plan recommends 1.4 million acres within the Nellie Juan-College Fiord Wilderness Study Area for Wilderness designation, and the lands are managed to retain wilderness values. These lands are located mostly in Prince William Sound. The Nellie Juan-College Fiord Wilderness Study Area was established through ANILCA in 1980. In addition, Appendix C to the Forest Plan Final EIS notes that Resurrection and Kenai Lake IRAs abut the Kenai Wilderness located in the adjacent KNWR.

- **High-quality or undisturbed soil, water, and air.** The overlap between the project area and the IRAs (an isolated portion at the northern edge of the Kenai Lake IRA, and the southern edge of the Resurrection IRA) contains high-quality and largely undisturbed soil, water, and air quality. The northern Kenai Lake IRA has been affected by the Cooper Lake hydroelectric project, with reduced water flow in Cooper Creek so that the creek no longer supports any substantial run of salmon and therefore is less important as brown bear habitat than other similar streams nearby. A project is underway over several years to enhance the water flow and restore salmon habitat. The Cooper Creek valley was previously used for placer mining. The affected portions of the Resurrection IRA are mostly undisturbed, with minor exceptions for work on the Bean Creek and Resurrection Pass trails and the northern edges of habitat enhancement/tree removal work. Sections 3.12, 3.13, and 3.14 address soils, water, and air quality, respectively. No hazardous wastes are known to occur in the IRAs. Hazardous waste sites are addressed in Section 3.17.

- **Sources of public drinking water.** Area streams and lakes within the IRAs or downstream of the IRAs are not a substantial source of public drinking water. Lakes and streams within the IRAs but outside the project area provide drinking water for recreational trail and cabin users. Most residences and commercial and public structures in the Cooper Landing area have individual wells, and groundwater moving down-gradient from the IRAs supplies drinking water to individual homes and to public

facilities. Mapped wellhead protection zones for public wells overlap the IRAs. See Section 3.13, Water Bodies and Water Quality, for a discussion of wellhead protection areas at Section 3.13.1.4 and see Map 3.13-2.

- **Diversity of plant and animal communities.** Diverse plant and animal communities exist within the IRAs, but the diversity is not considered unusual for the Kenai Peninsula and Kenai Mountains. Wetlands and vegetation communities are addressed in Section 3.20. Fish and wildlife are addressed in Sections 3.21 and 3.22, respectively. Analysis in the fish and wildlife sections (Sections 3.21 and 3.22) generally finds more important brown bear and moose habitat north of the Kenai River on the topographic benches east and west of Juneau Creek and, particularly for brown bears, in the broad delta area of Juneau Creek downstream of the Juneau Creek canyon constriction. The CNF lands in these areas are within the southern edge of the Resurrection IRA.

- **Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land.** There are no Federal or State candidates; proposed, threatened, or endangered species; or designated Critical Habitat for such species in the project area. Sensitive plant species known or suspected to be present in the Resurrection and Kenai Lake IRAs of the CNF are identified in Section 3.20.1.3 of this Final EIS. The Kenai brown bear and the wolverine are State of Alaska "species of greatest conservation need." On the CNF, the brown bear is a management indicator species, and the wolverine is a species of special interest. While wildlife agencies monitor these species, they have not taken steps to formally list or manage these species under the Threatened and Endangered Species Act. Brown bears and wolverines are dependent on large undisturbed areas of land. Other species that depend on large land areas that agencies have noted as important indicator species in or near the project area include bald eagle, moose, wolf, lynx, river otter, black bear, mountain goat, and Dall sheep. Section 3.22 addresses wildlife as well as threatened and endangered species. As noted above, the north side of the Kenai River in the project area is generally thought to be more important for brown bears than the south side.

- **Primitive, semi-primitive nonmotorized and semi-primitive motorized classes of dispersed recreation.** The Resurrection IRA encompasses much of the Resurrection Pass National Recreation Trail, which offers summertime semi-primitive nonmotorized recreation. In winter, the Forest Service management scheme for this area allows for semi-primitive motorized use by snowmobile alternating every other year with semi-primitive nonmotorized opportunities. The Kenai Lake IRA is a large area that offers mostly primitive and semi-primitive nonmotorized recreation opportunities. The portions that cover the project area are mostly mountain slopes but include small portions of the Russian Lakes Trail, Stetson Creek Trail, and Cooper Lake Dam Road (used for nonmotorized recreation). Section 3.8 addresses recreation within the project area in general. Section 4.2.6 addresses the Stetson Creek Trail in and near the Kenai Lake IRA. Sections 4.2.4, 4.2.5, and 4.2.8 discuss the Resurrection Pass Trail, Bean Creek Trail, and Juneau Falls Recreation Area associated with the Resurrection IRA. For purposes of this Final EIS, these types of primitive or semi-primitive dispersed recreation are considered equivalent to remote recreation (i.e.,

recreation that takes place mostly in areas where access by standard automobile is not allowed and away from developed campgrounds or major facilities).

- **Reference landscapes.** One definition of reference landscapes is that they are "carefully preserved natural or near-natural forests that can provide information about natural species' mix and ecology, that can be used in planning and measuring the success of restoration" (Dudley 2005). IRAs are areas that provide reference landscapes as compared to other areas of the National Forest that are not within IRAs. Forested portions of the two IRAs could serve as reference landscapes because they are mostly natural forests with largely intact natural species mix and ecology, although tree harvest and habitat manipulation for the benefit of moose has occurred on the bench areas on both sides of Juneau Creek, in conjunction with spruce bark beetle infestation within the past few decades. This has altered the landscape in the southern portion of the Resurrection IRA where it overlaps the project area. There is no indication that the affected portions of these IRAs are being used as reference landscapes today or that there is a need for them as reference landscapes in the foreseeable future. Section 3.20 generally addresses vegetation.

- **Natural appearing landscapes with high scenic quality.** The appearance of the landscapes within these IRAs overall is natural appearing with high scenic quality. In the Roadless Areas appendix to the Forest Plan EIS, the Forest Service indicates 97 percent of each of these IRAs as having "very high" scenic integrity, where the natural environment is intact and only natural processes are visible. Areas near the edges and overlapping with the project area have been affected by previous human activity, including logging and habitat enhancement along the southern edge of the Resurrection IRA, and trail work at the Bean Creek Trail and Resurrection Pass Trail (Resurrection IRA) and Stetson Creek Trail (Kenai Lake IRA). Section 3.16 addresses the visual aesthetics and the visual character of the project area and summarizes the visual resources technical report prepared for the project (HDR and USKH 2012).

- **Traditional cultural properties and sacred sites.** The Sqilantnu Archaeological District overlaps the southern portion of the Resurrection IRA and the northern portion of the Kenai Lake IRA in the project area. The northwestern portion of the Sqilantnu Russian River Confluence Site overlaps the southern edge of the Resurrection IRA. There are several important and sensitive archaeological sites and sites used for interpretive and cultural activities; all of these sites are located outside the IRAs. The archaeological sites include sites in the Russian River valley, but only a small portion of the Kenai Lake IRA overlaps the project area. Section 3.9 generally addresses historic, archaeological, and cultural resources.

- **Other locally identified unique characteristics.** Appendix C to the Forest Plan Final EIS indicates that Juneau Creek Falls, which is in the project area, is a special feature of the Resurrection IRA. No special feature of the Kenai Lake IRA is identified in the project area.

Appendix C to the Forest Plan Final EIS indicates the following:

- Capability of Management as Wilderness or in an Unroaded Condition: Feasibility of managing both areas in a roadless condition is high. Most of each IRA is unmodified and

natural in appearance. Opportunities for solitude where there are trails and recreational cabins are listed as moderate for both. Off trail, opportunities for solitude are higher. The portions of these IRAs in the project area are close to settlement, roads, trails, and campgrounds and mostly would provide moderate opportunities for solitude. Both IRAs are classified as providing opportunities for primitive recreation.

- Wilderness Evaluation: Both IRAs abut established Federal Wilderness in the KNWR to the west, and the Kenai Lake IRA abuts Kenai Fjords National Park Wilderness to the southwest. Both IRAs are a similar distance from the major population centers of Anchorage and Kenai/Soldotna and are quite accessible to these populations via the Seward and Sterling highways. The Resurrection IRA is noted as the most heavily used dispersed recreation area in the Forest. Appendix C notes "some interest" by proponents for establishing Wilderness in the Kenai Lake IRA and "moderate interest" for establishing Wilderness in the Resurrection IRA.

3.2.1.4 Federal Management—ANILCA Title XI

ANILCA created or expanded many units in Alaska of the National Park System, National Wildlife Refuge System, National Wilderness Preservation System, and National Trails System—Federal lands referred to in ANILCA as conservation system units (CSUs). Among these CSUs in the project area are the KNWR and the Resurrection Pass National Recreation Trail. These lands are addressed elsewhere in this document, in Land Ownership (Section 3.1) and Recreation (Section 3.8) in particular. This section is separate because the USFWS, as manager of the KNWR, and the Forest Service, as manager of the Resurrection Pass Trail, along with the Federal Highway Administration (FHWA) and the U.S. Army Corps of Engineers (USACE), have responsibilities under ANILCA if the project would impact CSUs. This Final EIS is meant to provide the basic information required by each agency to make a decision to approve or disapprove a transportation corridor across the CSUs.

Title XI of ANILCA addresses "Transportation and Utility Systems In and Across, and Access Into, Conservation System Units." In general, ANILCA supersedes other laws and regulations by creating an opportunity to consider transportation corridors across CSUs where they otherwise might be restricted or not allowed at all. ANILCA Title XI includes several procedural requirements that apply to the approval or disapproval of the authorization of any transportation or utility system by any Federal agency. The Alaska Department of Transportation and Public Facilities (DOT&PF) must simultaneously submit Standard Form 299 to the Federal agencies with jurisdiction over resources within the CSUs and to FHWA, as a funding agency for the proposal to create a transportation system on a CSU (the "federal agencies concerned"). The submittal starts a period in which a Draft and Final EIS must be completed, typically 9 months from the date of filing for the Draft EIS and 1 year from the date of filing for the Final EIS.[3] The

[3] ANILCA does not directly address a project like this one, in which some alternatives would cross CSU lands and some would not. For this project, DOT&PF submitted SF 299 to the agencies in February 2015 during preparation of the Draft SEIS. DOT&PF alerted ANILCA agencies in writing at the time the G South Alternative was identified as the preferred alternative that an ANILCA decision would not be needed, in December 2015, because the G South Alternative would not cross either the KNWR or the Resurrection Pass Trail. FHWA filed an ANILCA time extension in the Federal Register when the Juneau Creek Alternative replaced the G South Alternative as the preferred alternative, because the Juneau Creek Alternative would cross both the KNWR and the Resurrection Pass Trail.

final authorization process is different for CSUs designated as Federal Wilderness and for CSUs that are not designated Wilderness.

The USFS considers the Resurrection Pass Trail to be a CSU within CNF. A State of Alaska Attorney General's legal opinion (Lynch 2017) indicates the State's contention that it is not a CSU but is managed as a CSU. Forest Service legal counsel reportedly has prepared a legal opinion stating the trail is a CSU. This EIS provides information for the Forest Service as if it were a CSU. For Section 4(f) purposes, the Forest Service defined the recreation area associated with the Resurrection Pass Trail as the trail and a buffer of 500 feet on each side of the trail centerline, for a total width of 1,000 feet (see Section 4.2.4 for details on the trail). For this document, it is assumed that, as a CSU, the CSU would encompass this same trail buffer area. The Resurrection Pass Trail is managed by the Forest Service, and any ANILCA decision that might be required on effects to the trail would follow a non-Wilderness decision-making process identified in Title XI of ANILCA.

The KNWR encompasses a large proportion of all lands on the Kenai Peninsula. The Sterling Highway west of the CNF boundary at existing MP 55 lies within an easement across the KNWR. North of the highway is the Mystery Creek Wilderness, an area of designated Federal Wilderness managed by the USFWS. A decision on effects to the KNWR and its Wilderness area would follow a Wilderness decision-making process identified in Title XI of ANILCA. A decision on effects to KNWR if the Wilderness area were not affected would follows the non-Wilderness decision-making process.

For approvals, the Title XI authorization process under Section 1106(a) would require "each Federal agency concerned" to make a decision to approve or disapprove the project with "detailed findings supported by substantial evidence" regarding the need for the project, options, etc., as detailed in Section 3.2.5.2. The decision must be made within 4 months of the publication of the Final EIS. If the decision by any one of the Federal agencies is to not approve the transportation system, DOT&PF may appeal to the President of the United States, who has 4 months to approve or deny the application and publish findings in the *Federal Register*. If the President disapproves the project, the applicant may challenge the decision through the courts.

For Wilderness approvals, the Title XI authorization process under Section 1106(b) would require "each Federal agency concerned" to undertake the same "detailed findings supported by substantial evidence" and then "promptly" submit to the President of the United States a tentative approval or disapproval of the project and reasons for this tentative decision. The President, within 4 months, would make a decision to approve or disapprove the project. A decision to approve would be forwarded to Congress, and ANILCA requires a joint resolution of both houses of Congress to approve the transportation system before the agencies would issue their authorizations for the new highway. No Title XI application for crossing Wilderness has ever been advanced to the President and Congress; the law allows for approximately 8 months from the time the President receives tentative approvals from the agencies until Congress must pass its joint resolution for final approval. If the President or either house of Congress fails to approve the application, the application is denied.

The USACE has jurisdiction over waters of the U.S., including wetlands, that occur within the CSUs and therefore is involved in the ANILCA process. Likewise, FHWA, as the funding agency for this project, is responsible for the transportation elements of the project and is subject

to the ANILCA process. Therefore, USACE, FHWA, and the Forest Service each must make a decision about the Resurrection Pass Trail, which may be appealed to the President if the agencies do not agree. If KNWR is involved but Wilderness is not, the USACE, FHWA, and USFWS each must make a tentative decision about the KNWR, which may be appealed to the President if the agencies do not agree. USACE, FHWA, and USFWS each must make a tentative decision about use of KNWR Wilderness (if it were to be crossed) and forward them to the President for a final decision.

Land exchange provisions of the Russian River Land Act could alter the KNWR and its Federal Wilderness lands in the project area and therefore could influence the ANILCA Title XI process described above for the Juneau Creek Alternative. Specifically, if the land in question was removed from refuge status before this National Environmental Policy Act process was completed, the Title XI process would end for KNWR. Cook Inlet Region, Inc. (CIRI), and the DOI both have stated that they would enter into a land exchange if the Juneau Creek Alternative were selected. See Sections 2.4.2.2 and 3.1.1.5 regarding CIRI lands and the Russian River Land Act. See Section 3.27, Cumulative Impacts, regarding this reasonably foreseeable future action. Section 3.27.4.3 best explains the anticipated exchange.

3.2.1.5 State Plans

The *Kenai Area Plan* (DNR 2001) and *Kenai River Comprehensive Management Plan* (DNR et al. 1997) are plans guiding use of State lands in the project area. The *Kenai Area Plan* establishes future uses and management direction for State-selected lands and State-owned lands, including proposed additions to the Kenai River Special Management Area (KRSMA) and other units of the State park system. "State-selected" refers to Federally owned land that has been selected by the State but for which State ownership is 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. The *Kenai Area Plan* indicates that the alternative selection for this project may affect the intent of some management units. The two management units that are listed in the *Kenai Area Plan* as partially dependent on the proposed Sterling Highway MP 45–60 Project are Units 394B and 395. These are illustrated in Map 3.2-4 at the end of this chapter. In reference to these two units, the intent of the *Kenai Area Plan* was "to make the unit with the most traffic conveyable to the Borough" for community development and to retain the other unit in State ownership for brown bear habitat and brown bear movement (DNR 2001). In other words, the plan indicated that the State would pass one of the two parcels to the Borough for settlement, and the Sterling Highway Project could influence which one.

These descriptions in the plan were superseded in 2014 by an Alaska Department of Natural Resources (DNR) decision to convey Unit 395 to the Borough. The State is no longer pursuing Unit 394b, and it remains in Forest Service ownership. The details of the decision to convey Unit 395 still are contingent on the outcome of this project. Because some alternatives would affect the parcel and some would not, DNR determined the State would delay transfer of management control of the land until it had determined which lands, if any, might need to be reserved in State ownership for the highway (DNR 2014).

Unit 395, at 1,087 acres, is located on a topographic bench above and west of Juneau Creek and is currently accessible via unpaved former logging roads (shown on Map 3.2-4). These are closed

to public vehicle use, with a gated entry, except for snowmobiles in winter. The roads were reserved as Federal public easements when the land transferred to the State.

The *Kenai Area Plan* lists several provisions in order for conveyance to the Borough and settlement to occur. These provisions include the following: the State must retain a 100-foot scenic buffer, provide access to the Resurrection Pass Trail, and provide "limited access" from any new highway to prevent strip development and proliferation of driveways along the new route.

The *Cooper Landing Land Use Classification Plan*, which was adopted by the Borough in 2005, provides recommendations for Unit 395. Refer to Section 3.2.1.6 for additional detail.

The *Kenai River Comprehensive Management Plan* (DNR et al. 1997) addresses management of the Kenai River and adjacent State uplands (KRSMA—the Kenai River from bank to bank, and proposed KRSMA additions in the project area). Multiple land managers work toward similar aims for the river, and the Alaska Department of Environmental Conservation (ADEC), the Alaska Department of Fish and Game (ADF&G), CNF, and USFWS signed a Memorandum of Understanding (MOU) agreeing to implement the recommendations of the plan. According to the *Kenai River Comprehensive Management Plan*, the purpose of the KRSMA is "to protect and perpetuate the fishery and wildlife resources and habitat in the (management) unit and adjacent area and to manage recreational uses and development activities in the unit and adjacent area" (DNR et al. 1997). The boundaries of proposed additions to KRSMA are shown on Map 3.2-5.

The *Kenai River Comprehensive Management Plan* sets forth recommendations for a variety of current and projected land uses, including public facility projects. The land use objectives generally applicable to the Sterling Highway MP 45–60 Project are presented below:

- Ensure development within the area of the Kenai River watershed is undertaken in a managed and coordinated fashion to ensure the continued integrity of the watershed.
- Focus on potential impacts of heavy recreational use or rural/urban development on the areas of the Kenai River watershed.
- Ensure natural areas within the Kenai River watershed, if developed, are designed so that neither the fishery nor the habitats related to the fishery are adversely affected.
- Manage timber harvest, mining, oil and gas, and other development within the Kenai River watershed to avoid significant adverse impacts to the resources of the KRSMA, including, but not limited to, water, soils, fisheries, wildlife, visual quality, and recreation.
- Ensure development does not impair the functioning of wetlands important to the maintenance of habitat and hydrologic functions.
- Identify and protect public areas of cultural and historic significance.

Under the heading of "Habitat," the plan addresses new roads and specifically addresses this project. The habitat recommendation, adopted by all managers along the river corridor through the MOU, is "Public agency managers shall site and design new facilities to avoid or minimize habitat impacts, both from construction impacts and subsequent public use." Associated policies and standards include:

> Public road construction projects in upland areas should be located away from the Kenai River and should employ standard best management practices (BMPs) to

> preclude siltation to the river and its adjacent wetlands and tributaries, both during and subsequent to construction... The only recognized additional bridge crossing of the Kenai River in the Management Plan is the proposed Funny River Bridge [in Soldotna].
>
> *-Kenai River Comprehensive Management Plan*

The Sterling Highway MP 45–60 Project is called a "bypass," and the plan indicates that "if the bypass route is selected, the current road should be made more enjoyable and safer" by implementing upgrades to public river access facilities along the bypassed portion of existing roadway.

Consistent with the *Kenai River Comprehensive Management Plan*, the *Kenai Area Plan* indicates that State-owned and -selected land along Kenai River, Kenai Lake, Cooper Lake, and the tributaries of the Kenai River and Quartz Creek are proposed additions to the KRSMA. Depending on the unit, these areas are to be managed for public recreation and tourism or for fish and wildlife habitat or both. The units within the project area that are proposed to be added to KRSMA are 391A-E, 391G-N, 391Q, 392A-G, 393, 394A, 394C-D, and 397 (see Map 3.2-4 and DNR (2001)).

These State lands have been administratively transferred to the DNR Division of Parks and Outdoor Recreation (DPOR) for inclusion in the KRSMA under Interagency Land Management Agreements (ADL 225157 and ADL 228706). A Special Use Designation (SUD), ADL 226527, has been applied to lands that have been administratively transferred to DPOR. The SUD provides the purpose and management intent for how these areas are to be managed. The SUD is intended to protect the fish and habitat resources of the Kenai River and implements certain State land and water recommendations of the *Kenai River Comprehensive Management Plan*. DNR-DPOR and DNR-Department of Mining, Land and Water co-manage some uses of the administratively designated KRSMA lands.

Beyond the specific land use plans, the State of Alaska's land management concerns extend to certain historic routes that fall under Revised Statute 2477, commonly referred to as RS 2477. The state asserts that RS 2477 public access easements exist in the project area for the historic Resurrection Pass Trail/Bean Creek Trail lying east of Juneau Creek and for the historic Stetson Creek Trail lying west of Cooper Creek. These trails are mapped in Section 3.8 (Map 3.8-1) and in greater detail in Chapter 4, Map 4-6, Map 4-7, and Map 4-8. DNR has assigned numbers to these RS 2477 routes: Bean Creek Trail is RST 579, and Stetson Creek Trail is RST 619. DNR considers these to be pre-existing easements that are valid public access routes that should be preserved. The U.S. Bureau of Land Management has recognized only a few RS 2477 easements in Alaska. These would be considered public rights-of-way on State, KPB, and private lands by the State but may not be recognized as such on Federal lands by the Federal government.

3.2.1.6 Kenai Peninsula Borough Plans

Kenai Peninsula Borough Comprehensive Plan (KPB 2005b)**.** The *Kenai Peninsula Borough Comprehensive Plan* was adopted by ordinance in 2005. This plan outlines the following goals and objectives:

- Obtain clear title to manage or dispose of Borough-owned land, timber, and gravel resources for the benefit of Borough residents.
- Support efforts to foster responsible agricultural growth and diversity in the Borough.
- Ensure the interests of the Borough and its residents are adequately considered in management decisions regarding State and Federal land within the Borough.
- Increase the public's access to information about the characteristics of the land and the location of existing land uses.
- Maintain the freedom of property owners in rural areas of the Borough by allowing them to make decisions and control use of private land consistent with other goals and objectives of the *Kenai Peninsula Borough Comprehensive Plan.*
- Reduce conflicts arising from incompatible land uses outside of incorporated cities.
- Assess and help identify wetlands, floodplains, erosion-prone areas, and landslide or avalanche zones.

The Borough is entitled to select 156,000 acres of State land; to date, a total of 125,500 acres of the entitled selection have been patented or approved for patent by the State. The Borough is entitled to receive the remaining 30,500 acres from the State and has selected sufficient acreage to do so. Some selected lands may never be conveyed to the Borough and would be relinquished depending on finalization of other selections. For this reason, the Borough has over-selected State lands.

Chapter 5 of the *Kenai Peninsula Borough Comprehensive Plan* addresses transportation by setting goals for the future and recommending action items in the 10-year horizon (2013, given that this chapter was published in 2003). Traffic modeling documented in the chapter confirms that traffic on the Sterling Highway peaks during the summer. The plan does not identify any improvements to the Sterling Highway in the project area. The plan identifies a roadside trail along the Sterling Highway extending the length of the community as a high-priority trail improvement.

The community of Cooper Landing does not have planning authority. Therefore, relevant plans guiding development on private land are adopted by the Borough. The Borough Assembly adopted the *Cooper Landing Land Use Classification Plan* (described below (CLAPC 1996)) as part of the comprehensive plan. Similarly, in 2010, the Assembly incorporated the *Cooper Landing, Alaska, Walkable Community Project* (LDN 2010a) into the *Kenai Peninsula Borough Comprehensive Plan* (Ordinance 2010-13); see below for details.

Cooper Landing Land Use Classification Plan for Borough-owned and Borough-selected Lands (CLAPC 1996). The unincorporated community of Cooper Landing voted to approve the *Cooper Landing Land Use Plan* in 1993 and the *Cooper Landing Land Use Classification Plan* in September 1996 (CLAPC 1996). The *Cooper Landing Land Use Classification Plan* provides planning recommendations for selection, classification, and use of Borough lands (see Map 3.2-6).

The 1996 *Cooper Landing Land Use Classification Plan* recommendations for Borough lands selection and State lands classification are based on four broad community goals:

- Maintain the scenic quality, unique character, and pristine setting of Cooper Landing.
- Encourage a safe environment for children, pedestrians, and tourists.
- Provide disposal of appropriate lands for public and private ownership, but avoid sudden community change.
- Maintain and provide for a community economic base.

The *Cooper Landing Land Use Classification Plan* recommended classifying more than 1,390 acres of land as "recreational" and another 2,280 acres as "preservation" land. Most of the balance is classified as "residential."

The Sterling Highway features many access points for local businesses and residences.

(Photo courtesy of Dan Burden)

While the *Cooper Landing Land Use Classification Plan* primarily applies to land already owned or selected by the Borough, it predated DNR's *Kenai Area Plan* and provided recommendations on that plan, including State Management Unit 395. Unit 395 is recommended for State selection (and in turn for Borough selection) for a residential subdivision, with provisions for retaining the integrity of the Resurrection Pass Trail and surrounding habitat, a 200-foot "preservation greenbelt" along either side of a "Juneau Bypass" highway alternative, limited access, and no roadside commercial development. The plan also states "NO access to or from the new alignment other than the departure from the existing road at either end of the bypass. The NO ACCESS issue is not a matter taken lightly by the community" (emphasis in original text). The reason given is that the community wants to avoid impacts to the community's economic base that might occur by allowing commercial development along any new highway that would compete with commercial establishments in the existing community.

Cooper Landing, Alaska, Walkable Community Project (LDN 2010a). In 2010, the community of Cooper Landing completed a plan for *Cooper Landing, Alaska, Walkable Community Project*, subtitled *Alternative transportation planning to address congestion and road impacts near the Russian and Kenai Rivers*. In April 2010, the *Walkable Community Project* plan was incorporated into the *Kenai Peninsula Borough Comprehensive Plan* by the Assembly (Ordinance 2010-13). The *Walkable Community Project* plan echoes themes found also in a *Sterling Byways Corridor Partnership Plan* (discussed in Section 3.2.1.7). The *Walkable Community Project* plan identifies 17 "consensus projects" agreed upon by community participants in the planning process. Many of the projects are related to the Sterling Highway in the MP 45–60 Project area and include a broad array of measures to improve traffic flow and the overall character of the community to make it more user friendly for motorists and pedestrians. Consensus projects associated most closely with the Sterling Highway include:

- Clearly delineating entry and exit to businesses (creating driveways instead of broad pull-off areas).
- Creating a "gateway" feel to the area through addition of welcome signs or Kenai River signs.
- Improving portions of the existing highway to add shoulders and straighten curves.
- 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 acceleration-deceleration/turning lanes throughout the community.

Kenai Peninsula Borough Coastal Management Plan (KPB 1990). The *Kenai Peninsula Borough Coastal Management Plan* was adopted by the Borough Assembly in June 1990 and revised in 2007. The plan provides an information base and policies to assist the Borough in managing Borough land and resource use decisions within the coastal zone despite the Alaska Coastal Management Plan no longer being in effect. The plan sets coastal management boundaries to an elevation of 1,000 feet to protect water quality, to protect fish and wildlife use, and to improve recreational use of the Kenai River. The plan includes enforceable policies within the coastal zone. The Kenai River Center is responsible for reviewing projects that occur within the coastal zone and ensuring they comply with the Borough's *Coastal Management Plan*. There is no State or Federal enforcement mechanism for work conducted within the coastal zone; however, Borough staff use Borough codes and review local, State, and Federal permit applications to ensure compliance with the plan (Mohorcich, personal communication 2011).

3.2.1.7 Other Pertinent Plans

Two other plans are included here because they relate to the Sterling Highway: The *North and South Sterling Byways Corridor Partnership Plan* and *Kenai Mountains-Turnagain Arm National Heritage Area Management Plan*. Both are plans by local or regional supporters of the plan, reflecting a desire for land use enhancements. Both are in support of programs that can provide funding for projects along highways. The project alternatives will be reviewed for consistency with these plans. In addition to these two plans, discussed below, the Russian River Land Act affects the Forest Service, USFWS, and CIRI lands in the project area. It is discussed under land ownership in Section 3.1.1.5.

North and South Sterling Byways Corridor Partnership Plan (Jensen Yorba Lott, Inc. 2008). The *North and South Sterling Byways Corridor Partnership Plan*, prepared for DOT&PF and local communities, was part of a nominating package that sought "national byway" status for the Sterling Highway Angler's Paradise State Scenic Byway. While the highway did not receive national byway status, the plan remains current for the State designation of the highway (Moulton, personal communication 2013). The plan for the Sterling Highway is a "blueprint for tourism and infrastructure investments to serve both residents and visitors along the Sterling Highway." According to the DOT&PF byways program, the corridor management plan is a tool used by the local communities (a grassroots committee for the Sterling Highway) to share the recommendations on actions that stakeholders would like to see along the corridor (Moulton, personal communication 2013). It is not regulatory, but has been endorsed by Borough resolution.

The plan has specific recommendations to enhance the six traits that make a byway: recreational, cultural, scenic, natural, historical, and archaeological resources. The "Angler's Paradise/North Sterling" implementation plan, which contains core recommendations within the MP 45–60 project area, addresses safety, seasonal congestion, and a bypass in the project area. The plan includes the following, specific to the MP 45–60 Project: "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."

Kenai Mountains-Turnagain Arm National Heritage Area Management Plan (KMTA 2012). The *Kenai Mountains-Turnagain Arm National Heritage Area Management Plan* proposes projects for funding through a Federal program designating National Heritage Areas, including historical signs along Sterling Highway in partnership with the *Cooper Landing Walkable Community Project* plan.

In March 2009, the U.S. Congress established the Kenai Mountains-Turnagain Arm National Heritage Area, which includes the MP 45–55 portion (CNF portion) of the project area, to the boundary of the KNWR.[4] This designation does not confer authority to manage or regulate land use. Rather, the National Heritage Area program provides grant funding for recreation, tourism, and historic preservation projects to community organizations. The community organization that has received funding is the Kenai Mountains Turnagain Arm Corridor Communities Association; the association published a management plan for the National Heritage Area in 2012. The plan notes that the area contains a "magnificent landscape … with nationally significant historic and cultural value." The National Park Service oversees the Federal funding appropriated and provides technical assistance for development of the Kenai Mountains-Turnagain Arm National Heritage Area.

3.2.2 Environmental Consequences (KNWR Comprehensive Conservation Plan)

3.2.2.1 No Build Alternative

Direct and Indirect Impacts

No Federal land would be acquired, developed, or directly used as a result of the No Build Alternative. Therefore, the alternative would be consistent with the KNWR *Comprehensive Plan* (USFWS 2010a).

3.2.2.2 Issues Applicable to the Build Alternatives

There is a distinct difference between alternatives related to the KNWR. All alternatives except the Juneau Creek Alternative would remain within the existing Sterling Highway right-of-way across KNWR lands and therefore would have no direct effect on land use plans and management policy. Issues important to the KNWR include wildlife movement across the highway, which is addressed in Section 3.22, Wildlife.

[4] The KMTA NHA plan is available at www.kmtacorridor.org under the Management Plan tab. Maps showing the NHA boundary appear in Chapter 5 of that plan, for example, on page 45.

3.2.2.3 Cooper Creek Alternative

No KNWR land would be acquired, developed, or directly used as a result of the Cooper Creek Alternative outside the existing highway right-of-way. Therefore, no formal consistency determination would be required, and the alternative would appear to be consistent with the KNWR *Comprehensive Plan* (USFWS 2010a). This alternative would remain within the existing right-of-way as it passed through the KNWR but would widen and slightly realign the highway, which combined with traffic could present an incrementally greater barrier to wildlife movement from KNWR areas north of the highway to areas south. The project would provide dedicated wildlife underpasses to mitigate this effect. See discussion of wildlife impacts more broadly in Section 3.22.2. While these proximity impacts would be important in the local area, there would be no use of KNWR lands. The proximity impacts would occur in a small part of the overall KNWR and would not be so severe that the KNWR's activities, features, or attributes would be substantially impaired.

3.2.2.4 G South Alternative

No KNWR land would be acquired, developed, or directly used as a result of the G South Alternative outside the existing highway right-of-way. Therefore, no formal consistency determination would be required, and the alternative would appear to be consistent with the KNWR *Comprehensive Plan* (USFWS 2010a). This alternative would remain within the existing right-of-way as it passed through the KNWR but would widen and slightly realign the highway, which combined with traffic could present an incrementally greater barrier to wildlife movement from KNWR areas north of the highway to areas south. The project would provide dedicated wildlife underpasses to mitigate this effect. See discussion of wildlife impacts more broadly in Section 3.22.2. While these proximity impacts would be important in the local area, there would be no use of KNWR lands. The proximity impacts would occur in a small part of the overall KNWR and would not be so severe that the KNWR's activities, features, or attributes would be substantially impaired.

3.2.2.5 Juneau Creek Alternative

Direct and Indirect Impacts

This subsection addresses KNWR management impacts based on current land ownership and management. See Section 3.27.4.3 regarding a reasonably foreseeable land exchange in the area where the Juneau Creek Alternative is proposed to cross a portion of the KNWR, which is anticipated to change ownership and management in the area of the Juneau Creek Alternative.

Under the Juneau Creek Alternative (preferred alternative), DOT&PF and FHWA would acquire new transportation right-of-way across a corner of the KNWR Mystery Creek Wilderness unit and a portion of the KNWR Intensive Management area (if the DOI-CIRI Land Trade is not executed). This would require an amendment to the KNWR Plan and, because a new transportation right-of-way in the KNWR would be an additional use of KNWR, the KNWR has indicated it would need to complete a Compatibility Determination to evaluate whether the activity would materially interfere with or detract from KNWR purposes and management. This determination is required under the provisions of the National Wildlife Refuge System Administration Act of 1966, as amended. For a use proposed for designated Wilderness areas, the USFWS must consider the intent of The Wilderness Act.

Wilderness, as defined by The Wilderness Act, is "untrammeled by man," and "without permanent improvements or human habitation" (16 USC 1131-1136 1964). The Wilderness Act Section 4(c) specifically prohibits roads within any wilderness area except as necessary to meet the requirements for the administration of the area. ANILCA Title XI, however, outlines a procedural path to provide a transportation corridor across Wilderness (see Section 3.2.5). The authorization process would require approval by the President of the United States and then a joint resolution of Congress.

The USFWS identifies specific components to be documented for completing a compatibility determination. The following list provides the information, or reference to the Final EIS section providing the information, for the compatibility determination. Because ANILCA Title XI supersedes other law and regulation (in other words once Congress and the President make a decision), compatibility information may be less important to the decision-making process than it normally would be; nonetheless, the information is provided below.

The USFWS considers the following information when making a compatibility determination:

(A) **Use**. Establish new transportation right-of-way easement.

(B) **Refuge name.** Kenai National Wildlife Refuge.

(C) **Establishing and acquisition authority(ies).** The KNWR was first established as the Kenai National Moose Range by Executive Order 8979 on December 16, 1941. The boundaries were modified, purposes expanded, and name changed to Kenai National Wildlife Refuge under the provisions of ANILCA on December 2, 1980 (16 USC 410hh-3233).

(D) **KNWR purpose.** The primary purpose stated in Executive Order 8979 was to "… protect the natural breeding and feeding range of the giant Kenai moose on the Kenai Peninsula, Alaska…." ANILCA purposes for the KNWR include: "(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to moose, bear, mountain goats, Dall sheep, wolves and other furbearers, salmonids and other fish, waterfowl and other migratory and nonmigratory birds; (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats; (iii) to ensure to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity with the refuge; (iv) to provide in a manner consistent with subparagraphs (i) and (ii), opportunities for scientific research, interpretation, environmental education, and land management training; and (v) to provide, in a manner compatible with these purposes, opportunities for fish and wildlife oriented recreation." The Wilderness Act of 1964 purposes are to secure an enduring resource of wilderness, to protect and preserve the wilderness character of areas within the National Wilderness Preservation System, and to administer this wilderness system for the use and enjoyment of the American people in a way that will leave them unimpaired for future use and enjoyment as wilderness.

(E) **National Wildlife Refuge System mission**. The mission of the National Wildlife Refuge system is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources

and their habitats within the United States for the benefit of present and future generations of Americans" (P.L. 105-57 1997).

(F) **Description of Use**. The proposed use would be the establishment of an additional 33-acre right-of-way easement for transportation purposes on the KNWR. DOT&PF would construct and operate a highway (see Section 2.6.5 in the Alternatives chapter) within the easement in perpetuity. Within this easement, 18.7 acres would be located near the southeast corner of the Mystery Creek Wilderness Unit. Another 14.3 acres would be located south of the existing highway to accommodate the intersection of the "old" highway with the Juneau Creek Alternative alignment. The highway corridor for this alternative would isolate another 17.4-acre parcel of Wilderness from the remainder of the Wilderness unit. The total area affected by direct impact (33 acres) or isolation (17.4 acres) would be 47.4 acres. The use of the corridor would be year-round, as is use of the highway today. The affected environment is described for a wide variety of resources in the other sections of Chapter 3.

(G) **Availability of Resources.** DOT&PF would be responsible for the construction, maintenance, and operation of the new highway, as it is today; KNWR human resource commitments likely would change very little. KNWR would continue to monitor wildlife movement and recreational activity in the highway area. Alaska State Troopers would patrol and respond to public safety issues on the highway.

(H) **Anticipated impacts of the use.** DOT&PF and FHWA have worked with the USFWS to describe the affected environment and anticipated impacts within this Final EIS. Direct, indirect, and cumulative impacts on KNWR resources are addressed within the Environmental Consequences sections for each resource in Chapter 3 of this document. Specific resources include Noise (Section 3.15), Water Bodies and Water Quality (Section 3.13), Wetlands and Vegetation (Section 3.20 and Maps 3.20-1 and 3.20-2), and Wildlife (Section 3.22). A discussion of short-term impacts versus long-term impacts is provided in Section 3.25. The KNWR *Comprehensive Conservation Plan* (2010a) would need to be amended to address the proposed use. If the project were approved by the President and Congress under ANILCA Title XI, the plan amendment likely would not require further agency decision-making, however, it would require administratively updating plan documentation.

(I) **Public Review and comment.** The KNWR provides an opportunity for public review and comment on proposed KNWR uses before issuing a final compatibility determination. DOT&PF will provide stakeholder and public mailing lists to support the USFWS process. Identifying the potential use in this Final EIS provides additional notice and opportunity for public comment during the EIS review period and public hearing process.

(J) **Stipulations necessary to ensure compatibility.** Mitigation and environmental commitments that have been identified for this project are summarized in the Mitigation sections throughout this chapter and in Chapter 4.

Additional components of the compatibility determination would include a written explanation of the USFWS decision on the use's compatibility, a signature, and a concurrence signature once the determination had been made.

Construction Impacts

No construction impacts are anticipated to affect the KNWR *Comprehensive Plan* and management policies.

Mitigation

See item (J) above for mitigation and stipulations.

3.2.2.6 Juneau Creek Variant Alternative

Direct and Indirect Impacts

No KNWR land would be acquired, developed, or directly used as a result of the Juneau Creek Variant Alternative outside the existing highway right-of-way. Therefore, no formal consistency determination would be required, and the alternative would appear to be consistent with the KNWR *Comprehensive Plan* (USFWS 2010a). This alternative would create a second road on the landscape immediately to the east of the KNWR boundary on CNF land. This would change the location of traffic noise slightly at the refuge boundary and would incrementally alter the view of the greater Kenai River Valley as seen particularly from higher elevations in the Mystery Creek Wilderness and Andrew Simons Wilderness, including views of intersection lighting near the Wilderness boundary. The alternative would widen the highway within the existing right-of-way within the refuge, which combined with traffic could present an incrementally greater barrier to wildlife movement from KNWR areas north of the highway to areas south. The project would provide dedicated wildlife crossing structures to mitigate this effect. This alternative also would alter habitat outside the refuge to the east and could affect movement patterns for animals that move in and out of the KNWR. See the discussions regarding Noise (including Noise and Wildlife and Noise and Wilderness) in Section 3.15; the discussion of visual impacts in Section 3.16.2 under the Juneau Creek alternatives headings; and the discussion of wildlife impacts in Section 3.22.2. While these proximity impacts would be important in the local area, there would be no use of KNWR lands. The proximity impacts would occur in a small part of the overall KNWR and would not be so severe that the KNWR's activities, features, or attributes would be substantially impaired. The KNWR as a whole, the two Wilderness units, and management of the lands under the current comprehensive plan would continue with negligible difference, and the KNWR would continue to provide habitat for wildlife and recreation for people with no substantial impairment.

3.2.3 Environmental Consequences (Chugach National Forest Plan)

3.2.3.1 No Build Alternative

Direct and Indirect Impacts

For purposes of this document, it is assumed no Federal land would be acquired, developed, or directly used as a result of the No Build Alternative outside the existing highway right-of-way. No consistency determination would be required, and it appears that selection of the No Build Alternative would be consistent with the *Chugach National Forest Revised Land and Resource Management Plan* (Forest Service 2002a). However, the No Build Alternative falls within the 1-mile distance suggested in the Forest Plan Brown Bear Management Guidelines for separation from identified areas of seasonal brown bear concentration, specifically Area 11 shown on Map 3.22-1.

3.2.3.2 Issues Applicable to the Build Alternatives

This section evaluates the build alternatives against the standards and guidelines set forth in the *Chugach National Forest Revised Land and Resource Management Plan* (Forest Service 2002a) and with applicable standards and guidelines for management areas within the project area. Under the *Forest Plan,* the CNF is delineated into management prescriptions, each with their own desired conditions and supporting standards and guidelines.

When a project is not consistent with a Forest Service *standard*, a Forest Plan amendment is required or the project must be modified so that it is consistent. No plan amendment is required when a project is found to be inconsistent with a Forest Service *guideline*, but Forest Service expectation is that guidelines normally would be followed. Deviations from guidelines must be analyzed during project-level analysis and documented in a project decision. FHWA and the Forest Service have an agreement nationwide for use of national forest lands for highway needs, and an easement would be established for the use of the lands in question before construction. The following list identifies applicable forest-wide standards and guidelines that might apply to this project and the location in this Final EIS where information on the build alternatives' impacts can be found relative to each criterion:

(A) Air Quality Standard 1: "Comply with state standards for visible and particulate air quality."

The project area is not within a Federally designated air quality non-attainment area or maintenance area, and is not within an ADEC air quality area of concern for carbon monoxide or particulate matter with a size of 10 micrometers or less. This project is in an area where the State Implementation Plan for air quality does not contain any transportation control measures; therefore, the conformity procedures in 40 CFR § 93 do not apply (see Section 3.14).

(B) Soils Standard 1: "Implement Best Management Practices specified in the Soil and Water Conservation Handbook (FSH 2509.22)."

Earth-moving activities related to highway construction have the potential to impact water quality. Impacts to water quality would be minimized through the use of BMPs and the implementation of an approved Storm Water Pollution Prevention Plan (SWPPP; see Section 3.13).

(C) Soils Standard 2: "No ground disturbing activities greater than 0.1 acre shall be allowed on slopes with a Mass Movement Index rating of 4 (generally slopes over 72 percent) unless a site-specific landslide risk analysis is conducted that demonstrates that the soil objectives of this Revised Forest Plan would still be met while conducting ground disturbing activities on these slopes."

Ground disturbance for this project would be an engineered activity. Areas deemed not geologically suitable for road construction are not being considered. Finished slopes created during ground disturbance would be kept flatter than the angle of repose (usually no steeper than 2:1, and preferably flatter) or would employ an engineered retaining wall (see also Section 3.12, Geology and Topography).

(D) Soils Standard 3: "Prior to ground disturbing activities greater than ½ acre, a landslide risk analysis will be conducted on slopes between 56 and 72 percent. Proposed ground disturbing activities will be designed to avoid areas with high potential for the occurrence of a landslide."

Ground disturbance for this project would be an engineered activity. Areas deemed not geologically suitable for road construction are not being considered, cut slopes would be kept flatter than the angle of repose, fill slopes are designed for specification materials, and rock cut slopes are designed based on associated rock stability tests. See the design criteria in Chapter 2, the preliminary engineering report for the project (HDR 2014a), and a geotechnical report for the project (R&M 2001a).

(E) Soils Standard 4: "Evaluate soil stability and potential soil mass wasting effects prior to ground disturbing activities greater than ½ acre on fine textured soils of lacustrine origin."

Geotechnical investigations have been conducted for the project to be aware of any fine-grained soils prone to subsidence or liquefaction. All due care would be taken to avoid these materials or address their mitigation during the design evaluation. The rejection of certain alignments was based in part on avoiding these types of soils. See, for example, the reasons for not pursuing the "3R Alternative" in Chapter 2. In other cases, alignments were shifted to avoid such soils (e.g., the crossing of Juneau Creek was moved north on the Juneau Creek Alternative to avoid unstable soils).

(F) Fish, Water, and Riparian Areas Guideline 1: "Riparian management activities will be designed to meet the Stream Channel Process Group Objectives and Desired Conditions contained within the Aquatic Ecosystem Management Handbook."

Riparian objectives and desired conditions would be addressed through consultation with the USACE for the Section 404 Permit process and with ADF&G for Title 16 permits (see Section 3.21). Water quality mitigation measures are detailed in Section 3.13.2. Essential fish habitat mitigation is detailed in Section 3.21.2.

(G) Vegetation Management Guideline 4: "Use native plant species in revegetation/restoration projects when natural revegetation conditions are not favorable."

Native seed sources would be used for revegetation (see Section 3.20).

(H) Vegetation Management Guideline 5: "Incorporate exotic plant prevention and control into project planning and design."

Introduction of invasive and exotic plant species would be minimized through mitigation measures, such as having construction equipment cleaned thoroughly before it enters the site (see Section 3.20).

(I) Threatened, Endangered, and Sensitive Plant Species Standard 1: "Collecting or disturbing any threatened, endangered, or sensitive plant is prohibited unless authorized."

The build alternatives are not expected to adversely impact sensitive plant species (see Section 3.20).

(J) Threatened, Endangered, and Sensitive Plant Species Guideline 1: "Avoid, minimize, or mitigate the effects of human activities in areas containing sensitive plant populations."

Based on the review of published data, field survey data, and consultation with Forest Service biologists, there is a low likelihood of sensitive plant species occurring within the project area. The build alternatives are not expected to adversely impact sensitive plant species (see Section 3.20).

(K) General Wildlife Standard 1: "Require disposal or removal of garbage from all Forest Service permitted or approved activities to prevent habituation of wildlife. Require food and garbage to be stored in bear-proof containers or by methods that make it unavailable to bears or other wildlife."

Bear-proof containers will be used at construction sites and will be added at any new trailheads where trash receptacles are provided (e.g., the Resurrection Pass trailhead; see Sections 3.8 and 3.22).

(L) General Wildlife Guideline 1: "Design and locate facilities or apply seasonal restrictions on human activities when necessary and appropriate to reduce disturbance in important habitat areas, such as birthing areas, nesting areas and winter ranges."

Efforts would be made to reduce disturbance in important habitat areas (see Sections 3.8 and 3.22). Timing windows for construction are detailed in Section 3.22.

(M) Brown Bear Habitat Management Standard 1: "Within the 750-foot brown bear management zone, the following activities will not be allowed:
a. new road construction;

b. any vegetation management not intended to maintain or improve ecological conditions for brown bear."

The Forest Service typically identifies brown bear management zones at the project level in a cooperative effort with ADF&G. For this project, mapped areas are based on consultation among DOT&PF, FHWA, the Forest Service, ADF&G, and USFWS and translated as maps in this EIS to identify the brown bear management zones. General concern has been raised by agencies about brown bear use north of the confluence of the Kenai and Russian rivers, and at lower Juneau Creek near its confluence with the Kenai River, including bench areas west of Juneau Creek, and other areas as depicted on Map 3.22-1 in Section 3.22, Wildlife. The Forest Service explained the intent of the standard and how it would apply to this project: Brown Bear Habitat Management Standard 1 (Forest Plan p. 3-29) applies to any important bear feeding areas, but not movement or denning areas. Based on Table 3.22-2 and Map 3.22-1 in this EIS, the important bear

feeding areas are the polygons for Areas 8, 9, and 11. Therefore, Standard 1 applies to Areas 8, 9, and 11 (Marchowsky, personal communication 2015).

Areas 8 and 9 are points along lower Juneau Creek and are wholly encompassed within Area 11. Area 11 is a large inverted-triangular polygon that encompasses lower Juneau Creek and the topographical bench area west of the creek. Further discussion appears in the subsections below for each alternative that would affect Area 11. Brown bear mitigation actions would be based on consultation with agencies, including the Forest Service (see Sections 3.20, 3.22.1.1, 3.22.2, and 4.7.4).

(N) Brown Bear Habitat Management Guideline 1: "Locate long-term concentrated human activities away from important seasonal brown bear concentrations. A minimum one-mile avoidance distance is recommended but could vary depending on site-specific circumstances that will also maintain adequate bear protection."

The Forest Service typically identifies brown bear management zones at the project level in a cooperative effort with ADF&G. For this project, mapped areas are based on consultation amongst DOT&PF, FHWA, the Forest Service, ADF&G, and USFWS and translated as maps in this EIS to identify the "important seasonal brown bear concentrations." General concern has been raised by agencies about brown bear use at areas depicted on Map 3.22-1 in Section 3.22, Wildlife. The Forest Service explained the intent of this guideline and how it would apply to this project: Brown Bear Habitat Management Guideline 1 (Forest Plan p. 3-29) applies to important feeding and movement areas. Therefore, Guideline 1 applies to areas 1, 4, 8, 9, 11, and 16 (Marchowsky, personal communication 2015).

Area 1 is a point at approximately MP 45 of the existing highway. Area 4 is a point where several alternatives cross Slaughter Creek. Areas 8 and 9 are points along lower Juneau Creek and are wholly encompassed within Area 11. Area 11 is a large inverted-triangular polygon that encompasses lower Juneau Creek and the topographical bench area west of the creek. Area 16 is a large rectangular area; the existing highway is its southern boundary (approximately MP 53.2 to 55.5). All of the alternatives lie within a 1-mile buffer of all of these areas, as does the existing Sterling Highway. Further discussion is included in the subsections below for each alternative.

Brown bear impact mitigation will be undertaken based on consultation with agencies, including the Forest Service (see Sections 3.20, 3.22.1.1, 3.22.2, and 4.7.4). Mitigation will reduce the impacts of the road within 1 mile of seasonal brown bear concentrations.

(O) Mountain Goat and Dall Sheep Habitat Management Guideline 1: "Locate concentrated human activities away from important wintering, kidding, and lambing habitat."

Highways may be a form of concentrated human activity but are less intrusive and more predictable than areas where individual people congregate, such as campground or viewpoints. None of the alternatives comes within 1 mile of important kidding or lambing habitat (see Section 3.22.1.3). While the Juneau Creek alternatives would be within 1 mile of the Dall sheep winter range, the alternatives would be separated in elevation from these habitat areas by approximately 1,000 feet (see Map 3.22-3).

(P) Raptor Nest Protection Management Standard 1: "Bald eagle nest protection standards to be followed are outlined in the Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service (Appendix G, Processes Referenced in Standards and Guidelines, Bald Eagle MOU)."

Per the Forest Service, in its capacity as a cooperating agency for the project, the memorandum of understanding referenced in the Forest Plan has expired, and the Bald and Golden Eagle Protection Act governs. Under the Act, activities that may interfere with eagles, affecting their ability to successfully forage, nest, roost, breed, or raise young, are prohibited. The USFWS has developed National Bald Eagle Management Guidelines (USFWS 2007) intended to minimize disturbance to bald eagles and ensure compliance with the Bald and Golden Eagle Protection Act. These guidelines include a 660-foot landscape buffer from road construction activities that are visible from an active nest, a 330-foot buffer when activities are not visible from the nest, and seasonal restrictions on activities within 660 feet of nests.

A 2014 aerial survey identified eight nests within the 660-foot buffer zone of the existing Sterling Highway (four nests within the 330-foot primary zone and four nests within the 330- to 660-foot secondary zone). See Map 3.22-4 for eagle nest locations. The build alternatives generally increase the distance of the new highway and the majority of vehicle traffic from the Kenai River, where most of the bald eagle nests are located. There are three nests identified in the project where one or more of the build alternatives is within the USFWS buffer zones but the existing highway is not. One of these nests is located within the footprint of the Juneau Creek Variant Alternative, and should this alternative be selected, a permit would be required to remove the nest. The removal of riparian habitat used by bald eagles for breeding and foraging could reduce roosting and foraging habitat in the area but is unlikely to interfere with normal breeding, feeding, or sheltering habits. During the final design and permitting phase of the project, DOT&PF would work with USFWS to develop measures to avoid, minimize, and mitigate impacts to bald eagle nests to ensure compliance with the Bald and Golden Eagle Protection Act. See Sections 3.22.1.2 and 3.22.6.2 for more detail.

(Q) Raptor Nest Protection Management Guideline 1: "Protect active goshawk nesting habitat. Prevent continuous disturbance within a 660-foot radius of the nest during the active nesting season (generally March 1 to July 31)."

It not anticipated that goshawks are present in the project area. However, clearing of trees will occur during the late summer and winter months, outside the nesting period (see Section 3.22).

(R) Threatened and Endangered Species Standard 1: "All projects will comply with requirements of the Endangered Species Act, Marine Mammal Protection Act and their implementing regulations as well as other applicable federal and state laws and Forest Service Policy (FSM 2670)."

No Federally listed threatened or endangered species occur in the project area (see Section 3.22).

(S) Heritage Resources Standard 1: "Heritage resource site surveys are required for any surface or subsurface activities disturbing more than one cumulative square meter of ground (cumulative disturbance over project area). In addition, in areas of known heritage resources, sites or districts on, or eligible for the National Register of Historic Places, site surveys are required for any surface or subsurface ground disturbing activities."

The Section 106 process for the project is consistent with this standard (see Section 3.9). Identification of the area of potential effect, preliminary site surveys, identification of potentially eligible properties, and findings of effect have been completed through consultation with consulting parties, including the Forest Service. When an alternative has been selected, mitigation will be implemented to provide protection against future project area disturbances or impacts on documented and undocumented sites.

(T) Access for Subsistence Activities on National Forest System Lands Standard 1: "On federal public lands within the Chugach National Forest, use of snowmobiles, motorboats and other means of surface transportation traditionally employed for subsistence purposes by local residents shall continue as per ANILCA, Sec. 811."

The ANILCA Section 810 Subsistence Evaluation concluded that there was no reasonably foreseeable possibility of a significant restriction of subsistence uses from any of the reasonable alternatives (see Section 3.10).

(U) Fuels Treatment Guideline 1: "Treat activity fuels (those fuels created as a result of vegetation management activities) adjacent to roads and trails as follows: a. Locate slash piles that are scheduled for burning outside meadows or riparian areas. Use a buffer distance designed to keep sediment, ash and debris out of channels. b. For federal, state and Forest development roads classified as arterials or collectors, remove or treat 70 to 90 percent of the activity fuels seen from the road's edge up to a maximum distance of 300 feet. Treat debris within one year of vegetation treatment completion."

Although this guideline applies to Forest Service's own "vegetation management activities" and not necessarily to construction of a State highway, tree and vegetation clearing for construction of the Sterling Highway project would be completed consistent with the guideline (see Section 3.20).

3.2.3.3 Cooper Creek Alternative

Direct and Indirect Impacts

Under the Cooper Creek Alternative, the alignment falls under the Fish, Wildlife and Recreation Management Area prescription and the Major Transportation/Utility Systems Management Area prescription within the *Chugach National Forest Land and Resource Management Plan* (Forest Service 2002a). These management prescriptions are relatively unrestrictive—the maximum Recreational Opportunity Spectrum class is Roaded Natural, and "roads built by others" typically are allowed. Because this alternative crosses lands with these management prescriptions, it would be expected to have little management conflict. Land management acreages and boundaries designated by the plan would change. The plan would need to be updated, either with an amendment or in the next scheduled Forest Plan update, to specifically identify the new

highway alignment, including any appropriate management prescription changes. One Forest-wide *guideline* from the list in Section 3.2.3.2 may be impacted: item N, Brown Bear Habitat Management Guideline 1. The Cooper Creek Alternative would pass through Areas 1 and 16, as does the existing highway, and would be within the recommended 1-mile separation from Area 11 (about 1,800 feet), as is the existing highway. Impact to brown bears and mitigation measures are discussed in detail in Section 3.22.

Construction Impacts

No construction impacts are anticipated to affect forest plans and policies. Construction impacts to brown bears are discussed in detail in Section 3.22.

Mitigation

Mitigation for impacts to brown bears is addressed in Section 3.22, Wildlife.

3.2.3.4 G South Alternative

Direct and Indirect Impacts

The G South Alternative would cross areas classified as Fish and Wildlife Conservation Area Management Area, Fish, Wildlife and Recreation Management Area, and Major Transportation/Utility Systems Management Area. The latter two management prescriptions are relatively unrestrictive—the maximum Recreational Opportunity Spectrum class is Roaded Natural, and "roads built by others" typically are allowed. However, the northernmost arc of the G South Alternative would pass in and out of the edge of the Fish and Wildlife Conservation Area Management Area, which is more restrictive. Overall, this alignment would be expected to have little management conflict. However, the road would not be consistent with the Fish and Wildlife Conservation Area prescription, which is managed to emphasize the conservation of wildlife habitats and in which Recreational Opportunity Spectrum classifications fall in the range from Primitive to Semi-Primitive Motorized. In this management area, new roads built by the Forest Service generally are not allowed, and "roads built by others" are conditional (Forest Service 2002a). Land management acreages and boundaries designated by the *Chugach National Forest Land and Resource Management Plan* (Forest Service 2002a) would change, and the Forest Service has indicated that the plan may require formal amendment to specifically identify the new highway alignment, including any appropriate management prescription changes. The Forest Service has indicated substantial wildlife mitigation or wildlife-friendly design would be required.

There is one Forest-wide *standard* from the list in Section 3.2.3.2 that would suggest a need for amendment of the Forest Plan: item M, Brown Bear Habitat Management Standard 1. As part of this project, wildlife agencies, including ADF&G and the Forest Service, have identified the area from the confluence of Juneau Creek and the Kenai River, upstream on Juneau Creek to a location where the canyon begins to narrow as an important brown bear feeding area. Area 11, identified above in discussion of Standard 1, encompasses this area. The G South Alternative would cross Area 11 at lower Juneau Creek for about 2,000 linear feet. A portion of this area is Forest land, and a portion encompasses State-owned land. At the location where the G South Alternative intersects Area 11, there would be a physical vertical separation between the alternative and the feeding area from a 1,320-foot-long bridge that would be located, at its highest point, approximately 200 feet above the canyon floor (allowing bears access to the area),

but a bridge pier could be located near the creek, and a temporary construction access road would extend into this area. Brown bear mitigation actions would be undertaken based on consultation with agencies, including the Forest Service, to maintain wildlife access to and from this area (see Sections 3.20, 3.22.1.1, 3.22.2, and 4.7.4).

There is one Forest-wide *guideline* from the list in Section 3.2.3.2 that may be impacted: item N, Brown Bear Habitat Management Guideline 1. The G South Alternative would pass through Areas 1, 4, and 11 and along the edge of Area 16 (the existing highway passes near Area 11 and along the southern edge of Area 16). Impact to brown bears and mitigation measures are discussed in detail in Section 3.22.

Construction Impacts

No construction impacts are anticipated to affect forest plans and policies. Construction impacts to brown bears are discussed in detail in Section 3.22.

Mitigation

Mitigation for impacts to brown bears and other wildlife is addressed in Section 3.22, Wildlife.

3.2.3.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

Under the Juneau Creek and Juneau Creek Variant alternatives, the alignment would cross lands classified with the following management prescriptions: Fish, Wildlife and Recreation Management Area; Major Transportation/Utility Systems Management Area; Fish and Wildlife Conservation Area Management Area; and Backcountry Management Area. The Juneau Creek and Juneau Creek Variant alternatives would cross CNF lands near Juneau Creek Falls that are classified Backcountry (west of the canyon in this area) and Fish and Wildlife Conservation Area (principally east of the canyon). Construction of these alternatives near Juneau Falls and construction of a new trailhead and pullout in the Juneau Creek Canyon area would be expected to attract more recreational users than the management plan calls for in Fish and Wildlife Conservation Area or Backcountry management areas, with Recreational Opportunity Spectrum classifications in the range from Primitive to Semi-Primitive Motorized. The Fish and Wildlife Conservation Area Management Area is managed to emphasize the conservation of wildlife habitats, and both of these management prescriptions are managed so that users encounter fewer than 15 other parties per day on trails. In both, new roads built by the Forest Service generally are not allowed, and "roads built by others" are conditional (Forest Service 2002a). Construction would make the area more accessible to more users and would change the area from a backcountry experience to a front country experience. These alternatives also would cross Resurrection Pass Trail and the Juneau Falls Recreation Area in this location, and some of the area is classified by the Forest Service as the Resurrection IRA, an area identified as having certain roadless area characteristics and potentially meeting qualifications for future Federal Wilderness designation but not managed as Federal Wilderness (see Section 3.2.4, below).

The road would not be consistent with the Fish and Wildlife Conservation Area Management Area or the Backcountry Management Area prescriptions. These areas are a small portion of the overall alignment; most of the segment built on new alignment is located on lands with less-restrictive management classifications where new roads typically are allowed and encounters with others are expected to be greater. However, under the Juneau Creek and Juneau Creek

Variant alternatives, areas of land with specific management prescriptions and boundaries designated by the *Chugach National Forest Land and Resource Management Plan* (Forest Service 2002a) would change. The Forest Service has indicated that use of these two prescriptions may require a formal plan amendment to specifically identify the new highway alignment, including any appropriate management prescription changes. The Forest Service also has indicated that the use of these management areas would require mitigation for wildlife or wildlife-friendly design.

There is one Forest-wide *standard* from the list in Section 3.2.3.2 that would suggest a need for amendment of the Forest Plan: item M, Brown Bear Habitat Management Standard 1. Both alternatives pass through Area 11, associated with Juneau Creek, for about 1.25 miles. The alternatives would cross over Juneau Creek on a new bridge, but the bridge would be located at high elevation over the creek, there would be no construction in the base of the canyon, and this part of the canyon is thought to be less valuable for bear feeding than areas slightly farther downstream, where the canyon begins to open. The topographical bench lands west of the creek are accessible today via the Resurrection Pass Trail and Forest Service roads (these roads are generally closed to public vehicle use but are open for hiking or mountain biking). Brown bear mitigation actions would be undertaken based on consultation with agencies, including the Forest Service, to maintain wildlife access in general across the highway (see Sections 3.20, 3.22.1.1, 3.22.2, and 4.7.4).

There is one Forest-wide *guideline* from the list in Section 3.2.3.2 that may be impacted: item N, Brown Bear Habitat Management Guideline 1. The Juneau Creek alternatives would pass through Areas 1 and 4, as the existing alignment does today. These alternatives would pass through Areas 11 and 16 and would move most traffic farther from the Kenai River in Area 16, but would impact new areas of wildlife habitat. Impact to brown bears and mitigation measures are discussed in detail in Section 3.22.

Construction Impacts

No construction impacts are anticipated to affect forest plans and policies. Construction impacts to brown bears are discussed in detail in Section 3.22.

Mitigation

Mitigation for impacts to brown bears is addressed in Section 3.22.

3.2.4 Environmental Consequences (Federal Management—Forest Service Roadless Areas)

3.2.4.1 No Build Alternative

Direct and Indirect Impacts

No Federal land would be acquired, developed, or directly used as a result of the No Build Alternative outside the existing highway right-of-way. No use of IRAs would occur, and no indirect impacts to these roadless areas would be expected (Forest Service 2002a).

3.2.4.2 Issues Applicable to the Build Alternatives

The Forest Service is expected to use information in this EIS to consider the effects of the alternatives on IRAs and on the "roadless area characteristics" addressed in the Roadless Area Conservation Rule (see Section 3.2.1.3 for background, and see Map 3.2-3). The Roadless Rule provides a general prohibition on construction of new roads within IRAs but also provides an exception for projects like the Sterling Highway Project. The prohibition on road building is excepted if:

> The Secretary of Agriculture determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists… [36 CFR § 294.12(b)(6)][5]

The following subsections and tables address roadless area characteristics with cross references to other parts of this EIS as necessary, to assist the Forest Service in its determination.

3.2.4.3 Cooper Creek Alternative

Direct and Indirect Impacts

The Cooper Creek Alternative would cross an isolated 19.9-acre block of land that technically is part of the Kenai Lake IRA but is separated from the bulk of the IRA and is now surrounded by non-Forest land, and Cooper Lake Dam Road is in the vicinity. This parcel would not qualify as "roadless" if a roadless area inventory were begun today. Table 3.2-1 reports the acreages of loss from this portion of the Kenai Lake IRA for the Cooper Creek Alternative. The table also reports in general the expected impacts to roadless area characteristics. The "Roadless Area Characteristics" portion of the table cross-references other sections of this Final EIS for greater detail. A designee of the Secretary of Agriculture would need to approve an exception to the Roadless Rule to allow this alternative in this portion of the Kenai Lake IRA.

If the Cooper Creek Alternative were selected, it is likely there would be no impact on the ability to continue to manage the Kenai Lake Roadless Area in a roadless condition, and the ability to recommend or designate it as Federal Wilderness would be unchanged. The isolated portion of the IRA at Cooper Creek would not qualify for Wilderness designation and would be unlikely to be included in any future proposal for Wilderness.

[5] All references in this document to 36 CFR § 294 refer to the 2001 version of the CFR. The current version of the CFR has not been updated to reflect that the Roadless Area Conservation Rule was reinstated.

Table 3.2-1. Impacts to Inventoried Roadless Areas—Cooper Creek Alternative

Direct effects to Kenai Lake[a] IRA	**Impact**
IRA lands incorporated into right-of-way	3.8 acres of 213,200 total acres (0.002%)
Cumulative total IRA lands traversed	0.1 mile
Isolated portions of IRA[b]	Not applicable[b]
Roadless area characteristics	**Impact**
High quality or undisturbed soil, water, and air	Disturbance to soils expected for construction of the Cooper Creek Bridge within this IRA. No impact to water courses and water quality within the IRA. Planned Forest Service work to restore lower Cooper Creek in this area would not be substantially affected. The bridge would include no piers in the creek channel; the highway would be located high overhead. Soils, water, and air quality are addressed respectively in Sections 3.12, 3.13, and 3.14.
Sources of public drinking water	The isolated portion of the IRA along Cooper Creek would be traversed by the Cooper Creek Alternative. The alternative overlaps wellhead protection zones, including one for a well at Cooper Creek Campground. No impact is expected under normal circumstances. A contaminant spill on the Cooper Creek Bridge or its approaches could infiltrate groundwater and impact water quality. See Section 3.13 and Map 3.13-2.
Diversity of plant and animal communities	No impact anticipated to *diversity.* Other wildlife impacts are addressed in Section 3.22, and vegetation is addressed in Section 3.20. The area affected under this alternative is small and already separated from the rest of the IRA; impacts to plant and animal communities within the IRA would be negligible.
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land	No threatened or endangered species occur in the project area. Impacts to large mammal habitat would occur within the IRA, but the project within this portion of the IRA is mostly a bridge high above Cooper Creek. Most habitat impact associated with this alternative would not occur within an IRA. Sections 3.20 and 3.22 address vegetation/habitat in general and sensitive species of wildlife.

Roadless area characteristics	Impact
Primitive, semi-primitive nonmotorized, and semi-primitive motorized classes of dispersed recreation	Impact to recreation with the IRA as a whole is anticipated to be negligible. Within the portion of the IRA that the Cooper Creek Alternative would cross, people walking up the creek bank or fishing in Cooper Creek would be beneath the new highway bridge, and the recreational experience would not be primitive. However, this area is within a short distance of an established campground and the existing highway today.
Reference landscapes	No impact anticipated.
Natural-appearing landscapes with high scenic quality	Alteration of landscapes is anticipated (trees cut, road and bridge built). However, the IRA portion affected is very small. Visual impacts to the IRA as a whole would be negligible. Visual effects in general are addressed in Section 3.16.
Traditional cultural properties (TCPs) and sacred sites	No impact to TCPs or sacred sites is anticipated within this small IRA area. The area does overlap the Kenai Mining and Milling Co. Historic District, and the project would eliminate or damage two contributing features on the edge of the IRA—an historic flume and overgrown connecting trail. These issues are addressed overall in Section 3.9 and the district more specifically in Section 4.5.2.

[a] There would be no impact to the Resurrection IRA under this alternative. Acreages of impact reported in this table are based on the project highway right-of-way. The Forest Service generally excludes a 0.5-mile buffer along a road from an IRA.

[b] "Isolated" means a portion of IRA severed from the rest of the IRA and no longer of a size that would qualify as "roadless" if IRAs were being delineated today. The portion of the IRA impacted under this alternative is an isolated 19.9-acre part that is effectively a "donut hole" in otherwise non-Forest land and "roaded" lands. It already is an isolated parcel that would no longer qualify as "roadless" by size. State and Borough land surround most of this Federal parcel.

Construction Impacts

The impacts to the roadless area are caused by the project's physical construction and are addressed above.

Mitigation

No mitigation is proposed.

3.2.4.4 G South Alternative

Direct and Indirect Impacts

Table 3.2-2 reports the acreages of loss from the Resurrection IRA for the G South Alternative. The highway would sever portions of the southern edge of the IRA from the rest of the IRA, reported in the table as "isolated" acreage (see also Map 3.2-3). The table also reports in general the expected impacts to roadless area characteristics. The "Roadless Area Characteristics"

portion of the table principally cross-references other sections of this Final EIS for greater detail. The reduction in the roadless area would be permanent. A designee of the Secretary of Agriculture would need to approve an exception to the Roadless Rule to allow this alternative in this portion of the Resurrection IRA.

Table 3.2-2. Impacts to Inventoried Roadless Areas—G South Alternative

Direct effects to Resurrection[a] IRA	**Impact**
IRA lands incorporated into right-of-way	48.4 acres of 224,600 total acres (0.02%)
Cumulative total IRA lands traversed	1.1 miles
Isolated portions of IRA[b]	74.1 acres (of 224,600 acres in this IRA—0.03%)[b] Fragmenting the IRA would leave a portion too small to qualify as roadless or Wilderness and would incrementally erode the area of the remaining IRA. The characteristics of the IRA (below in this table) would be impacted not only in the area directly affected (48.4 acres) but in the area isolated (74 acres), and approximately 0.5-mile into the remainder of the IRA. The remaining portion of the Resurrection IRA is much larger than the 5,000-acre minimum required for a roadless area or Federal Wilderness, and the project is not expected to affect roadless area characteristics or the ability to recommend or designate Wilderness within the remainder in the future.
Roadless area characteristics	**Impact**
High quality or undisturbed soil, water, and air	Disturbance to soils expected. Low impact to water courses and water quality. The alternative would bridge Juneau Creek on a high bridge within the IRA; no piers would be located in the stream. The highway would be located high above the valley floor. No impact to soils or water quality would be expected under normal operations. A disposal area for unusable soils is proposed west of the bridge within the IRA and would disturb natural soils. Soils, water, and air quality are addressed respectively in Sections 3.12, 3.13, and 3.14.
Sources of public drinking water	See Section 3.13 and Map 3.13-2. Mapped wellhead protection zones overlap the Resurrection IRA, and the IRA generally is upslope from human habitation in Cooper Landing and along the existing highway. While the G South Alternative would cross these zones, no impact is expected to well water under normal circumstances. A contaminant spill on the highway could infiltrate groundwater and impact water quality.
Diversity of plant and animal communities	No impact anticipated to *diversity.* Other wildlife impacts are addressed in Section 3.22, and vegetation is addressed in Section 3.20. See also the next row.

Roadless area characteristics	Impact
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land	No threatened or endangered species occur in the project area. Impacts to large mammal habitat, including habitat fragmentation and direct habitat loss, are expected. Use of the Juneau Creek valley within this IRA for bridge abutments, the highway, and a disposal area for unusable soils would remove habitat and introduce a movement barrier in an area considered important for brown bears. Mitigation is proposed in this area to reduce impacts. Section 3.22 addresses large mammals, with Sections 3.22.3, 3.22.4, and 3.22.5 dedicated, respectively, to brown bear, moose, and other large mammal impacts and mitigation. Sections 3.20 and 3.22 address vegetation/habitat in general and sensitive species of wildlife.
Primitive, semi-primitive nonmotorized, and semi-primitive motorized classes of dispersed recreation	Low impact to semi-primitive recreation is anticipated, principally to Bean Creek Trail near its terminus. The addition of a formal trailhead for this trail could increase use of the trail and the linked Resurrection Pass Trail, which could affect primitive types of recreation in more remote areas as the chances of meeting other parties would increase. Although little recreational use is thought to occur near the lower end of Juneau Creek, the addition of the G South Alternative would eliminate opportunities for primitive or remote recreation in that area. See also Sections 3.8 and 4.5.3.2.
Reference landscapes	No impact anticipated.
Natural-appearing landscapes with high scenic quality	Alteration of landscapes classified by the Forest Service as having high to very high scenic quality is anticipated (trees cut, road and bridge built within the southern portion of the IRA). This would include an engineered structure south of Juneau Creek Canyon, altering the natural appearing landscape of this portion of the IRA. It would not affect the high scenic qualities of the remainder of the IRA. Visual effects in general are addressed in Section 3.16.
TCPs and sacred sites	No impact to TCPs or sacred sites is anticipated within the IRA. The affected portion of the IRA is part of the Sqilantnu Archaeological District, but no contributing properties have been discovered in this area. These issues are addressed overall in Section 3.9.

[a] There would be no impacts to the Kenai Lake IRA under this alternative. Acreages of impact in this table are based on the project highway right-of-way. The Forest Service generally excludes a 0.5-mile buffer along a road from an IRA.

[b] The highway would sever portions of the southern edge of the IRA from the rest of the IRA. Acreage reported is the total of these areas that would lie south of the highway right-of-way and that would no longer qualify as "roadless" if IRAs were being delineated today. Also presented is the total acreage of CNF land within the IRA.

If the G South Alternative were selected, it would clip a corner of the Resurrection IRA north of Cooper Landing and cross through the southernmost extent of the IRA at lower Juneau Creek. The Juneau Creek area is surrounded to the west, south, and east by roaded areas and non-Forest lands, so the sense of isolation in this area is already affected. However, other roadless area

characteristics are intact, particularly habitat considerations. Placing a road in this location would effectively curtail the ability to manage this area in a roadless state and would remove the potential of recommending or designating the area as Federal Wilderness in the future. The remainder of the IRA north of the alignment would be unaffected and still could be managed in a roadless condition. Except perhaps for areas with recreation cabins, large parts of the IRA likely would still qualify for Wilderness designation.

Construction Impacts

The impacts to the roadless area are caused by the project's physical construction and are addressed above.

Mitigation

No mitigation is proposed.

3.2.4.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

Table 3.2-3 reports the acreages of loss from the Resurrection IRA for the Juneau Creek and the Juneau Creek Variant alternatives. The highway would sever portions of the southern edge of the IRA from the rest of the IRA, reported in the table as "isolated" acreage (see also Map 3.2-3). The table also reports in general the expected impacts to roadless area characteristics common to roadless areas. The "Roadless Area Characteristics" portion of the table principally cross-references other sections of this Final EIS for greater detail. A designee of the Secretary of Agriculture would need to approve an exception to the Roadless Rule to allow this alternative in this portion of the Resurrection IRA.

If either Juneau Creek alternative were selected, it would cross Juneau Creek within the Resurrection IRA and pass through the southwest corner of the IRA near existing MP 55. Forest roads such as West Juneau Creek Road insert a roaded area between these two portions of the IRA, so the sense of isolation, particularly in the southwest corner, is limited. However, other roadless area characteristics are intact, particularly in the Juneau Creek area. Placing a road in this location would effectively curtail the ability to manage these specific areas in a roadless state and would remove the potential of recommending or designating these areas as Federal Wilderness in the future. The lower Juneau Creek area between the proposed alignment and the existing highway would become isolated and also would no longer be available for designation as Wilderness in the future. The remainder of the IRA north of the alignment would be physically unaffected and still could be managed in a roadless condition. Large parts of the IRA likely would still qualify for Wilderness designation.

Construction Impacts

The impacts to the roadless area is caused by the project's physical construction; however, the impacts to the policy are considered direct and permanent, and are therefore addressed above.

Mitigation

No mitigation is proposed.

Table 3.2-3. Impacts to Inventoried Roadless Areas—Juneau Creek Alternative and Juneau Creek Variant Alternative

Direct effects to Resurrection[a] IRA	Impact	
	Juneau Creek Alternative	**Juneau Creek Variant Alternative**
IRA lands incorporated into right-of-way	127.5 acres of 224,600 total acres (0.06%)	96 acres of 224,600 total acres (0.04%)
Cumulative total IRA lands traversed	3.3 miles	2.4 miles
Isolated portions of IRA[b]	633.3 acres (of 224,600 total acres in this IRA—0.3%) [b]	588.8 acres (of 224,600 total acres in this IRA—0. 3%) [b]
	Fragmenting the IRA would leave a portion too small to qualify as roadless or Wilderness and would incrementally affect the area of the remaining IRA. The characteristics of the IRA (below in this table) would be impacted not only in the area directly affected (127.5 or 96 acres, depending on the alternative) but in the area isolated (633.3 or 588.8 acres), and for approximately 0.5 mile into the remainder of the IRA. The remainder is much larger than the 5,000-acre minimum required for a roadless area or a Federal Wilderness area, and the project is not expected to affect roadless area characteristics or the ability to recommend or designate Wilderness within the remainder of the IRA in the future.	
Roadless Area Characteristics	**Impact Issues Common to these Alternatives**	
High quality or undisturbed soil, water, and air	Disturbance to soils expected. Relatively low impact to water courses and water quality are expected; the alignment west of Juneau Creek Canyon passes through a large wetland complex and would eliminate wetlands in this location and likely would alter hydrology within the local area (the wetland is in the Juneau Bench area and not directly connected to Juneau Creek or other salmon habitat). Soils, water, and air quality are addressed respectively in Sections 3.12, 3.13, and 3.14.	
Sources of public drinking water	See Section 3.13 and Map 3.13-2. Mapped wellhead protection zones overlap the Resurrection IRA, and the IRA generally is upslope from human habitation in Cooper Landing and along the existing highway. While the proposed highway would cross these zones, no substantial impact to drinking water is expected under normal circumstances. A contaminant spill on the highway could infiltrate groundwater and impact water quality.	
Diversity of plant and animal communities	No impact anticipated to *diversity*. Other wildlife impacts are addressed in Section 3.22 and vegetation is addressed in Section 3.20. See also the next row.	

Roadless Area Characteristics	Impact Issues Common to these Alternatives
Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land	No threatened or endangered species occur in the project area. Impacts to large mammal habitat, including habitat fragmentation and direct habitat loss, are expected. Use of the Juneau Bench areas within this IRA for the highway, bridge abutments, and for bridge construction staging areas (one of which would be permanently used as a new trailhead parking area) would remove habitat and introduce a movement barrier in areas considered important for brown bear and moose movement. The barrier likely would affect bear movement between lower Juneau Creek (in the IRA)/Kenai River and more northerly parts of the IRA. Mitigation is proposed in this area. Section 3.22 addresses wildlife, with Sections 3.22.3, 3.22.4, and 3.22.5 dedicated, respectively, to brown bear, moose, and other large mammal impacts and mitigation. Sections 3.20 and 3.22 address vegetation/habitat in general and sensitive species of wildlife.
Primitive, semi-primitive nonmotorized, and semi-primitive motorized classes of dispersed recreation	Impact to semi-primitive recreation is anticipated, particularly crossing the 38-mile Resurrection Pass Trail 3.4 miles into its length, and crossing Bean Creek Trail. The level of use in the upper Juneau Creek valley (part of the remaining IRA) likely would increase, and the remote recreation experience likely would become less "primitive" on average as a result. Discussion of recreation impacts associated with these trails and surrounding areas appears in Sections 3.8.2.5, 4.5.2, 4.5.3, and 4.5.5.
Reference landscapes	No impact anticipated. Portions of the IRAs in the Juneau Bench area have seen commercial logging and habitat enhancement projects and likely would not be useful as reference landscapes.
Natural appearing landscapes with high scenic quality	Alteration is anticipated (trees cut, road and bridge built). Visual effects in general are addressed in Section 3.16. From the point of view of dispersed and primitive recreationalists in the IRA, the foreground view of the new highway when encountered at close range would be a large change from natural appearance to an engineered, near-urban experience. Viewed from ridgelines above treeline in the IRA, the new highway would appear as an engineered line, a disturbance in the natural appearing landscape that would reduce scenic quality. From such vantage points, the existing highway, other roads, and development along them also would be visible, so the change would be incremental.
TCPs and sacred sites	Both alternatives would include a new highway on land where the IRA, the Sqilantnu Archaeological District, and the Confluence Site overlap (near existing MP 54–55). Impacts to delineated archaeological sites within the site and to the existing look and feel of the site are expected along the northwestern edge of the site, at the southwestern edge of the IRA. In this area, the Juneau Creek Alternative is located mostly within the IRA but avoids most archaeological sites and avoids CIRI Tract A, which was selected for its importance to local Dena'ina people. The Juneau Creek Variant Alternative is located more in the roaded area but affects several archaeological sites, is located near sites with the highest sensitivity, and traverses Tract A. These issues are addressed overall in Section 3.9. Tract A also is addressed in 3.1, Land Ownership.

[a] There would be no impacts to the Kenai Lake IRA under this alternative. Acreages of impact reported in this table are based on the project highway right-of-way. The Forest Service generally excludes from an IRA a 0.5-mile buffer along a road.

[b] The highway would sever portions of the southern edge of the IRA from the rest of the IRA. Acreage reported is the total of these several areas that would lie south of the highway right-of-way and that would no longer qualify as "roadless" " if IRAs were being delineated today. Also presented is total acreage of CNF land within the IRA.

3.2.4.6 Roadless Area Analysis

As indicated in the sections above, each of the alternatives would use land from an Inventoried Roadless Area. As quoted in Section 3.2.1.3, before a Federal Aid Highway project like this one can be approved, the Secretary of Agriculture or a designee is required to make a determination that the project:

> is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists… 36 CFR § 294.12(b)(6)

The following sections summarize why the project is in the public interest; why the project is consistent with the purposes for which the land was reserved; and why there are no reasonable or prudent alternatives to the use of IRA lands. Finally, because all of the alternatives use IRA land (i.e., there are not reasonable and prudent alternatives that avoid such use), the analysis summarizes the reasons that the Juneau Creek Alternative is preferred (i.e., that it is the most reasonable and prudent of the alternatives analyzed in the EIS). As such, the analysis is substantially similar to a "least overall harm" determination under Section 4(f) regulations, and a "least environmentally damaging practicable alternative" determination under Section 404 Clean Water Act regulations. Because the analysis is substantially similar, the Least Overall Harm Analysis (LOHA; Section 4.8) is incorporated here by reference, and the LOHA Conclusion in Section 4.8.10 is incorporated in full as particularly relevant. Moreover, DOT&PF and FHWA have also prepared a Clean Water Act Section 404(b)(1) analysis (Appendix G) for consideration by the USACE, and it also provides relevant analysis that is incorporated here by reference.

DOT&PF and FHWA have considered all of these necessary findings and have identified the Juneau Creek Alternative as their preferred alternative. This particular analysis (including the information incorporated by reference) is provided to aid the Forest Service in making its determination. It is assumed that the Forest Service, as a cooperating agency, will use the Final EIS in its entirety to make its determination and may include other aspects in its decision as needed.

Public Interest. FHWA and DOT&PF believe that the project is in the public interest for reasons explained in Chapter 1, Purpose of Need for the Project. The existing Sterling Highway in the project area is inconsistent with the rest of the highway system connecting Homer and Anchorage. It is not built to current standards. The standards reflect current engineering research and testing related to providing a safe and efficient highway and to providing a critical National Highway System connection between communities. The impacts to Inventoried Roadless Areas under any of the alternatives are relatively minor, considering the size of the IRAs and the health and extent of roadless area characteristics in the unaffected portions of the subject IRAs. It is recognized that those parts of the IRAs closest to the highway system are often the most used and most enjoyed by recreationalists, and this is an important consideration. Other road construction is not reasonably foreseeable in the IRAs. As the only highway connecting the western Kenai Peninsula with the rest of the continental highway system, construction of a highway designed for long-term reduction of congestion, enhancement of efficiency, and improvement of safety for the thousands of people who traverse the highway every day is in the public interest, no matter which alternative ultimately is selected.

In addition, public and agency comments have highlighted the importance of the Kenai River and the Kenai-Russian River confluence area. The Kenai River is in the roaded area but is

considered by all State and Federal land managing as a very important resource. The *Kenai River Comprehensive Management Plan* calls for new road construction to be located at a distance from the river. It is recognized that the river is so popular that it is at risk and that removing some risk and impacts, such as the risk of spills and the noise of traffic, would benefit the river and would be in the public interest. Each of the alternatives includes a portion built on a new alignment farther from the Kenai River. From this point of view, the alternatives each affect the river differently and successively remove more traffic from adjacency to the river, in this order: Juneau Creek Alternative, Juneau Creek Variant Alternative, G South Alternative, and Cooper Creek Alternative. Preserving the IRAs as roadless serves one public interest; preserving the Kenai River serves another public interest. In this case, the Kenai River is likely at greater risk than IRA lands.

Consistent with the purposes for which the land was reserved or acquired. President Theodore Roosevelt created the Chugach National Forest originally in 1907 by presidential proclamation for "forest purposes" and for "the public good," and expanded it westward to include the project area in 1909 (Roosevelt 1907, 1909). These proclamations were made under the Forest Reserve Act passed by Congress in 1891. The lands were "reserved from settlement, entry, or sale, and set apart as a public reservation, for the use and benefit of the people." The current Forest Plan (2002) states that, under more recent law, "the National Forest Management Act of 1976 (NFMA) requires that National Forest System lands be managed for a variety of uses on a sustained basis to ensure in perpetuity a continued supply of goods and services to the American people." The Forest Plan, prepared in accordance with the NFMA, sets forth direction that the Chugach National Forest follows to manage its lands and resources within its boundaries for recreation, wildlife habitat, transportation, and other "multiple uses." For the project area, this direction is described in Section 3.2.1 of this document. Forest management is subject to many laws and regulations, including 36 CFR § 294.12(b)(6), cited above, which provides for the Federal Aid Highway exception to the general ban on new roads in IRAs.

The project is consistent with the purposes for which the Forest land was reserved or acquired. The Sterling Highway provides access for the public to the Forest and is part of the "public good" and the "use and benefit of the people." Having safe and efficient access provided by the alternatives under consideration also supports the public good. None of the alternatives is completely consistent with the specific management prescriptions of the Forest Plan. The prime example, as discussed above in Section 3.2.3.2, is that none of the build alternatives (or the existing highway) meets a Forest Plan standard for separation from identified brown bear management areas. All alternatives also would use land from recreation withdrawals within the Forest, as described in Chapter 4. Arguably, the two Juneau Creek alternatives are least consistent with management prescriptions and the brown bear management standard, and the Cooper Creek Alternative is more consistent, with the G South alternative between the others.

Considering the overall public-interest benefits of the project, considering the broad extent of the IRAs, and considering that the high quality of the roadless area characteristics in the IRAs beyond the project area would remain unaffected, the difference in impact among the alternatives is not great enough to indicate that any of them is "consistent with the purposes for which the land was reserved or acquired" while others are not.

For the Final EIS, specific mitigation for wildlife impacts has been delineated for all alternatives. The Forest Service has suggested in comments that such mitigation would be necessary, particularly for the G South Alternative and the two Juneau Creek alternatives. The substantial investment in wildlife crossing structures for all alternatives, but at greater levels commensurate with level of impact, along with the combination of the Juneau Creek Alternative's superior transportation benefits, removal of traffic from the Kenai River corridor, and mitigation methods that would provide for wildlife movement make it as consistent as possible with the purposes for which the land was reserved or acquired.

No other reasonable and prudent alternative exists. As stated in Section 4.8.10, all alternatives would use lands in IRAs; therefore, there is no reasonable and prudent alternative to using those lands.

The Juneau Creek Alternative is the Most Reasonable Prudent Alternative. The Cooper Creek Alternative involves the least IRA acreage, and involves land that is already isolated from the rest of the IRA, but other issues associated with the Cooper Creek Alternative (summarized in Section 4.8.8 and Section 4.8.10) are such that it is not reasonable or prudent. The Cooper Creek Alternative includes community impacts related to maintaining all traffic through the length of the community—impacts both to the character of the community and to the traffic on the highway. Because of the community impacts, the Cooper Creek Alternative is not a reasonable and prudent alternative to the greater use of IRA land under the Juneau Creek Alternative.

The G South Alternative includes a new crossing of the Kenai River, which is not consistent with the *Kenai River Comprehensive Management Plan*. The bridge is quite wide and was raised in an attempt to provide for wildlife passage, but this increased impacts to wetlands on the north side of the river. The wildlife agencies requested that it be raised further, which would cause greater impacts, and requested that it be narrowed, which was determined not reasonable. In addition, this alternative passes through lower Juneau Creek Valley. While a long bridge would elevate traffic above the creek and valley, this still is a new impact in an area known to be important for brown bears. The Forest Service expressed concern about the impacts to bears and potential for human-bear conflict in Juneau Creek valley.

Both the Cooper Creek and G South Alternatives maintain all traffic along the edge of the river and across two Kenai River bridges; the Juneau Creek alternatives carry traffic away from the river and do not involve a bridge over the Kenai River. Both also compromise the elements of the project purpose and need more than necessary—both maintain through-traffic in the prime recreation area where people wish to access the Kenai River and where there are multiple popular/active driveways and pullouts serving campgrounds, trailheads, boat launches, lodges, and fishing holes, and both do not serve as well the element of the purpose and need to protect the Kenai River.

Because of Kenai River environmental and recreation concerns, coupled with Juneau Creek valley concerns, the G South Alternative is not a reasonable and prudent alternative to the greater use of IRA land under the Juneau Creek Alternative.

The Juneau Creek and Juneau Creek Variant alternatives are similar, but the Variant has impacts to cultural resources that tribal entities and the Forest Service have stated are not mitigable. This is coupled with an intersection located very close to Sportsman's Landing/Russian River Ferry. The configuration would work but would be a visual impact at Sportsman's Landing and is

considered less than ideal for traffic. For these reasons alone, the Juneau Creek Variant Alternative is not a reasonable and prudent alternative to the similar use of IRA land under the Juneau Creek Alternative.

The Juneau Creek Alternative does not have the least impact to IRA lands but best meets all elements of the project purpose and need, including transportation purposes and protection of the Kenai River purposes.

- The impacts of the Juneau Creek Alternative would be on the edge of the IRA, and not through the middle of it, and this minimizes the impacts.
- Portions of IRA land isolated from the rest of the IRA would be small compared to the whole of the IRA. The remainder of the IRA is of sufficient size to continue to support the characteristics of the IRA and the potential for future Wilderness designation.

The IRA characteristic of wildlife habitat for sensitive species and for those species dependent on large, undisturbed areas of land is perhaps the largest IRA issue for the Juneau Creek Alternative. DOT&PF and FHWA have proposed mitigation for these impacts. The length and height of the Juneau Creek bridge, the ability to accommodate wildlife undercrossings at both canyon rims, the dedicated wildlife crossing structures, commitments to restore staging and disposal areas, and other proposed mitigation measures are the most effective, reasonable, and prudent ways known of maintaining habitat and movement areas for brown bears, moose, and other species. With these mitigation measures in place, and considering the benefits and impacts of all the alternatives after mitigation, the Juneau Creek Alternative is the most reasonable and prudent alternative.

Further discussion of DOT&PF and FHWA reasoning regarding the alternative with least overall harm appears in Section 4.8.10, and DOT&PF and FHWA reasoning regarding the least environmentally damaging practicable alternative appears in Appendix G. These discussions are integral to consideration of the paragraphs above as they bring other applicable Federal law into the Forest Service's reasonable and prudent IRA decision.

3.2.5 Environmental Consequences (Federal Management—ANILCA Title XI)

3.2.5.1 No Build Alternative

No need for additional right-of-way across CSUs would occur under the No Build Alternative. Therefore, there would be no need address ANILCA Title XI policy.

3.2.5.2 Issues Applicable to the Build Alternatives

The following sections explain how ANILCA Title XI applies to the alternatives and explains the eight ANILCA factors as they apply to the those alternatives that affect the Resurrection Pass Trail and the KNWR subject to ANILCA Title XI. The direct and indirect impact analysis in this EIS presents the ANILCA Title XI issues based on the land status as it exists today. However, DOI and CIRI have agreed they would undertake a land exchange, as authorized under an agreement ratified by the Russian River Land Act which is anticipated to change the land status thereby affecting the ANILCA process. See Section 3.27.

3.2.5.3 Cooper Creek Alternative

The Cooper Creek Alternative would have no effect on CSUs identified under ANILCA. ANILCA Title XI would not apply.

3.2.5.4 G South Alternative

The G South Alternative would have no effect on CSUs identified under ANILCA. ANILCA Title XI would not apply.

3.2.5.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

Juneau Creek Alternative

The Juneau Creek Alternative (preferred alternative) would cross Resurrection Pass Trail (see Map 3.8-1) and a corner of the Mystery Creek Wilderness unit within the KNWR (Map 3.2-1). ANILCA Title XI would apply to both of these CSUs. USFWS, the Forest Service, USACE, and FHWA would need to make findings under Title XI relative to their areas of authority. The paragraphs below address the eight factors (nine factors for a decision for the KNWR) listed in ANILCA 1104(g)(2) to provide the information the agencies would need to make the necessary findings.

Juneau Creek Variant Alternative

The Juneau Creek Variant Alternative would cross Resurrection Pass Trail. ANILCA Title XI would apply to this CSU, and the Forest Service, USACE, and FHWA would need to make findings relative to their authorities. This section (below) addresses the eight factors listed in ANILCA 1104(g)(2) to help the agencies make the necessary findings.

ANILCA Factors

The paragraphs below are meant to provide cross-reference to other parts of the EIS where the ANILCA factors are discussed. The eight topics below would apply to ANILCA Title XI decisions for the Resurrection Pass Trail for both the Juneau Creek and Juneau Creek Variant alternatives. The eight factors, plus a ninth listed below, would apply to a Title XI decision for the KNWR (for the Juneau Creek Alternative only).

(A) "The need for, and economic feasibility of the transportation or utility system"

Chapter 1, Purpose and Need, addresses the need for the project. See (B) below regarding the need for a given alternative to be located within or across a CSU.

(B) "Alternative routes and modes of access, including a determination with respect to whether there is any economically feasible and prudent alternative to the routing of the system through or within a conservation system unit, national recreation area, or conservation area and, if not, whether there are alternative routes or modes which would result in fewer or less severe adverse impacts upon the conservation system unit."

ANILCA 1104(g)(2)(B) indicates that the agencies shall consider "whether there is any economically prudent and feasible alternative" that would avoid the CSUs and alternatives that would result in fewer or less severe adverse impacts on the CSUs. This is very similar to the

analyses needed under Section 4(f) law. See Chapter 4 and its discussions of avoidance and minimization of harm.

Chapter 2, Alternatives, explains the screening process behind selecting the reasonable alternatives for the EIS, including the Juneau Creek and Juneau Creek Variant alternatives, which cross CSUs. Section 3.5.2.2 in Economic Environment includes cost estimates of the various alternatives, to assist the agencies in considering economic feasibility. Section 4.4 in the Section 4(f) Evaluation chapter provides greater detail on alternatives that would avoid properties protected by Section 4(f), including both the Resurrection Pass Trail and the KNWR. Section 4.4.2 also addresses different modes (ferry) and the overall picture of protected lands on and adjacent to the Kenai Peninsula. Most specific to the properties in question are Section 4.6.3, regarding the KNWR, and Section 4.6.4, regarding the Resurrection Pass Trail; the "Measures to Minimize Harm" sub-headings are most pertinent, with "—Alignment Options" addressing the potential to move the highway and "—Design and Construction" addressing other methods that would result in fewer or less severe adverse impacts upon the CSUs.

(C) "The feasibility and impacts of including different transportation or utility systems in the same area."

Any future co-location of different transportation or utility systems would be separate uses of the conservation system units and would require separate consideration under ANILCA Title XI. No proposal or need for a power transmission or fiber optic line, pipeline, or railroad in the same corridor as the highway has been proposed or identified. However, if one were proposed, locating it adjacent to the proposed or existing Sterling Highway or in the highway right-of-way easement would be likely to minimize impact to Resurrection Pass Trail and KNWR Wilderness when compared to creating a separate easement across these CSUs. For some purposes, such as a petroleum pipeline or railroad, it may not be feasible or may be prohibitively expensive to place it at the same grades as those proposed for the highway on the new alignment (maximum 6 percent grades), and there may not be space in the narrow existing highway right-of-way easement that is constrained by steep slopes and the Kenai River banks. A power transmission line already exists in the project area (it crosses the KNWR CSU) and likely would be used instead of the highway right-of-way easements for upgrades or fiber-optic cables. Railroads and pipelines on this route are not considered likely uses in the long-term future.

(D) "Short- and long-term social, economic, and environmental impacts of national, State, or local significance, including impacts on fish and wildlife and their habitat, and on rural, traditional lifestyles"

ANILCA 1104(g)(2)(D) indicates that the agencies must consider a broad range of impacts, and specifies consideration of "fish and wildlife and their habitat" and "rural, traditional lifestyles." All of Chapter 3 addresses the broad range of potential impacts of the alternatives. Social and economic impacts are addressed particularly in Sections 3.3, Social Environment; 3.4, Housing and Relocation; and 3.5, Economic Environment. Fish and wildlife impacts are addressed in Sections 3.21 and 3.22, and further information on habitat may be found in Section 3.20, Wetlands and Vegetation.

(E) "Impacts, if any, on the national security interests of the United States, that may result from approval or denial of the application for a transportation or utility system"

National security interests are not explicitly spelled out elsewhere in the Final EIS. No substantial national security issues are known. However, the Sterling Highway is part of the Strategic Highway Network (STRAHNET) of highways identified for Department of Defense needs, as well as part of the National Highway System and Interstate Highway System, and is the only road connection between the North American road and transportation system and the Kenai Peninsula communities of Sterling, Kenai, Soldotna, Nikiski, Homer, and others. As part of STRAHNET, in case of a national emergency or disaster, the highway would be the critical overland transportation link for residents on the Kenai Peninsula and would provide ground transport routes for military supplies and troop deployments in case of a foreign invasion or threat. The purpose and need for the project expressed in Chapter 1 addresses these issues and the importance of the National Highway System and STRAHNET.

(F) "Impacts that would affect the purposes for which the Federal unit or area was established"

The Section 4(f) Evaluation (Chapter 4) describes the purposes for which the KNWR and Resurrection Pass Trail were established, and the effects to the activities, features, and attributes of these properties. Refer specifically to Sections 4.2.3 (KNWR) and 4.2.4 (Resurrection Pass National Recreation Trail) for background and Section 4.5 (Impacts of the Build Alternatives on Section 4(f) Resources) regarding impacts, including Section 4.5.1 (Overview) and specific subsections of Section 4.5 associated with the KNWR and Resurrection Pass Trail under headings for each alternative.

(G) "Measures which should be instituted to avoid or minimize negative impacts"

Each section of Chapter 3 details mitigation for all alternatives. Sections on Parks and Recreation (3.8) and on Wildlife (3.22) and Chapter 4 include mitigation associated with Resurrection Pass Trail and the KNWR, including wildlife movement in and out of the KNWR.

(H) "The short- and long-term public values which may be adversely affected …versus the short- and long-term public benefits…."

The entire Final EIS presents information for weighing public values adversely affected versus public benefits of approving the project. Specifically, Chapter 1 describes the Purpose and Need. Public benefits also are addressed in Section 3.6, Transportation. The Section 4(f) Evaluation (Chapter 4) is the most focused on potential adverse effects to Resurrection Pass Trail and the KNWR. Refer specifically to Sections 4.2.4 and 4.2.3. The evaluation of least overall harm in Section 4.8 also is a focused summary and discussion of tradeoffs. Section 3.25 addresses "Short-Term Uses Versus Long-Term Productivity" in general. Use of the Resurrection Pass Trail buffer by both alternatives would change but not reduce or eliminate the long-term public values of the recreation resource, and the changes would be mitigated by adding a critical connection in another long-distance trail, the Iditarod National Historic Trail.

Use of the KNWR by the Juneau Creek Alternative would reduce the long-term values of the Mystery Creek Wilderness and KNWR, and likely would be considered a symbolic change. Symbolically, the loss of Wilderness acreage and encroachment of a highway slightly nearer to the remaining Wilderness likely would be perceived as a loss of opportunities for solitude and

spiritual renewal. Within KNWR at the location of maximum separation, the new highway centerline would be within 750 feet of the existing highway centerline, and the new highway would merge with the existing, so the change in noise, visual environment, and Wilderness solitude would be an incremental change at the edge of the Wilderness area and not a wholly new change in the heart of the Wilderness unit, but nonetheless, it would be a long-term incremental loss of Wilderness values (see Section 3.2.1.1 for more on Wilderness values and Section 3.27.7.7 for more on incremental cumulative impacts to Wilderness recreation). The Juneau Creek Variant Alternative would avoid any use of Wilderness lands, but would create noise and light source impacts and would be a non-natural, engineered element in the visual landscape immediately outside the KNWR.

Providing a smoothly functioning highway built to current standards would provide another kind of long-term public benefit: these two alternatives would avoid most of the driveways and side roads in the community of Cooper Landing and the recreation destinations along the Kenai River between Cooper Landing and Sportsman's Landing (MP 47.5–55) and would thereby present a highly efficient public road resource built to current safety standards, a distinct improvement over the existing highway.

Subsistence. In addition to the eight factors listed in ANILCA, Department of the Interior regulations at 43 CFR § 36.7 add a ninth ANILCA factor for consideration for the USFWS as it makes its decision. By regulation, the USFWS as a Department of the Interior agency would need to consider this ninth item if the Juneau Creek Alternative were selected. The ninth item is "impacts, if any, on subsistence uses." An *ANILCA 810 Subsistence Evaluation* (Appendix D of this Final EIS) was completed for this project, and subsistence is addressed in Section 3.10.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

Mitigation proposed in other sections is intended to protect KNWR wildlife movement across the highway and in and out of the KNWR. Mitigation proposed in other sections is intended to minimize impacts to the Resurrection Pass Trail so it may continue to function as a popular and well-used public recreation resource and as a National Recreation Trail, and to enhance another long-distance trail in the Kenai River watershed, the Iditarod National Historic Trail commemorative route.

3.2.6 Environmental Consequences (State Plans)

3.2.6.1 No Build Alternative

Direct and Indirect Impacts

The No Build Alternative would result in no change regarding State-owned and State-selected lands addressed in the *Kenai Area Plan*. State Management Unit 395, at 1,087 acres, would be fully conveyable to the Borough (minus an existing Federal public road easement); it is anticipated that none of the State land would be retained in State ownership.

The No Build Alternative would result in no change regarding the recommendation of the *Kenai River Comprehensive Management Plan* that new public road construction be separated from the

Kenai River (see Section 3.2.1.5). Because no new construction would occur (only replacement of bridges and pavement, plus normal maintenance), the highway would not become "more enjoyable and safer" as called for in the plan. By not removing through-traffic and reducing congestion, improvements called for in the plan (better access points to the river, improved parking areas, new sanitation facilities, and the improvement of trails and fishing areas) would be more difficult to implement because problems associated with the existing highway would remain. Such problems include congested conditions and safety concerns associated with turning movements and access points. See Chapter 1 for more information on the problems in the existing corridor.

3.2.6.2 Issues Applicable to the Build Alternatives

The build alternatives each would affect State lands in different ways. As further described in the sections below, none would impede implementation of State plans.

3.2.6.3 Cooper Creek Alternative

Direct and Indirect Impacts

The Cooper Creek Alternative would partially meet the recommendation of the *Kenai River Comprehensive Management Plan* that new public road construction be located away from the Kenai River (see Section 3.2.1.5). The Cooper Creek Alternative would be about 14 miles long, and about 3.5 miles of it would be a segment built on a new alignment farther from the river. The rest of the alternative would follow the existing alignment, most of which is near the river. See also Section 3.17, Hazardous Waste Sites and Spills, regarding an assessment of the risk of fuel spills in or near the river. In accord with the plan, the remaining "old" highway likely would be "more enjoyable and safer" by removing through-traffic and reducing congestion.

The Cooper Creek Alternative would bridge over or pass through undeveloped strips of State land proposed as additions to KRSMA at Cooper Creek and near existing MP 52 (Map 3.2-5). It is possible that clearing of trees and construction of a highway and bridge piers would discourage the potential future formal designation of these lands as part of the State park unit. All build alternatives would widen the existing highway into roadside parcels recommended for addition to KRSMA near Kenai Lake (MP 46 area).

Selection of the Cooper Creek Alternative would not affect disposition or development of State Management Unit 395, discussed in the *Kenai Area Plan*. Development (or preservation) of these lands would depend on DNR, the Forest Service, and Borough actions independent of this project, and these scenarios are addressed in Section 3.27, Cumulative Impacts. An analysis discussed in Section 3.27 indicates that the entire 1,087 acres (minus an existing Federal road easement) would remain available for conveyance to the Borough under this alternative; it is anticipated that the State would retain none of this unit in State ownership. The alternative would cross the State's selection of State Management Unit 394B, but the land remains in Federal ownership (CNF) and does not appear to be slated for transfer to the State. The *Kenai Area Plan* indicates the land, if ultimately transferred to the State, would be held as wildlife habitat, so no State development plans would be affected. See related discussion in Section 3.27, Cumulative Impacts.

As shown on Map 4-8 in Chapter 4, the Cooper Creek Alternative would cross Stetson Creek Trail on CNF land. The road would truncate the trail. The State recognizes the trail as an RS

2477 public access right-of-way across adjacent Borough land. The trail would no longer connect from the Cooper Creek Campground area to Stetson Creek, but mitigation measures would ensure continued public access.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

Public access to the Stetson Creek Trail RS 2477 right-of-way (recognized by the State) would be maintained by constructing a new pullout trailhead uphill of the new highway. See detailed discussion in Chapter 4, in Section 4.5.2 and Section 4.6.6, and see Map 4-8.

3.2.6.4 G South Alternative

Direct and Indirect Impacts

The G South Alternative would partially meet the recommendation of the *Kenai River Comprehensive Management Plan* (DNR, ADF&G, KPB 1997) that new public road construction be located away from the Kenai River. The G South Alternative would be about 13.8 miles long, and about 5 miles of it would be a segment built on a new alignment farther from the Kenai River. The rest of the alternative would follow the existing alignment, most of which is near the river. See also Section 3.17, Hazardous Waste Sites and Spills, regarding an assessment of the risk of fuel spills in or near the river. In accord with the plan, the remaining "old" highway would likely be made "more enjoyable and safer" by removing through-traffic and reducing congestion. The plan also recommends no new bridges over the Kenai River, but the G South Alternative would require one new bridge over the Kenai River be constructed.

The G South Alternative would pass through two areas of undeveloped State land proposed as additions to KRSMA in the area between Bean Creek and Juneau Creek, and near the new bridge over the Kenai River (Map 3.2-5). It is possible that clearing of trees and construction of a highway, bridges, a temporary bridge access road to Juneau Creek, and a bridge construction staging area on these lands would discourage the potential future formal designation of these lands as part of the State park unit. Further discussion appears in the Park and Recreation Resources section (3.8) and Wildlife section (3.22). All build alternatives would widen the existing highway into roadside parcels recommended for addition to KRSMA near Kenai Lake (MP 46 area).

Selection of the G South Alternative would not affect future development of State Management Unit 395. Development (or preservation) of these lands would depend on DNR, the Forest Service, and Borough actions independent of this project, and these scenarios are addressed under Section 3.27, Cumulative Impacts. An analysis discussed in Section 3.27 indicates that the entire 1,087 acres (minus only a Federal public road easement) would remain available for conveyance to the Borough under this alternative; it is anticipated that the State would retain none of this unit in State ownership.

As shown on Map 4-8 in Chapter 4, the G South Alternative would cross Bean Creek Trail on State land. The road would truncate the trail near its southern end. The State recognizes the trail as an RS 2477 public access right-of-way across its own lands. Access to the trail would be mitigated.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

Public access to the Bean Creek Trail RS 2477 right-of-way (recognized by the State) would be maintained by constructing a grade separated underpass for a spur of the trail and a new trailhead uphill of the new highway. See detailed discussion in Chapter 4, Sections 4.5.3 and 4.6.5, and see Map 4-6.

3.2.6.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

The Juneau Creek and Juneau Creek Variant alternatives would partially meet the recommendation from the *Kenai River Comprehensive Management Plan* that new public road construction be located away from the Kenai River. The Juneau Creek Alternative would be about 14.5 miles long, and about 10 miles of it would be a segment built on a new alignment farther from the Kenai River. The Juneau Creek Variant Alternative would be about 14.1 miles long, and about 9 miles of it would be a segment built on a new alignment farther from the Kenai River. The rest of each alternative would follow the existing alignment, most of which is near the river. See also Section 3.17, Hazardous Waste Sites and Spills, regarding an assessment of the risk of fuel spills in or near the river. In accord with the plan, the remaining "old" highway would likely be made "more enjoyable and safer" by removing through-traffic and reducing congestion.

These alternatives would clip a corner of undeveloped State land proposed as an addition to KRSMA near Bean Creek (Map 3.2-5). Because this impact is on the edge of the unit, the presence of the new highway would be unlikely to change the potential future formal designation of these lands as part of the State park unit. All build alternatives would widen the existing highway into roadside parcels recommended for addition to KRSMA near Kenai Lake (MP 46 area).

Selection of either of the Juneau Creek alternatives would affect future development of State Management Unit 395, because the State would likely retain about 124 acres (Juneau Creek Alternative) or 127 acres (Juneau Creek Variant) for the highway right-of-way and for a 100-foot highway buffer on each side, as described in the *Kenai Area Plan*. Development (or preservation) of Unit 395 would depend on DNR, the Forest Service, and Borough actions independent of this project, and these scenarios are addressed under Section 3.27, Cumulative Impacts. An analysis discussed in Section 3.27 indicates that about 963 acres (Juneau Creek Alternative) or 960 acres (Juneau Creek Variant) of the 1,087-acre whole would remain available for conveyance to the Borough under these alternatives. An existing Forest Service road easement through the property also would reduce the conveyed acreage slightly.

As shown on Map 4-8 in Chapter 4, the two Juneau Creek alternatives would cross Bean Creek Trail on CNF land. The road would truncate the trail on its historic route. The State recognizes the trail as an RS 2477 public access right-of-way. Access for the trail would be mitigated.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

Public access to the Bean Creek Trail (an RS 2477 right-of-way recognized by the State) would be maintained by re-routing a segment of the trail to the west of its historic alignment so that it would pass under the eastern end of the Juneau Creek Bridge. See detailed discussion in Chapter 4, Sections 4.5.4 and 4.6.5, and see Map 4-10.

3.2.7 Environmental Consequences (Borough and Other Pertinent Plans)

The Borough-adopted plans are addressed under the headings for each individual alternative, below. The "other pertinent plans" are:

- The *North and South Sterling Byways Corridor Partnership Plan* recommended closure of informal and unsafe pullouts and construction or upgrade of others.
- The *Kenai Mountains - Turnagain Arm National Heritage Area Management Plan* recommended interpretive signs for historic properties along the Sterling Highway.

The project alternatives would address pullout concerns and interpretive signs in these plans to the extent described below for the No Build Alternative and Issues Applicable to the Build Alternatives.

3.2.7.1 No Build Alternative

Direct and Indirect Impacts

The Kenai Peninsula Borough's selection of State Unit 395 has been approved by DNR, and Borough plans to create rural residential lots for private ownership within this 1,087-acre area would be unaffected by the No Build Alternative. See further discussion in Section 3.27, Cumulative Impacts.

The No Build Alternative would not close, modify, or include any pullouts or otherwise address concerns in the *Corridor Partnership Plan*. Approximately 25 existing pullouts and parking areas would continue to exist within the highway right-of-way in the project area. No interpretive material would be provided along the highway.

3.2.7.2 Issues Applicable to the Build Alternatives

The project would partially address pullout issues raised in the *Corridor Partnership Plan*. Each of the build alternatives would provide one or two new pullouts or parking areas. The Fuller Lakes Trail pullout would remain under all alternatives, and pullouts located along the "Old Sterling Highway" segment left by each alternative would remain unchanged. Other informal pullouts would not be reconstructed. See "Pullouts" in the Section 3.6, Transportation, for detail.

By providing interpretive material, the project would help meet the goals of the *Kenai Mountains-Turnagain Arm National Heritage Area Management Plan*. Each of the build alternatives conceptually includes as mitigation for cultural resource impacts some interpretive signs making the Sqilantnu Archaeological District and historic trails better known to the general public. These signs most likely would be located at trailheads and campgrounds in the project area. Any interpretive material located outside the highway right-of-way on public lands or in association with public resources would be developed in consultation with the land manager. See Section 4.6 for greater discussion of this mitigation.

3.2.7.3 Cooper Creek Alternative

Direct and Indirect Impacts

The *Kenai Peninsula Borough Comprehensive Plan* (2005b) and its incorporated *Cooper Landing Land Use Classification Plan* may require amendment because the plan was developed based on the 1994 Draft EIS and a 1995 announcement by the DOT&PF Commissioner of the State's preference at that time for the Juneau Creek Alternative (the Cooper Landing plan created a preservation buffer along that alignment). According to Borough staff, if the Cooper Creek Alternative were constructed, the Borough likely would reconsider classifying land along the new alignment for a "preservation" buffer and likely would consider relinquishing the buffer along portions of the unused Juneau Creek Alignment, requiring a plan amendment (DOT&PF 2012d).

The Borough's selection of State Management Unit 395 has been approved by DNR, and Borough plans to create rural residential lots for private ownership within this 1,087-acre area would be unaffected by the Cooper Creek Alternative. See further discussion in Section 3.27, Cumulative Impacts.

The alternative is consistent with the intent of the *Cooper Landing Land Use Classification Plan*, because it would remove through-traffic from a large part of the core of the community (west of Snug Harbor Road/Cooper Landing Bridge), and less congestion may improve the pedestrian experience and support the community's *Walkable Community Project* plan, which was incorporated into the *Kenai Peninsula Borough Comprehensive Plan* by the Borough Assembly (Ordinance 2010-13). The "old" highway segments would not, however, be improved to include wider shoulders or a pedestrian path. The traffic, while considerably less in volume, would still include large RVs and vehicles with boat trailers, allowing no additional room for pedestrians or bikers using the highway to connect the community. This Sterling Highway MP 45–60 Project is not designed to address specific projects proposed in the *Walkable Community Project* plan; however, it would accomplish some of them at least in part:

- For the segment where the Cooper Creek Alternative would be built on the existing alignment in Cooper Landing (north of Snug Harbor Road/Cooper Landing Bridge), the project would include driveways instead of broad pull-off areas at businesses, creating more predictable and safer vehicle movements.
- Signs would be erected at approaches to the intersections of the Cooper Creek Alternative and the "old" highway to indicate how to get to the community of Cooper Landing, its businesses, and Cooper Creek Campground. These would, in part, serve to provide a "gateway" feel to the area.
- The Cooper Creek Alternative would add shoulders and straighten curves over about 11.5 miles of the existing highway.
- The replaced Cooper Landing Bridge would include a pedestrian walkway that would be an improvement over the current pedestrian walkway.
- Turning lanes would be added in the portion of Cooper Landing where the highway would be improved (north of Cooper Landing Bridge).

These features are consistent with projects proposed in *Walkable Community Project* plan.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

No mitigation is proposed.

3.2.7.4 G South Alternative

Direct and Indirect Impacts

The *Kenai Peninsula Borough Comprehensive Plan* (2005b) and its incorporated *Cooper Landing Land Use Classification Plan* may require amendment because the plan was developed based on the 1994 Draft EIS and a 1995 announcement by the DOT&PF Commissioner of the State's preference at that time for the Juneau Creek Alternative (the plan created a preservation buffer along that alignment). According to Borough staff, if the G South Alternative were constructed, the Borough likely would reconsider classifying land along the new alignment for a "preservation" buffer and likely would consider relinquishing the buffer along portions of the unused Juneau Creek Alternative, requiring a plan amendment (DOT&PF 2012d).

The Borough's selection of State Management Unit 395 has been approved by DNR, and Borough plans to create rural residential lots for private ownership within this 1,087-acre area would be unaffected by the G South Alternative. See further discussion in Section 3.27, Cumulative Impacts.

By removing through-traffic from the core of the Cooper Landing community, this alternative would reduce congestion, which may improve the pedestrian experience and support the community's *Walkable Community Project* plan, which was incorporated into the *Kenai Peninsula Borough Comprehensive Plan* by the Borough Assembly (Ordinance 2010-13). The "old" highway segments would not, however, be improved to include wider shoulders or a pedestrian path. The traffic, while considerably less in volume, would still include large RVs and vehicles with boat trailers, allowing no additional room for pedestrians or bikers using the highway to connect the community. This project is not designed to address specific projects proposed in the *Walkable Community Project* plan; however, it would accomplish some of them at least in part:

- Signs would be erected at approaches to the intersections of the G South Alternative and the "old" highway to indicate how to get to the community of Cooper Landing, its businesses, and Cooper Creek Campground. These would, in part, serve to provide a "gateway" feel to the area.
- The G South Alternative would add shoulders and straighten curves over about 9.8 miles of the existing highway.

These features are consistent with projects proposed in the *Walkable Community Project* plan.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

No mitigation is proposed.

3.2.7.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

The Juneau Creek and Juneau Creek Variant alternatives would be consistent with the *Kenai Peninsula Borough Comprehensive Plan* (2005b) and its incorporated *Cooper Landing Land Use Classification Plan*, because these planning documents assumed the Juneau Creek Alternative was going to be the route selected. Moreover, the Cooper Landing plan specifically states "NO access to or from the new alignment other than the departure from the existing road at either end of the bypass. The NO ACCESS issue is not a matter taken lightly by the community" (CLAPC (1996); emphasis in original text). Developed public access to lands along the new alignment would be limited to construction of a new trailhead serving Resurrection Pass Trail and a pullout east of the proposed Juneau Creek Bridge (see Chapter 4). The preservation buffer shown in the Borough plans along the assumed new highway alignment may need to be adjusted to match the actual alignment once it undergoes final design.

The Borough's selection of State Management Unit 395 has been approved by DNR. Borough plans to create rural residential lots for private ownership within this 1,087-acre area would be affected by selection of either of the Juneau Creek alternatives. If one of these alternatives were selected, the State likely would retain 124 acres (Juneau Creek Alternative) or 127 acres (Juneau Creek Variant) in State ownership for the highway right-of-way across Unit 395 and for a highway buffer 100 feet wide, as called for in the *Kenai Area Plan*. See further discussion in Section 3.27, Cumulative Impacts. The analysis discussed in Section 3.27 indicates that the potential for rural residential lots would be reduced from an estimated 146 lots to 126 lots (Juneau Creek Alternative) or 128 lots (Juneau Creek Variant)—a reduction of about 12 percent. The reduction of acreage likely would mean that the Borough would qualify to take ownership of other State lands elsewhere. Borough plans for settlement are made to attract and provide for the Borough population and to add to its tax base. The reduction in development potential would affect Borough settlement patterns and could change the overall taxable land base.

By removing through-traffic from the core of the Cooper Landing community, these alternatives would reduce congestion, which may improve the pedestrian experience and support the community's Walkable Community Project plan, which was incorporated into the *Kenai Peninsula Borough Comprehensive Plan* by the Borough Assembly (Ordinance 2010-13). The "old" highway segments would not, however, be improved to include wider shoulders or a pedestrian path. The traffic, while considerably less in volume, would still include large RVs and vehicles with boat trailers, allowing no additional room for pedestrians or bikers using the highway to connect the community. This project is not designed to address specific projects proposed in the *Walkable Community Project* plan; however, it would accomplish some of them at least in part:

- Signs would be erected at approaches to the intersections of the Juneau Creek and Juneau Creek Variant alternatives and the "old" highway to indicate how to get to the community of Cooper Landing and its businesses, the Cooper Creek and Russian River campgrounds, boat launches, and other recreation amenities. These signs would, in part, serve to provide a "gateway" feel to the area.

- The Juneau Creek and Juneau Creek Variant alternatives would add shoulders and straighten curves over about 5.5 miles and 6.3 miles of the existing highway, respectively.

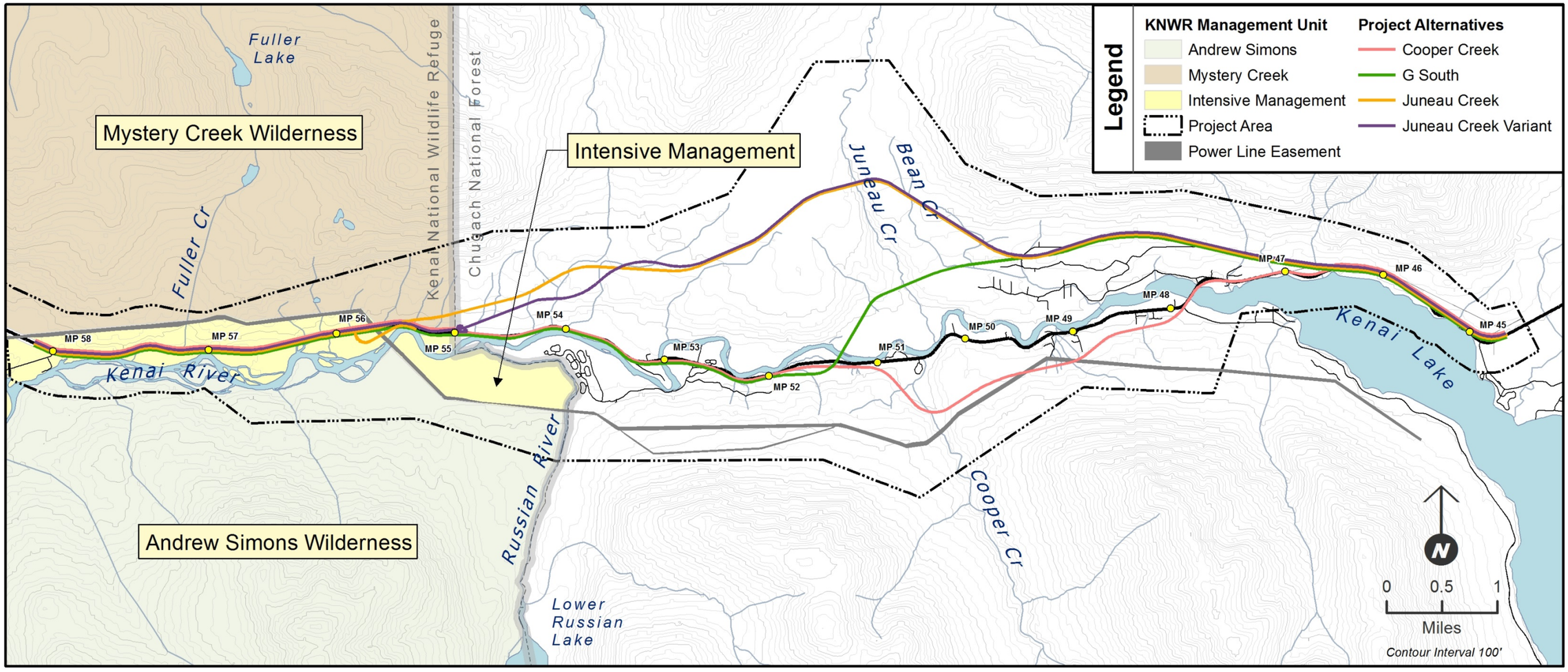
These features are consistent with projects proposed in the *Walkable Community Project Plan*.

Construction Impacts

No construction impacts separate from the permanent impacts discussed above are anticipated.

Mitigation

No mitigation is proposed.



Map 3.2-1. Kenai National Wildlife Refuge management designations

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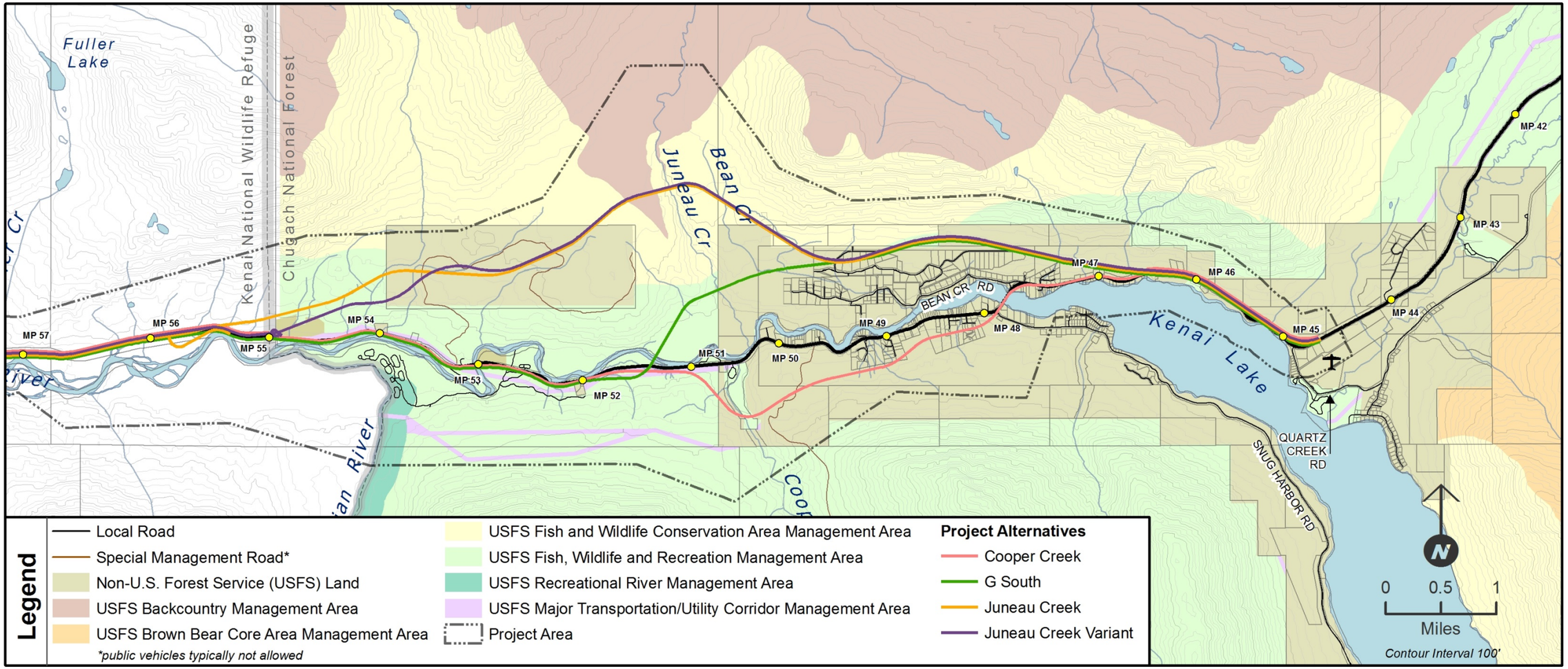

Map 3.2-2. U.S. Forest Service land prescriptions [Updated]

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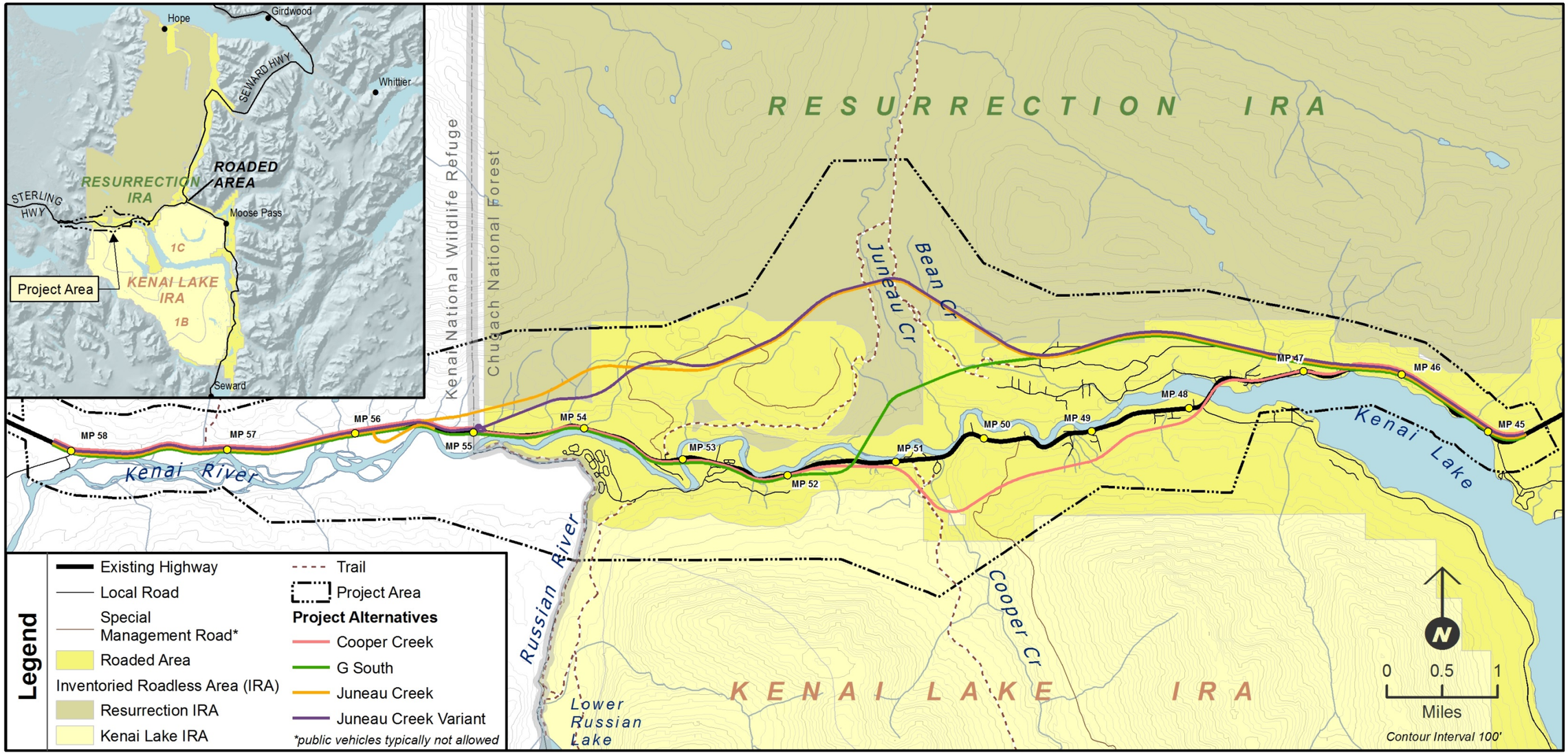

Map 3.2-3. Inventoried Roadless Areas [Updated]

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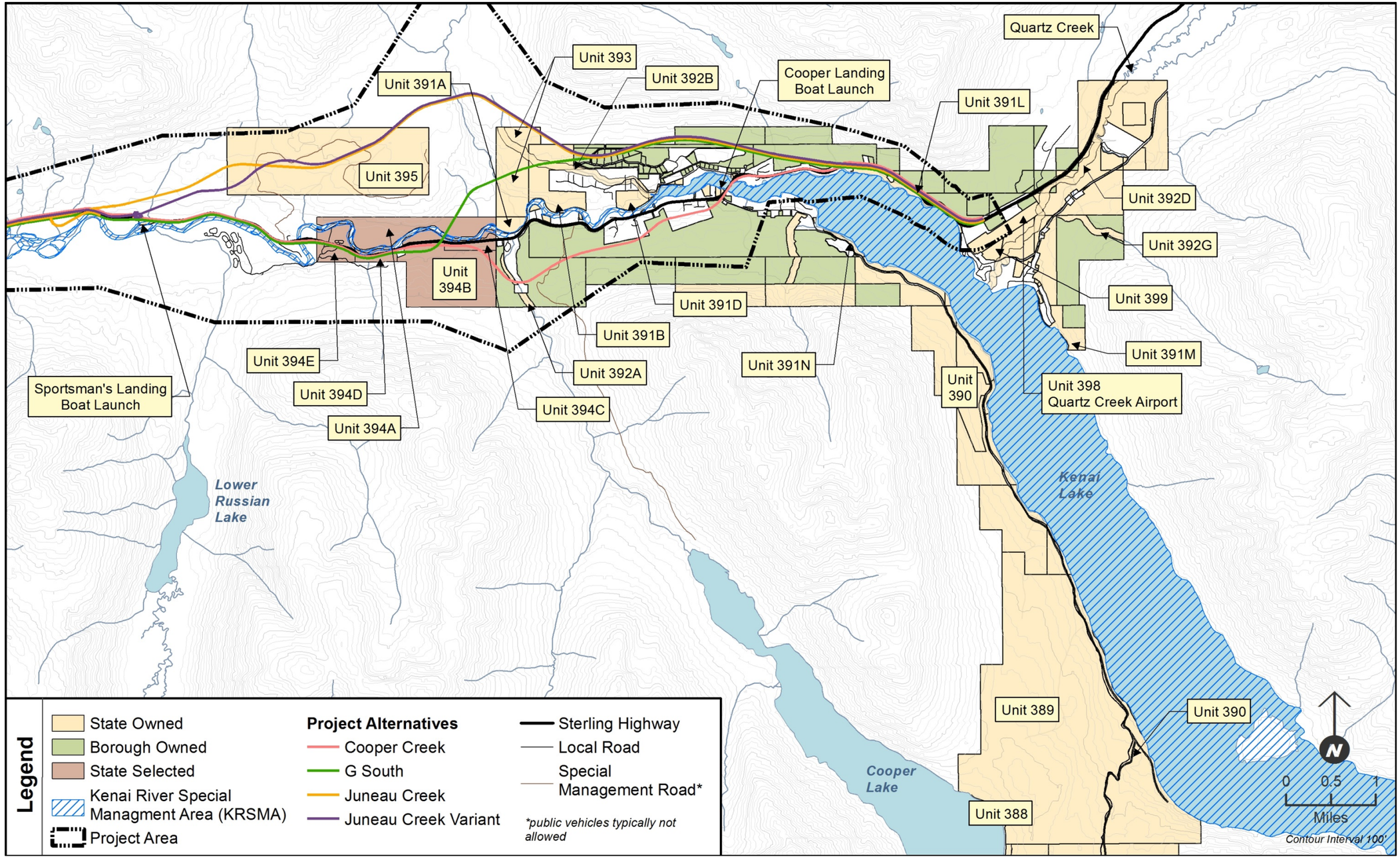

Map 3.2-4. *Kenai Area Plan* management units [Updated]

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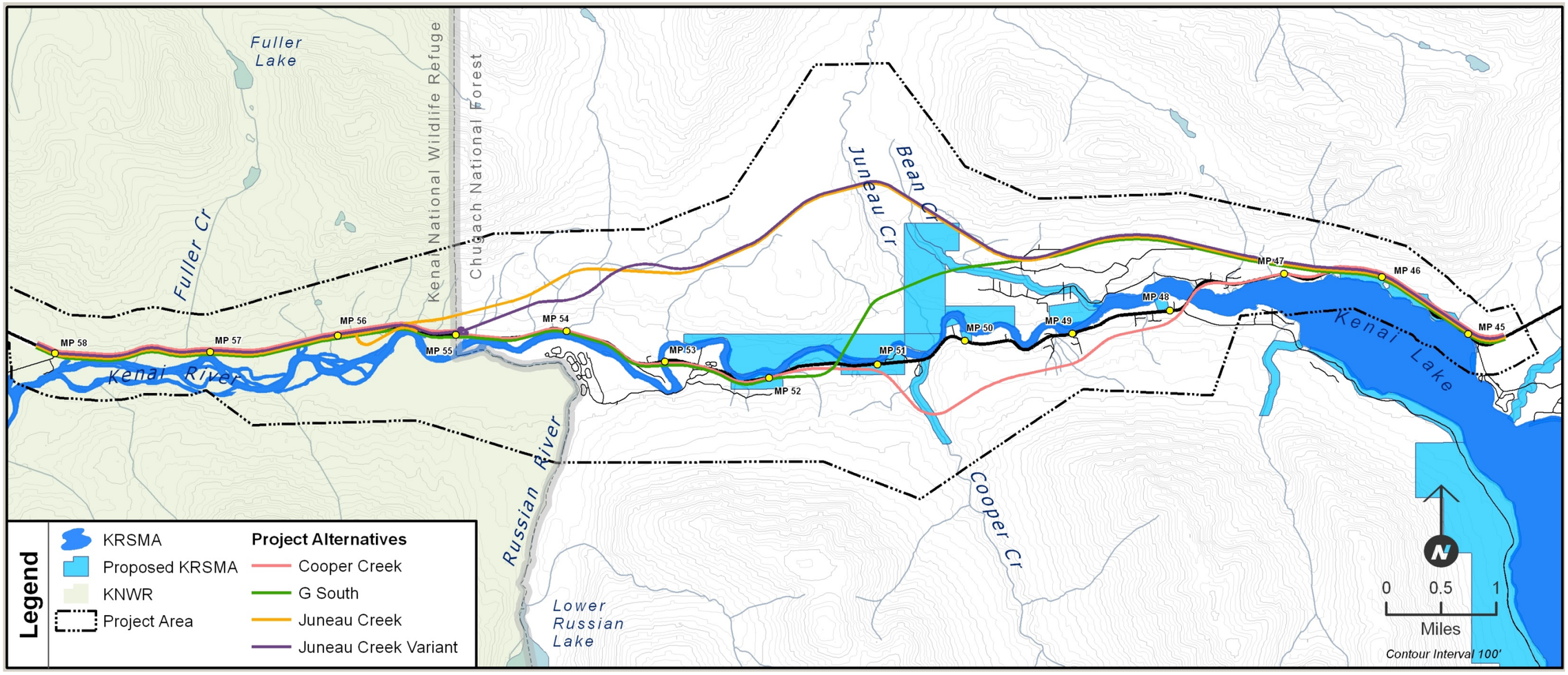

Map 3.2-5. Kenai River Special Management Area (KRSMA)

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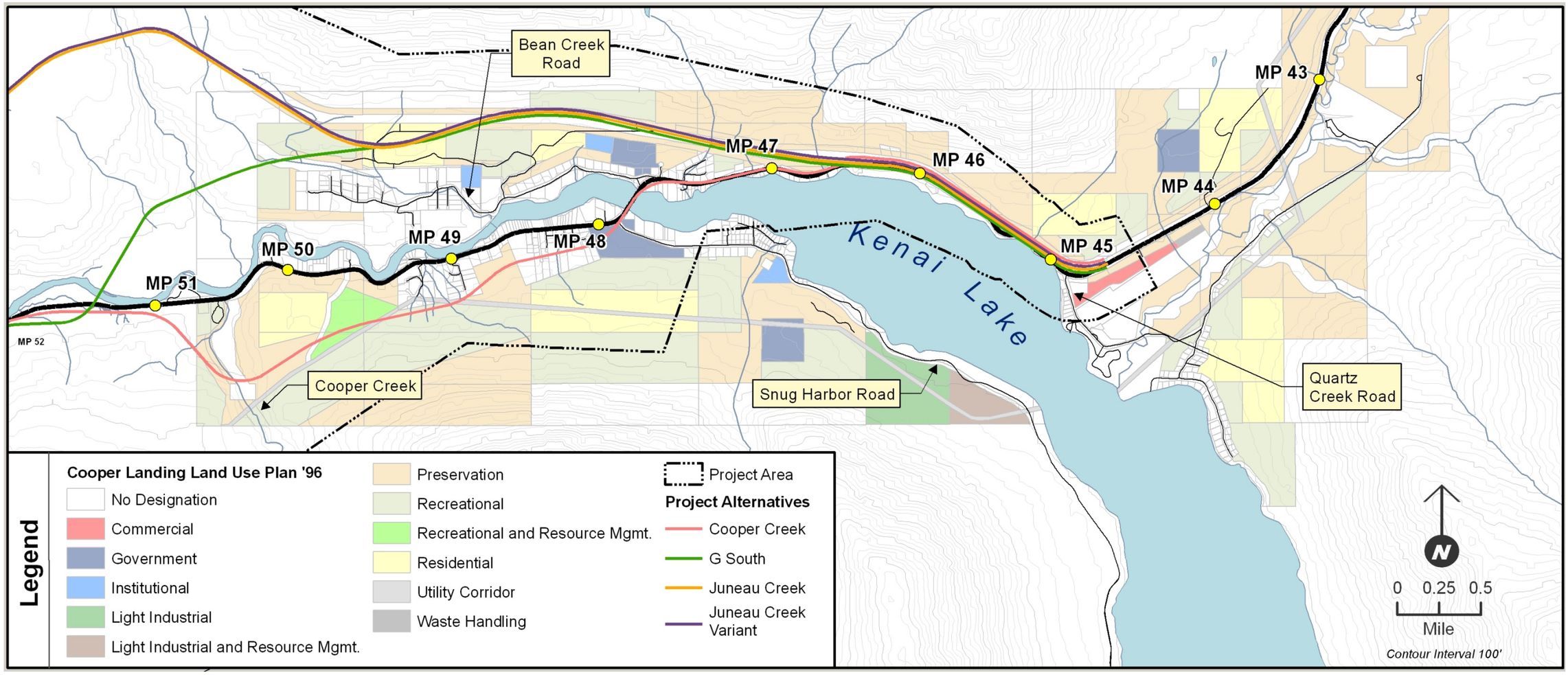

Map 3.2-6. Cooper Landing planning areas

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