

3.5 RECREATION

The Environmental Impact Statement (EIS) analysis area for recreation is defined as the area from Lake Clark National Park and Preserve south to Katmai National Park and Preserve, and from the Nushagak River east to the western Kenai Peninsula (Figure 3.5-1). This area is mostly remote and undeveloped. These lands and waters support a wide variety of dispersed recreational activities, including sport hunting, hiking, camping, and snowmachining. Due to the economic importance of fishing and subsistence in this region, recreational and commercial fishing and subsistence are discussed in other sections (see Section 3.6, Commercial and Recreational Fisheries, and Section 3.9, Subsistence).

3.5.1 Recreation Management

3.5.1.1 State Lands

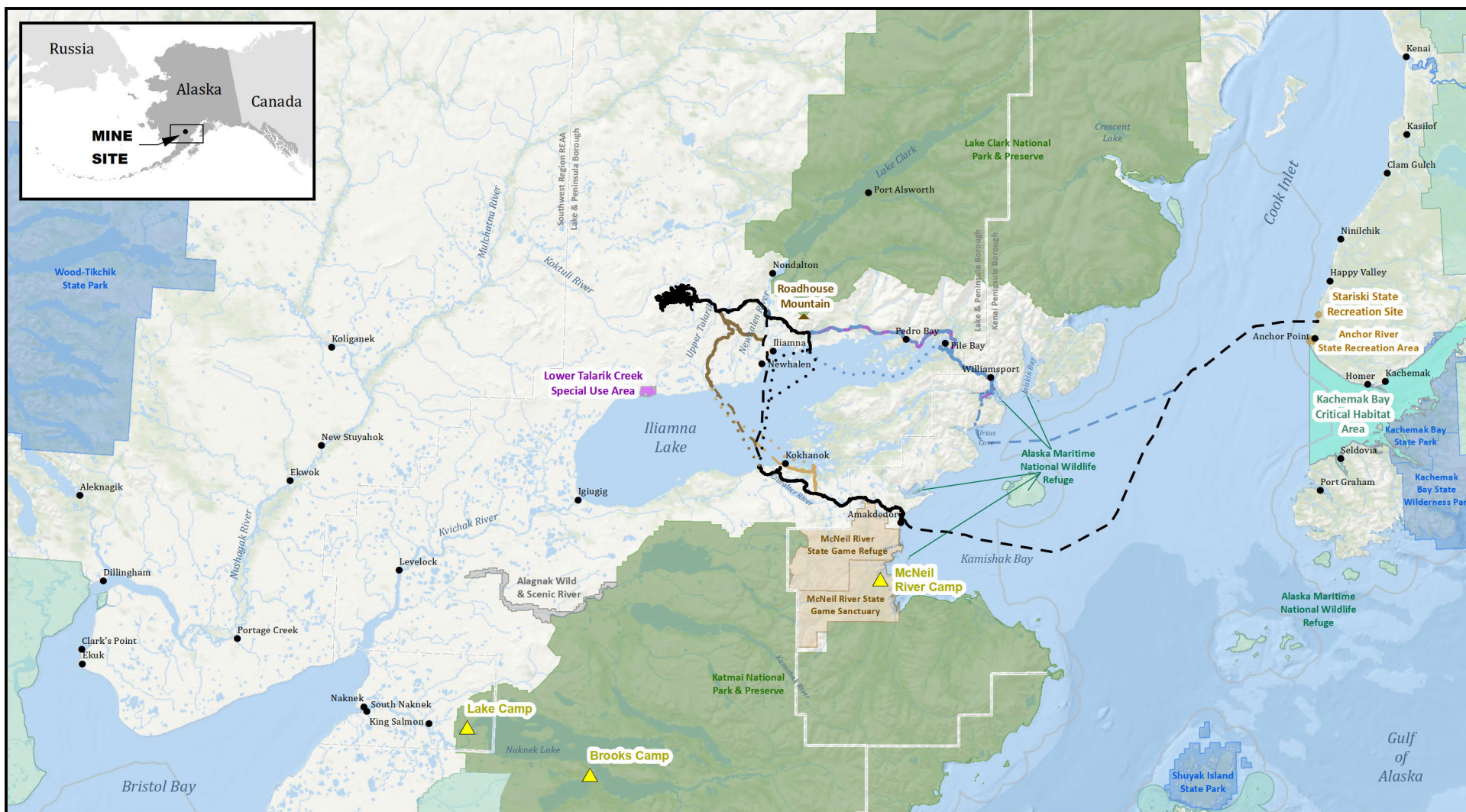
Alaska Department of Fish and Game

McNeil River State Game Sanctuary and Refuge

The McNeil River State Game Sanctuary (Sanctuary) and Refuge (Refuge) are south of the Amakdedori port site and port access road. They extend north and east from Katmai National Park and Preserve to the shore of Kamishak Bay. The refuge is the northern portion of the unit. The Sanctuary hosts visitor facilities (campground, visitor support buildings, trails) and a brown bear viewing program, which primarily occurs at McNeil River, Mikfik Creek, and along the coast. The Refuge does not have any developed visitor facilities. Most bear-viewing activities in the refuge occur near Chenik Creek. Guided bear viewing and private visitor bear viewing occurs during the month of July. The boundary of the refuge would be within a mile of Alternative 1a and the Alternative 1 port access road (approximately 630 feet at its nearest point) and 2 miles from Amakdedori port. The refuge boundary would be more than 10 miles from Alternative 2—North Road and Ferry with Downstream Dams or Alternative 3—North Road Only components.

The McNeil River State Game Refuge and Sanctuary were established for the purpose of preserving wildlife habitats and unique brown bear concentrations, managing human use and activities compatible with that purpose, to maintain and enhance unique bear viewing opportunities in the sanctuary, and provide opportunities for compatible wildlife-related uses. The 2008 Management Plan includes policies that support low-intensity recreational uses such as information and education, camping, boating, hunting, trapping, fishing, hiking, photography, and wildlife viewing (ADF&G 2008a).

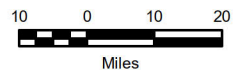
The Sanctuary is closed to all hunting and trapping, while the Refuge is closed to brown bear hunting, but open to other hunting and trapping. Fishing is allowed in portions of the refuge and sanctuary.



Sources: PLP 2020-RF1168;
PLP 2019-RF1153; ADN



US Army Corps
of Engineers®



Action Alternatives

- Ferry Routes
- Natural Gas Pipelines
- Alternative 1a
- Alternative 1
- Alternative 1 Kokhanok East Ferry Terminal Variant
- Alternative 2

- Alternative 2 Newhalen River North Crossing Variant
- Alternative 3
- Other Features**
- Camps
- Borough Boundary
- Three Nautical Mile Line
- National Park

- National Wildlife Refuge
- Alaska State Park
- Wild and Scenic River
- State Game Refuge/Sanctuary
- Critical Habitat Area
- State Recreation
- Special Use Area

PEBBLE PROJECT EIS

REGIONAL RECREATION AREAS

FIGURE 3.5-1

Kachemak Bay Critical Habitat Area

Kachemak Bay, south of Homer, has been designated as a State of Alaska Critical Habitat Area and a National Estuarine Research Reserve, the largest in this system of reserves (NOAA no date). The bay has year-round fish and shellfish populations and hosts tens of thousands of seabirds, shorebirds, and waterfowl in the spring, summer, and fall. Main access to the bay is from the Homer Spit, although access is also available from Seldovia and other small communities around the bay. Popular recreational activities in the bay include sport fishing and wildlife-watching tours in the summer, and clamming on low tides throughout the year. The area is open to most public uses without a permit (ADF&G 2018o). The Critical Habitat Boundary is southwest of Anchor Point, about 4 miles from the natural gas pipeline for all alternatives.

Alaska Department of Natural Resources

Bristol Bay Area Plan

The Bristol Bay Area Plan (BBAP) directs the management of State lands just inland of Cook Inlet, west to Bristol Bay. The plan includes a stated goal to provide land for accessible outdoor recreational opportunities with recreational facilities where the demand warrants. The EIS analysis area would occur in Regions 6, 8, 9, and 10 of the plan area.

A variety of general uses are allowed on State lands without a permit from the Division of Mining, Land, and Water. Such uses include hiking, backpacking, skiing, horseback riding, using a vehicle (below a certain weight depending on the type of vehicle), landing an aircraft, using watercraft, hunting, fishing, trapping, harvesting plants, recreational gold panning, hard-rock mineral prospecting or mining, and non-commercial camping (ADNR 2011). The BBAP states that recreational uses in the Bristol Bay area include camping, hunting, sport fishing, river excursions, and wildlife viewing, rafting, and jetboat tours. Permanent facilities related to commercial recreation are prohibited in Unit 23 (ADNR 2013a).

In Region 6, the EIS analysis area (specifically, the mine site and a portion of the transportation corridors for all alternatives) is in Unit 23—Pebble and Unit 24—Pebble Streams. Both of these units are designated Minerals, a designation that is given to areas associated with significant resources that may experience mineral exploration or development.

In Region 8, the Alternative 1a and Alternative 2 mine access roads and the Alternative 3 transportation corridor would be in two units: Unit 5—Newhalen River, and Unit 6—Roadhouse Mountain. Unit 5 is designated as Settlement to facilitate remote recreational use and community expansion west of the Newhalen River. The BBAP also notes that there are several lakes accessible by floatplane in this unit (ADNR 2013a). Unit 6, which encompasses lands around Roadhouse Mountain, is designated as General Use, to be managed for a variety of uses, including dispersed recreation. In addition, some forms of recreational use, including commercial, may be appropriate in the unit (ADNR 2013a).

In Region 9, the Alternative 1a and Alternative 1 port access road southeast of Iliamna Lake would be in Unit 7—Tommy Creek/Chigmit. Unit 7 is designated General Use, and is managed for a variety of uses, including dispersed recreation. General Use areas are not intended for intensive forms of development other than occasional use at specific sites, usually associated with mining, oil and gas exploration, or recreation (ADNR 2013a). The Alternative 3 transportation corridor would be in small portions of Unit 1A—Moose Wintering Areas—NE Iliamna Lake. This unit is designated Habitat and Public Recreation and Tourism—Dispersed. This unit is managed for dispersed recreation and habitat values. The joint designation of Habitat and Public Recreation and Tourism—Dispersed Use applies to navigable rivers in the region (along with Iliamna Lake);

authorizations in these waterbodies should not interfere with recreational uses or navigability (ADNR 2013a).

In Region 10, a portion of the Alternative 1 transportation corridor (north of Iliamna Lake) and a portion of the Alternative 1a, Alternative 2, and Alternative 3 transportation corridors would be in Unit 1—Upper Talarik Creek and Unit 2—Pebble 2. Unit 1 is designated General Use, and is to be managed for a variety of uses, including public recreation and tourism. Unit 2 is designated Minerals and Habitat. Specifically, Upper Talarik Creek, in both Unit 1 and Unit 2, is to be protected for its recreational, habitat, and water resource values. Permanent, commercial recreation-related facilities are prohibited in Unit 2. The BBAP also notes that impacts to dispersed recreation along Talarik Creek should be avoided in Unit 2 (ADNR 2013a).

The Nushagak River and the Mulchatna River headwaters and lands that provide the waters for these rivers (e.g., Koktuli River) include the mine site lands, and are managed by the Alaska Department of Natural Resources (ADNR) under the Nushagak and Mulchatna Rivers Recreation Management Plan (ADNR 2005). More information is provided in Section 3.2, Land Ownership, Management, and Use.

Lower Talarik Creek Special Use Area

The Lower Talarik Creek Special Use Area was established in 1999, and is designated as a public recreation and public use tourism site. This area is 10 miles from the mine site and 10 miles from the Alternative 1 transportation corridor. This area is used for commercial and non-commercial sport fishing and hunting (ADNR 2013a).

Kenai Area Plan

The Kenai Area Plan (KAP) directs the management of State lands on the Kenai Peninsula and the western side of Cook Inlet. The eastern end of the gas pipeline (under all alternatives) would be in Region 7, while Amakdedori port, Diamond Point port, the eastern end of the Alternative 1a and Alternative 1 port access road, and the western end of the underwater portion of the gas pipeline corridor (under all alternatives) would be in Region 12 of the KAP plan area.

On the Kenai Peninsula, the eastern end of the gas pipeline (for all alternatives) would be in the KAP Unit 552—Deep Creek to Anchor Point Tidelands, which is designated Habitat, Harvest, and Public Recreation and Tourism – Dispersed Use. The compressor station would be on State lands just inland of Unit 552; the KAP notes that there are outstanding scenic and recreational values, clam digging, and beach combing in this unit. The nearest public recreation areas are the 60-acre Stariski State Recreation Site, 1.2 miles north of the compressor station; and Anchor River State Recreation Area at the mouth of the Anchor River, 3.5 miles south of the compressor station. Both sites offer camping and picnicking. Stariski does not offer water access, whereas Anchor River provides boat and fishing access. Both sites are accessible via the Sterling Highway.

In KAP Region 12, Alternative 1a and Alternative 1 components, including a portion of Amakdedori port, the western end of the underwater portion of the gas pipeline, and the Kamishak Bay lightering location, would be in Unit 522A—Region 12 General Use Tidelands, which is designated Public Recreation and Tourism—Dispersed Use. The KAP notes that beaches in this unit are used for aircraft landing, and there is commercial fishing activity in the unit (ADNR 2001).

The eastern end of the Alternative 1a and Alternative 1 port access road and a portion of the Amakdedori port would be in Unit 19—Bruin Bay Uplands, which is designated Habitat. This unit contains habitat for brown bear (spring feeding), moose, Dolly Varden/Arctic char, seabird nesting, ducks and geese, and herring spawning. The head of Bruin Bay, north of the facilities, is highly scenic and has nice beaches (ADNR 2001). Given the habitats and species in this unit and

expanse of State lands, there is likely some hunting, fishing, wildlife viewing, and beach combing use in Unit 19.

The Alternative 1a and Alternative 1 pipeline would also pass south of Augustine Island, while the Alternative 2 and 3 gas pipeline would pass north of the island, and a lightering location for all alternatives would be west of the island. The island itself is under an Interagency Land Management Assignment to the University of Alaska for research, and is managed for scientific and educational purposes. The island is also part of the Alaska Maritime National Wildlife Refuge. The plan states that any authorized recreational uses of the island should minimize impacts on research opportunities and natural processes on the island. State lands are in Unit 522A both immediately south of the island, as well as slightly north of the island. The plan designates this unit as Public Recreation and Tourism, and notes that these areas attract recreationists that range throughout the area and may have a high potential for dispersed recreation because of desirable recreational conditions (ADNR 2001). It is assumed that recreational opportunities in the waters surrounding the island include sightseeing, fishing, wildlife viewing, and boating.

The Diamond Point port under Alternative 2 and Alternative 3 would be in Region 12 Unit 587—Iniskin Peninsula and Bay Tidelands and Unit 522A (described above). The Iniskin Bay lightering location would also be in Unit 587, which is designated as Habitat. This unit contains habitat for waterfowl, harbor seals, Pacific herring spawning and migration, juvenile fish/shellfish rearing, anadromous fish, and bears. Commercial fishing occurs in this unit, and there may be potential requests for mooring buoys for ships to use during log loading (ADNR 2001). There is likely recreational fishing and wildlife viewing use in Unit 587.

The portion of the gas pipeline for Alternative 2 and Alternative 3 in Cottonwood Bay and Ursus Cove crosses Unit 522A (described above), Unit 590—Head of Cottonwood Bay Tidelands, and Unit 594—Ursus Cove Tidelands. Units 590 and 594 are both designated Habitat. Commercial fishing activity occurs in both units 590 and 594. Given the fish habitat in this unit, there is likely also recreational fishing use of both units.

3.5.1.2 Federal Lands

National Park Service

The National Park Service (NPS) is charged with promoting and regulating the use of national parks and preserves to conserve the natural and cultural areas, scenery, and wildlife for the enjoyment, education, and inspiration of this and future generations. The following section provides information on the recreational uses and management of the three NPS units in the regional recreation area of the project.

Lake Clark National Park and Preserve

Lake Clark National Park and Preserve includes the private community of Port Alsworth and is not accessible by road. The boundary of the park and preserve is about 15 miles northeast of the mine site, and 3 miles from the Alternative 1a and Alternative 2 and Alternative 3 mine access road (at the closest point, which is the northern side of Roadhouse Mountain). The park covers the eastern two-thirds of the park unit and the preserve is a north-to-south strip of land adjacent to the western side of the national park. Most of the park is designated Wilderness, and it is the sixth largest park unit in the nation.

The purpose of Lake Clark National Park and Preserve is to “protect a region of dynamic geologic and ecological processes that create scenic mountain landscapes, unaltered watersheds supporting Bristol Bay red salmon, and habitats for wilderness dependent populations of fish and wildlife, vital to 10,000 years of human history” (NPS 2009c). It is managed to provide for visitor

access, recreation, and use in the park unit, including development, access, commercial use, visitor use, visitor information, and interpretive materials (NPS 1984). The preserve is primarily land determined suitable—and is included in lands proposed to Congress—for Wilderness designation; therefore, it is managed to maintain its wilderness eligibility.

Lake Clark National Park and Preserve's 2010 Long Range Interpretive Plan describes desired visitor recreational experiences as opportunities to hike, explore, and camp in a trail-less wilderness with no signs of human impact; experience solitude in a pristine unchanged natural landscape of extraordinary scenic quality and character; fish for all species that inhabit the park; discover the subsistence lifestyle; circumnavigate Lake Clark via kayak; see the watershed of Bristol Bay protected in perpetuity, including clean water and clean shorelines; see salmon spawning; hunt for moose, spruce hens, and other species; pick berries; collect drinking water; hear natural sounds; experience the remote natural landscape encompassing the cultural heritage and history of the region; and other descriptions of undeveloped recreational opportunities (NPS 2010).

The following recreational activities are available in Lake Clark National Park and Preserve: sightseeing, backpacking/overnight camping, boating, wildlife viewing, group camping, hiking/walking, kayaking, mountaineering, paddle boarding, photography, sport fishing, sport hunting, skiing, and snowshoeing (NPS 2018a).

Katmai National Park and Preserve

The Katmai National Park and Preserve boundary is approximately 7 miles south of the Alternative 1a and Alternative 1 port access road at its nearest point. This NPS unit is primarily national park, with the preserve adjacent to the western part of the northern boundary of the park. Most of the park is designated Wilderness, and it is the fifth largest park unit in the nation. There are also over 20,000 acres of privately owned lands in the unit (Kevin Waring and Associates 2011b).

The purpose of Katmai National Park and Preserve is “to protect, study, and interpret active volcanism surrounding the Valley of Ten Thousand Smokes, extensive coastal resources, habitats supporting a high concentration of salmon and brown bears, and an ongoing story of humans integrated with a dynamic subarctic ecosystem” (NPS 2009d).

The following recreational activities are available in Katmai National Park and Preserve: sightseeing, backpacking/overnight camping, boating, wildlife viewing, group camping, hiking/walking, kayaking, photography, sport fishing, and sport hunting (NPS 2018a).

Alagnak Wild River

The Alagnak River is designated a Wild River in the Wild and Scenic Rivers System. The Wild and Scenic Rivers Act was enacted to protect certain rivers with outstanding natural, cultural, and recreational values for the benefit and enjoyment of present and future generations. The Alagnak Wild River consists of 67 miles of river corridor that is mostly (i.e., 93 percent) federally owned, with some privately owned Native Allotments and other private inholdings in the river corridor. The Wild River begins downstream of Kukaklek Lake, and flows westward, although the last 12 miles of the Alagnak River are outside the designated corridor. The river was designated a Wild River in 1980, and there is no road access to it (Kevin Waring and Associates 2011b). This river is approximately 50 miles south of the Alternative 1 mine access road at its nearest point.

The following recreational activities occur in the Alagnak Wild River: sightseeing, backpacking/overnight camping, boating, wildlife viewing, group camping, hiking/walking, photography, and sport fishing (NPS 2018a).

US Fish and Wildlife Service

Alaska Maritime National Wildlife Refuge

The Alaska Maritime National Wildlife Refuge (NWR) includes 3.4 million acres (USFWS 2013a) from Forrester Island in southeastern Alaska to the tip of the Aleutian chain, and almost to Utqiagvik on the Arctic Ocean (USFWS 2011a). In the EIS analysis area, there are several islands that are near project facilities. Augustine Island would be 7.5 miles north of the Alternative 1a and Alternative 1 pipeline, and approximately 6 miles south of the Alternative 2 and Alternative 3 pipeline, as well as 2.5 miles east of the Amakdedori port and Iniskin Bay offshore lightering locations (for all alternatives). Cook Inlet islands east of McNeil River State Game Refuge would be 7.5 miles south of Amakdedori port and the Alternative 1a and Alternative 1 gas pipeline. White Gull Island in Iliamna Bay would be 2.6 miles from Diamond Point port. Several islands at the mouth of Iniskin Bay would be 7.5 miles from the Diamond Point port, and less than 1 mile from the offshore lightering location in Iniskin Bay.

The purposes of the Alaska Maritime NWR are conservation, treaty obligations, subsistence use, scientific research, and water quality/quantity. The wildlife resources in the Alaska Maritime NWR attract recreational visitors. As stated in the Land Protection Plan for the NWR, “the Alaska Maritime Refuge is managed to conserve native fish and wildlife populations and their habitats, while providing opportunities for subsistence, compatible types of recreation, and research” (USFWS 2011a). Recreational use of the NWR includes hunting, wildlife viewing, photography, interpretation/environmental education, hiking, and camping (USFWS 2014a).

3.5.1.3 Private Land

Land owned by Native corporations and Native Allotments are considered to be private property, and therefore are not open for public recreational use. Permission and/or permits for access and seasonal recreational use of these lands must be obtained from the landowner. Similar to nearby State lands, it is likely that hunting and fishing are the primary permitted/allowed recreational uses of private land in the EIS analysis area.

3.5.2 Regional Recreation

The region around the project infrastructure is primarily accessed via small aircraft, except for the Kenai Peninsula area near the eastern end of the gas pipeline (under all alternatives), which is accessible via road. There is a limited road system that connects Iliamna with Newhalen, and supports sport fishing activities and lodges. The few developed public recreation facilities that are present in the area are generally accessed via air or water.

3.5.2.1 Recreation Opportunities

Sport Fishing

Sport fishing is the primary recreational activity that occurs in the EIS analysis area. Rivers such as the Nushagak, Mulchatna, Gibraltar, Kvichak, Koktuli, and Upper and Lower Talarik Creek, as well as Iliamna Lake, Lake Clark, and all surrounding aircraft-accessible lakes support recreational fishing for species of salmon, rainbow trout, and other freshwater fish. Sport fishing use is increasing in the area; most public use is guided, with operators flying their clients to a place for the day from nearby lodges, or basing out of camps established nearby. Sport fishing is managed by the Alaska Department of Fish and Game (ADF&G) through a permit system for guides, regulations, and the board process. The ADF&G uses a number of tools such as effort,

catch, harvest information, abundance, and size composition to manage sport fishing. For information on sport fishing effort, see Section 3.6, Commercial and Recreational Fisheries.

Sport Hunting and Trapping

Hunting, primarily for moose, caribou, and bear, is a major recreational activity in the region (Kevin Waring and Associates 2011b). Much of the region is open to sport hunting, except Lake Clark National Park, Katmai National Park, and McNeil River State Game Sanctuary. However, hunting and trapping are allowed by the NPS and State of Alaska in the Lake Clark National Preserve, Katmai National Preserve, and McNeil River State Game Refuge (excluding brown bears in the refuge) (ADF&G 2018e; NPS 2017g, 2018a). Hunting and trapping are also allowed in the Alagnak Wild River and on certain islands in the Alaska Maritime NWR (NPS 2016a; USFWS 2014a). State lands are open to hunting unless otherwise restricted by the ADF&G, which manages hunting in Alaska. Hunting on private property, including on village corporation lands and Native Allotments, requires landowner permission.

The NPS and State of Alaska cooperatively manage wildlife resources in the three regional NPS units (Lake Clark, Katmai, Alagnak Wild River), and hunters in these units must follow current state and federal hunting regulations and must have all required licenses and registrations (NPS 2016a, 2017g, 2018a). Lake Clark National Preserve is divided into three authorized hunting guide areas; there are currently two concessioners authorized to guide sport hunters in these areas. Alaska residents may hunt without a guide (NPS 2017g). There are also two concessioners authorized to guide sport hunters at Katmai National Preserve (NPS 2018a). The Refuge is open to hunting and trapping of various species, with the exception of brown bears (ADF&G 2018e).

The region is in Game Management Units (GMUs) 9 (most of the region), 17B (western portion of EIS analysis area), and 15C (Kenai Peninsula). The EIS analysis area is specifically in GMUs 9B, 17B, and 15C. The species hunted in GMU 9B include brown bear, caribou, Dall sheep, moose, wolf, and wolverine. Species hunted in GMU 17B include black bear, brown bear, emperor goose, moose, wolf, and wolverine. Species hunted in GMU 15 include black bear, brown bear, caribou, Dall sheep, moose, mountain goat, wolf, and wolverine. In Alaska, non-residents who hunt for brown bears, mountain goats, and Dall sheep need to be personally accompanied by a licensed hunting guide or an Alaska resident 19 years or older who is a close relative. Although numbers of hunters by GMU are not available, Table 3.5-1 below shows 2017 harvest information by animal species and GMU (ADF&G 2018-RFI 089).

Table 3.5-1: 2017 Harvest Data by Species and Game Management Unit

Species	GMU 9B	GMU 17B	GMU 15C
Brown bear	31	35	15
Black bear	1	6	159
Moose	42	45	176
Caribou	16	74	3
Wolf	9	33	13
Wolverine	5	12	7
Goat	0	0 ¹	39
Sheep	0	0 ¹	2

Note:

GMU = Game Management Unit

¹These species are not hunted in this GMU

Source: ADF&G 2018-RFI 089

Water-Related Recreation (Boating)

Various forms of boating (e.g., canoeing, kayaking, rafting, and power boating) are popular in most recreation areas in the region. Whitewater and non-whitewater river boating opportunities are available in the three NPS units in the region.

Boating occurs on the Mulchatna River all the way to its confluence with the Nushagak River. The Koktuli River is also floated to its confluence with the Mulchatna River, both by individuals and as part of guided float trips. Commercial rafting and jetboat tours also occur on the Newhalen River (ADNR 2013a).

River-based boating opportunities vary based on season, amount of rainfall, and temperatures. Generally, river levels are lowest in early spring, and increase throughout spring and early summer as spring rains fall and snow and glacier melt occurs, with river levels generally peaking in July and then declining into the fall (NPS 2015a).

Due to lack of road access to the region, and because many visitors travel to the area by small plane, boating equipment that can be brought to the region by visitors is limited. Guided trips are available in the national parks, and via other companies in and around the region.

Lake boating opportunities occur during the ice-free season, and are available on several lakes in both Lake Clark and Katmai national parks and preserves. Motorboating opportunities are available at Lake Clark and Crescent Lake in Lake Clark National Park and Preserve, and Naknek Lake in Katmai National Park and Preserve (NPS 2017h, 2018a). All three lakes are popular destinations for visitors. In 2017, there were 10 companies authorized to provide boating trips in Lake Clark National Park and Preserve (NPS 2018a). The Lake Camp area at Naknek Lake in Katmai National Park and Preserve is accessible via the road from King Salmon, and contains a boat ramp, parking area, picnic area, and restrooms. In Katmai National Park and Preserve in 2017, 11 companies were authorized to provide boating trips (NPS 2018a).

The Refuge is open to boating (ADF&G 2018e). Powerboating, canoeing, and kayaking opportunities are available in Cook Inlet, such as along the Lake Clark National Park and Preserve boundary. Boating opportunities, including guided kayaking trips (AELO 2018), are also available at Iliamna Lake, Alaska's largest body of freshwater (Van Lanen 2012), although most use of the lake is for sport fishing or subsistence fishing. Access is available from Iliamna, Newhalen, Igiugig, Pedro Bay, Pile Bay, and Kokhanok, and private docks along the lake. In early June, approximately 60 commercial fishing boats make the trek from Homer to Bristol Bay via Iliamna Lake and the Kvichak River. The boats also make the return trip from Bristol Bay back to Homer along the same route at the end of summer (Dischner 2015a).

Kayaking and boating opportunities are also available on the eastern side of Cook Inlet near the terminus of the gas pipeline at the Anchor River State Recreation Area. Tractor-assisted boat launching is available at this location. Such activities primarily occur during the summer months. The mouth of Anchor River at the Anchor Point State Recreation Site is heavily used for boat launching, as well as camping, sport fishing, and beach combing (ADNR 2001).

Wildlife and Nature Viewing

The region surrounding the EIS analysis area offers highly valued opportunities for wildlife and nature viewing. The most popular wildlife viewing activity in the region is brown bear viewing, both inland and along Cook Inlet, with the best opportunities provided at food-rich locations, such as major salmon rivers and the Cook Inlet shoreline. Bear viewing is especially popular at Lake Clark and Katmai national parks, and McNeil State Game Refuge and Sanctuary. Popular locations for bear viewing at Lake Clark National Park and Preserve include Chinitna Bay, Crescent Lake, Silver Salmon Creek, Shelter Creek, and Tuxedni Bay (NPS 2017c). Katmai has many food-rich

areas where bears tend to congregate, such as Brooks Camp, in the preserve, and along the Cook Inlet coast. Bears can also be found in the Katmai backcountry (NPS 2018a).

McNeil State Game Refuge and Sanctuary was designated a wildlife sanctuary in 1967 to protect the world's largest concentration of wild brown bears. McNeil River Falls are about a mile from the mouth of McNeil River; the falls slow the movement of salmon heading upstream to spawning grounds, causing salmon to congregate. Large numbers of brown bears can be seen at McNeil State Game Refuge and Sanctuary in early July through mid-August (ADF&G 2018b).

Notable bird watching opportunities are also available at most recreation areas in the region. Raptors, waterfowl, seabirds, shorebirds, songbirds, and upland birds can be found throughout the region. There have been 187 species of birds documented at Lake Clark National Park and Preserve (NPS 2017d); millions of sea birds, endemics, and birds from Asia can be found in the Alaska Maritime NWR (USFWS 2016a).

Although bear-viewing opportunities are world-class in the region, opportunities for viewing other wildlife species are also available at all of the recreation areas in the region. At McNeil State Game Refuge and Sanctuary, harbor seals, moose, caribou, wolves, wolverines, red foxes, and arctic ground squirrels can also be seen (ADF&G 2018b). There are also wildlife viewing opportunities at Iliamna Lake, which contains a population of freshwater seals (Van Lanen 2012; ADNR 2013a).

Other nature-related opportunities available in the region include nature photography, beach combing, clam digging, and berrypicking (LPB 2018a). Often, these activities are combined with activities such as bear viewing, sightseeing, backpacking, hiking, and camping during the summer and fall.

Flightseeing/Sightseeing

Due to the lack of road access in the region and the heavy use of small planes and floatplanes for transportation, there are many opportunities for flightseeing in the region. Flightseeing (i.e., sightseeing by plane) is an effective way to see the broader landscapes of the region and even see wildlife and bird species, particularly in the two national park units. Flightseeing occurs primarily during the summer months from June through September. In 2017, there were 32 authorized air taxi commercial use authorization (CUA) holders that offered flightseeing opportunities in Lake Clark National Park and 39 in Katmai National Park; most operators originated out of Anchorage, Homer, King Salmon, Kodiak, and Soldotna (NPS 2018a).

Camping/Backpacking/Hiking

Due to the relative lack of developed facilities or trails and presence of large expanses of wilderness, backcountry recreational activities such as camping, backpacking, and wilderness hiking are popular in the two national park units. There are also a few developed camping opportunities at both national parks. Between the two parks, there are very few developed trail opportunities, with fewer than 5 miles of trail in Katmai National Park, and 6.8 miles of trail in Lake Clark National Park (NPS 2016b, NPS no date b). In 2017, there were 29 authorized CUA holders that provided guided hiking or overnight backpacking services in Katmai National Park, and 22 in Lake Clark National Park (NPS 2018c, 2018d).

Primitive camping opportunities are also provided along the Alagnak Wild River corridor (NPS 2015a). Developed, but low-impact, camping and hiking opportunities are available in the McNeil State Game Refuge and Sanctuary (ADF&G 2018c).

Camping is allowed on most of the Alaska Maritime NWR, although no developed campgrounds exist in the NWR (USFWS 2014a).

On State land, access, travel, improvements and structures, and other miscellaneous uses are generally allowed, and are managed by the Division of Mining, Land, and Water. Camping is also available on the eastern side of the Cook Inlet near the terminus of the gas pipeline at the Stariski State Recreation Site and Anchor River State Recreation Area, which also offers hiking opportunities.

Due to harsh winter weather conditions in the region, camping, backpacking, and hiking activities generally occur during the summer months, from June through September.

Other Opportunities

Biking on ice using fat tire bikes is a new winter use in Lake Clark National Park and Preserve. There is currently no restriction on bike use in the park (NPS 2016d). Other winter activities in the region include cross-country skiing, snowshoeing, trekking, riding snowmachines, birding, and night sky and aurora viewing. There is recreational use of Roadhouse Mountain to the northeast of Iliamna, as well as some all-terrain vehicle (ATV) use on trails around Iliamna Lake and the Upper and Lower Talarik Creek areas, which are used for transportation, subsistence, and recreation.

3.5.2.2 Recreation Facilities

Commercial Lodges

Commercial lodges are the main form of lodging in the region due to the lack of consistent visitation to support hotels and motels. In 2012, there were 38 lodges in the area with active business licenses (Kevin Waring and Associates 2015d). There are clusters of commercial lodges at Port Alsworth, King Salmon, Naknek, Iliamna/Newhalen, Nondalton, Homer, Pedro Bay, and Kokhanok, as well as along the Kvichak, Mulchatna, and Alagnak rivers (ADNR 2013a). There are also commercial lodges scattered around the region on private inholdings in Lake Clark and Katmai national parks (NPS 2015a, 2017f). Commercial lodges often provide guide services for hunting, fishing, and other recreational activities on private property, Native corporation land, and/or public lands. Therefore, commercial lodges provide a home base for many recreationists, as well as a starting point for trips onto public lands. See Section 3.6, Commercial and Recreational Fisheries, for more details on the economic effect of commercial lodges present in the region.

Public Recreation Facilities

Public recreation facilities in the region include lodges, campgrounds, cabins, a primitive camping area, trails, and visitor centers. The only public lodge facilities in the region are in Katmai National Park. There are two lodges in the park, Brooks Lodge and Grosvenor Lodge, both operated by a concessioner. In addition to a lodge, Brooks Camp includes a campground for 60 people, a visitor center, ranger station, and an auditorium with daily ranger-led programs. Facilities at Brooks Camp are available from June 1 to September 18. There is also a six-person public use cabin, Fures Cabin, on the Bay of Islands on Naknek Lake in Katmai National Park that is available from June 1 to September 17. There are 5 miles of trail in the national park and one scenic overlook. The Lake Camp area at Naknek Lake in Katmai National Park and Preserve contains a boat ramp, parking area, picnic area, and restrooms (NPS 2018a).

Developed facilities at Lake Clark National Park include a cabin and primitive camping area. The maintained trails in the park are the Tanalian Trails that begin in Port Alsworth and continue to Tanalian Falls or Tanalian Mountain (NPS 2017e).

McNeil River Camp at McNeil State Game Sanctuary provides 14 camp sites, a trail to the viewing areas, a public use cook cabin for food storage and cooking, restrooms, a wash house, and staff facilities (ADF&G 2018c).

The two state park units on the Kenai Peninsula near the terminus of the gas pipeline both include camping and picnicking facilities. There are 13 camp sites and some picnic sites at Stariski State Recreation Site. There are 186 campsites total in five separate campgrounds at Anchor River State Recreation Area, along with 20 picnic sites and a boat launch.

There are no developed facilities in the Alagnak Wild River corridor, but the US Fish and Wildlife Service (USFWS) has a nearby visitor center in King Salmon. The Alaska Maritime NWR does not include any recreational facilities in the region other than a visitor center in Homer (USFWS 2014a).

3.5.2.3 Recreation Access

Air-based Access

Air-based travel via small plane is the main form of access to recreational areas in the region, primarily from Anchorage, Homer, Iliamna, King Salmon, Port Alsworth, Kodiak, Dillingham, and Soldotna. Airport facilities near the EIS analysis area include Iliamna, Igiugig, Levelock, Big Mountain, Koggiung, Kvichak-Diamond J, Kokhanok, and Pedro Bay (ADNR 2013a). Only certain air-based operators are allowed to operate in the three NPS units, McNeil State Game Refuge and Sanctuary, and Alaska Maritime NWR (NPS 2018a; USFWS 2014a; ADF&G 2018f). Different operators can land on different surfaces depending on the landing gear of the plane (e.g., floats/amphibious gear, wheels, skis/wheeled skis), and therefore have various seasons and conditions in which they can operate.

Overland Access

The EIS analysis area on the western side of Cook Inlet is not connected by road to the rest of the state. Access to the region is by boat or plane, and then there are limited road options. Much of the area is traversed in the winter by snowmachine. Road access to or in the public recreation areas in the region is limited to Katmai National Park, in the vicinity of Iliamna/Newhalen, and from the Sterling Highway between Soldotna and Homer on the eastern side of the region. There are unpaved and paved roads between the town of King Salmon (west of the park) and Lake Camp on Naknek Lake in the park. These roads allow access from nearby towns to the boat ramp facility in the park on Naknek Lake. There is also an unpaved road from Brooks Camp to the Valley of Ten Thousand Smokes viewpoint at the Three Forks Overlook (NPS no date). Daily bus tours are provided by the concessioner from Brooks Camp to the overlook when the camp is open (June 1 to September 18) (NPS 2018a).

On the eastern side of the region, the Sterling Highway provides road access to the Stariski State Recreation Site and Anchor River State Recreation Area on the Kenai Peninsula.

Locally in the EIS analysis area, skiffs, ATVs, snowmachines, and trucks are the primary modes of local surface transportation around Iliamna Lake (ADNR 2013a).

Water-Based Access

Inland of Cook Inlet, water-based access to public recreation areas occurs on major rivers and lakes. Small boats can travel up the Naknek River to Lake Camp in Katmai National Park, and boats can travel the Alagnak Wild River as well (Kevin Waring and Associates 2011b; NPS 2015a). Lake Clark and Naknek Lake provide water-based access to portions of Lake Clark and

Katmai national parks, respectively. Water-based access can also be provided at Iliamna, Newhalen, Pedro Bay, Kokhanok, Igiugig, and Nondalton. In and along the shoreline of Cook Inlet, water-based access is essential to reaching public recreation destinations such as the eastern portions of Lake Clark and Katmai national parks and the Alaska Maritime NWR. Commercial boat businesses operate in the three NPS units and Alaska Maritime NWR (NPS 2018a; USFWS 2014a).

3.5.2.4 Recreation Settings

Apart from a few developed sites previously described, the regional public recreation areas generally provide a primitive, remote recreational setting where solitude is common and there are no lights or sounds from human development. In popular areas (primarily popular bear-viewing locations), the few developed sites such as Lake Camp and Brooks Camp, and areas closer to villages/towns, the recreational setting may include views of limited human development and other visitors, although the setting is still primarily remote and primitive.

3.5.2.5 Regional Recreational Use and Users

Given the lack of easy access and limited, dispersed development in the region, overall recreational use is estimated to be relatively low for all public recreation areas in the region compared to other parts of the state. Southwest Alaska shows among the lowest level of tourism compared to other areas of the state in general, with only 17 percent of visitors to Alaska traveling to southwest Alaska (ADNR 2013a). Of those visitors traveling to southwest Alaska, only 3 percent travel to this part of Alaska as their sole destination, with the majority of these visits to Katmai National Park and Wood-Tikchik State Park (ADNR 2013a). However, there are areas in the region that receive moderate to high use relative to the region, and some areas have experienced significant increases in visitation in recent years. These areas tend to be the more accessible locations in the national parks and the Refuge, or areas on the Kenai Peninsula that are accessible by road; others are accessible by small aircraft.

Between 2009 and 2017, Katmai National Park and Preserve averaged 40,031 visitors per year (NPS 2018e). During the same period, Lake Clark National Park and Preserve averaged 13,402 visitors per year through its commercial services program. Visitor use at Lake Clark National Park and Preserve has been increasing over the last 10 years to almost 17,000 visitor-use days, with the number of visitor-use days increasing dramatically for bear viewing, sport fishing, and photography, while participation in other activities has stayed fairly constant (NPS 2018d); however, Lake Clark itself has seen a 200 percent increase in commercial visitation between 2012 and 2017. This does not include visitors who do not use commercial services such as local residents boating, fishing, skiing, or otherwise using Lake Clark and the surrounding lands. In 2017, Lake Clark reported 22,755 in total visitation, which is more than double the amount of visitation in 2010 (9,931) (NPS 2018e). Over the same time period, commercial visitor use at Katmai National Park and Preserve generally fluctuated between 25,000 and 30,000 visitor-use days (NPS 2018c). According to monthly visitation data, peak use of these two areas is from June to September. This is when the majority of annual use occurs, especially at Katmai National Park and Preserve, with 97 to 100 percent of the park's visitation occurring during these months. In the last 6 years, about 80 percent or more of visitation to Lake Clark National Park and Preserve has been during the peak season (June to September). The Long Range Interpretive Plan for Katmai National Park and Preserve notes that most of the park's visitors participate in two primary activities: bear viewing, and sport fishing. There are virtually no drop-in visitors due to the effort needed to reach the park (NPS 2009a).

The number of bear-viewing visitors at McNeil River Camp was an average of 178 people per year between 2008 and 2017. The number of bear-viewing visitors at McNeil River Camp is

capped at 257 visitors per year. In 2017, there were 1,092 user days (i.e., the participation in a recreational activity at a given resource during a 24-hour period by one person) associated with the bear-viewing program at McNeil River Camp in McNeil State Game Refuge and Sanctuary, and another 513 user days reported by guides or the public using the Kamishak River and Chenik Creek areas of the refuge and sanctuary, primarily for fishing and bear viewing (ADF&G 2018a). The annual visitation to the Kamishak River and Chenik Lake areas likely varies due to the number of commercial transporter permits issued and used at each of these areas each year. There are no visitation estimates available for the Alagnak Wild River, Alaska Maritime NWR, or state lands/park sites.

Overall, due to the remoteness and lack of easy access and lodging facilities, it is expensive to visit the recreation areas in the region. As stated in the Alaska Maritime NWR Land Protection Plan, “recreational use is limited by the difficult logistics and expense of visiting remote islands. However, it is possible that the demand for visitor services would increase in the future as adventure travel becomes increasingly popular” (USFWS 2011a). This may be true for other areas as well.

3.5.3 Recreational Use at Project Components

3.5.3.1 Mine Site

Recreational use at the mine site consists of some sport hunting and fishing, as well as occasional snowmachine use. Flights taking recreationists to various destinations in the region and the state may also pass over the mine site. Although there is no existing estimate of recreational use at the mine site, given the remoteness of the mine site and relative closeness of Lake Clark National Park and Preserve and other more well-known and accessible fishing and hunting destinations, recreational use at the mine site is likely low.

3.5.3.2 Alternative 1a Transportation Corridor

There is recreational use of Roadhouse Mountain to the northeast of Iliamna, as well as use of some ATV trails around the Iliamna and Kokhanok areas for transportation, subsistence, and recreation in the transportation corridor. There are no visible ATV trails along the port access road nearing Amakdedori port.

There are recreational opportunities (primarily fishing) in the general transportation corridor area, particularly along the Newhalen River, including where it would be crossed by the mine access road. There are also recreational opportunities in the Gibraltar River and Gibraltar Lake portions of the port access road corridor (including where the Gibraltar River would cross the port access road), where some local lodges advertise guided fishing, hunting, and sightseeing trip options (Haugen, Bush, and Rice 2003). Recreational sport hunting and snowmachine use may occur occasionally in the road corridors.

At Iliamna Lake, both motorized and non-motorized boating occur (AELO 2018), both as an activity in itself and as a means of accessing other recreation opportunities, primarily fishing. Recreational resources and uses in Region 9 of the BBAP, which contains Iliamna Lake, are primarily related to use of the lake for boating and fishing, and to commercial and non-commercial sport fishing and hunting (ADNR 2013a). Snowmachine use occurs on the lake in the winter; however, most of this use is for transportation and subsistence, and minimally for recreation.

There is no recreational use estimate for the transportation corridor. Due to its inaccessibility, and location of nearby higher-quality recreation opportunities, recreational use of the port access road, mine access road corridors, and Kokhanok spur road is expected to be low.

3.5.3.3 Amakdedori Port

The Amakdedori port would be on State lands designated for habitat use by the KAP (ADNR 2001). The KAP also notes that the head of Bruin Bay, north of the Alternative 1a facilities, is highly scenic and has nice beaches (ADNR 2001). The KAP does not discuss recreational use at the port site specifically, although there may be recreational boating, overflights, hunting, fishing, and incidental wildlife viewing, and beach combing near the port site. Scoping comments mentioned local bear hunting use at the port site. There is no existing estimate of recreational use at the port site, although there is some boating use on Cook Inlet. Due to the large size of the inlet and other nearby locations with known fishing and wildlife-viewing opportunities, there is likely low use of the port site itself for recreation other than some bear hunting use.

3.5.3.4 Alternative 1a Natural Gas Pipeline Corridor

Recreational use along the pipeline alignment in Cook Inlet and on the Kenai Peninsula surrounding the pipeline and compressor station consists of boating on Cook Inlet; beach combing, clamming, fishing, and hunting in and around the compressor station location; and recreational use at the state park sites on the Kenai Peninsula. Boating on Cook Inlet is both an activity in itself and a means of accessing other recreation opportunities, such as fishing, wildlife viewing, birdwatching, and beach combing, as well as access to the recreation areas on the western side of the Cook Inlet. The Stariski State Recreation Site, near where the compressor station would be, offers camping and picnicking opportunities. The Anchor River State Recreation Area offers boating, camping, fishing, picnicking, wildlife viewing, and hiking opportunities. There is no existing estimate of recreational use for the Cook Inlet or either state park unit site. Recreational opportunities and use on the western end of the pipeline corridor would be the same as described for the Amakdedori port site and transportation corridor.

3.5.3.5 Alternative 1 Transportation Corridor

The Alternative 1 port access road and Amakdedori port have the same recreational uses as discussed under Alternative 1a. There is recreational use of some ATV trails around Upper and Lower Talarik creeks and the Iliamna and Kokhanok areas for transportation, subsistence, and recreation. There are no visible ATV trails along the mine access road corridor nearing the mine site.

There are also recreational opportunities (primarily fishing) in the general transportation corridor area, particularly along the Newhalen River and Upper Talarik Creek by the mine access road. Recreational sport hunting and snowmachine use may occur occasionally in the mine access road corridor.

There is no recreational use estimate for the transportation corridor. Due to its inaccessibility, and the location of nearby higher-quality recreation opportunities, recreational use of the port access road and mine access road corridors, the Kokhanok spur roads, and the Iliamna spur road is expected to be low.

3.5.3.6 Alternative 2 and Alternative 3 Transportation Corridor

There are recreational use opportunities along the Newhalen River and at Iliamna Lake, as well as on Iliamna River. Fishing is the primary recreational opportunity in these areas, including guided sport fishing opportunities from lodges in the northern Iliamna Lake area, particularly around Pedro Bay. One lodge in the northern lake area offers guided kayaking trips on Iliamna Lake (AELO 2018). The BBAP notes that recreational resources and uses in Region 9, which includes Iliamna Lake, are primarily related to use of the lake for boating and fishing, and to commercial and non-commercial sport fishing and hunting. Recreational sport hunting use may

also occur elsewhere in the transportation corridor. Tourism is increasing on the lake; each summer, thousands of sport fishermen visit the area for trophy rainbow trout fishing on the lake (ADNR 2013a). There is no existing estimate of recreational use, including for Iliamna Lake, although given the presence of lodges and communities around northern Iliamna Lake, there is likely more recreational use in the Alternative 2 and Alternative 3 transportation corridors than the Alternative 1a and the Alternative 1 transportation corridor.

3.5.3.7 Diamond Point Port

The Diamond Point port site would be at the junction of Iliamna Bay and Cottonwood Bay. There is known commercial fishing use of this area (ADNR 2001), and likely undocumented recreational fishing opportunities as well. There are also opportunities for wildlife viewing in Iliamna Bay, because there are large colonies of seabirds at the mouth of the bay, as well as brown bears, moose, and shorebirds in the area (ADNR 2001). Therefore, there may also be opportunities for hunting. There is no existing estimate of recreational use at the port site.

Although there may be opportunities for recreational boating in the bays, there is one concentrated boat traffic effort in Iliamna Bay every year. In early June, approximately 60 commercial fishing boats make the trek from Homer to Bristol Bay via Iliamna Lake and the Kvichak River. The boats cross Cook Inlet and head to Williamsport to be transported on the road from Williamsport to Pile Bay (Dischner 2015b). The boats also make the return trip from Bristol Bay back to Homer along the same route at the end of summer (Dischner 2015a).

3.5.3.8 Alternative 2 and Alternative 3 Natural Gas Pipeline Corridor

Under Alternative 2 and Alternative 3, the natural gas pipeline would come into Ursus Cove and then cross land north to reach Cottonwood Bay and the Diamond Point port site. Ursus Cove is a known bear-hunting location (H&H Alaskan Outfitters 2018), and both Ursus Cove and Cottonwood Bay are known commercial fishing locations (ADNR 2001). Both Ursus Cove and Cottonwood Bay may also be used for other hunting activities, recreational fishing, and wildlife viewing, given the large seabird colonies at the mouth of Iliamna Bay, as well as the presence of moose and shorebirds around Iliamna Bay (ADNR 2001). There is no existing estimate of recreational use in Ursus Cove or Iliamna Bay.

The pipeline corridor under Alternative 2 would overlap with areas of the Alternative 3 transportation corridor. Alternative 2 and Alternative 3 would also include the same areas on the Kenai Peninsula as Alternative 1a.