

Draft East Alaska Resource Management Plan Amendment and Environmental Assessment Environmental Assessment

June 2021

DOI-BLM-AK-A020-2020-0037-RMP-EA

Glennallen Field Office Mile Post 186.5 Glenn Highway Glennallen, Alaska 99588

1.0 Introduction	2
2.0 Alternatives	12
3.0 Affected Environment and Environmental Consequences	14
4.0 Consultation and Coordination	21
5.0 List of Appendices	22
Appendix A: List of Preparers	24
Appendix B: Table of Issues Considered	25
Appendix C: Acronyms and Abbreviations	37
Appendix D: List of References	38
Appendix E: Maps	41

1.0 Introduction

The Bureau of Land Management (BLM) Glennallen Field Office (GFO) has prepared this Draft Resource Management Plan (RMP) Amendment and Environmental Assessment (EA) to analyze the effects of making additional lands within the East Alaska Resource Management Plan (East Alaska RMP) Planning Area (2007) available for potential exchange.

The proposed action to amend the 2007 East Alaska RMP is needed to address Section 1113(b)(2)(B) of the John D. Dingell, Jr. Conservation, Management, and Recreation Act (Dingell Act), which requires BLM to identify "sufficient acres of accessible and economically viable Federal land" within the Chugach Region that can be offered in a potential exchange with Chugach Alaska Corporation (CAC). The Chugach Region of Alaska encompasses the lower Cook Inlet and Prince William Sound. It includes the communities of Cordova, Valdez, Whittier, and Seward, and the Alaska Native Villages of Eyak, Chenega, Tatitlek, Nanwalek (formerly known as English Bay), and Port Graham.

This planning process advances the objectives of the Dingell Act by analyzing the effects of making lands within the Chugach Region available for exchange which were prohibited from exchange under the Approved East Alaska RMP. Section 1-5-b of the East Alaska RMP states, "No exchanges would take place [within the RMP Planning Area] until all Native and State entitlements are met. Afterwards, exchanges would be considered in the Chistocina/Slana, Tiekel, and Denali Planning Regions." (2007, p. 24).

This RMP Amendment/EA is tiered to the environmental impact statement (EIS) associated with the East Alaska RMP (2007). The Final EIS for the East Alaska RMP provides an overview of impacts that were expected to occur in the East Alaska Management Area within which the planning area falls (see Map 1).

Through this RMP Amendment/EA the BLM will determine whether lands within the East Alaska planning area near Thompson Pass, Alaska can be made available for any type of exchange (See Map 2). Specifically, this RMP Amendment/EA is looking at the potential exchange of two sections of land, section 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska. These two sections are currently selected by the State of Alaska (State) for potential conveyance; however, the State has provided a conditional relinquishment if these parcels are exchanged with CAC. Each section is 640 acres, for a total of 1,280 acres.

This RMP Amendment/EA would not carry out a land exchange, but rather considers the impacts of making lands available for exchange. Future land exchanges, either those that are in support of the Dingell Act, Alaska Native Claims Settlement Act (ANCSA), Alaska National Interest Lands Conservation Act (ANILCA) or Federal Land Policy and Management Act (FLPMA) of 1976, would be carried out through a separate action which requires a public notice of the exchange. Those carried out under FLPMA would require additional analysis pursuant to the National Environmental Policy Act (NEPA). Implementing regulations can be found at 43 CFR Part 2200.

This RMP Amendment/EA was prepared using the BLM's planning regulations (43 CFR Part 1600) and guidance issued under the authority of the FLPMA. The associated EA is included in this document to meet the requirements of the NEPA, the Council on Environmental Quality

(CEQ) regulations for implementing NEPA (40 CFR Parts 1500-1508), Department of the Interior (DOI) Implementation of the National Environmental Policy Act of 1969 Final Rule (43 CFR Part 46), and the requirements of BLM's NEPA Handbook H-1790-1 (BLM 2008) and Land Use Planning Handbook H-1601-1 (BLM 2005), as amended by subsequent Instruction Memorandums (IM). FLPMA requires the BLM to amend the RMP and analyze the environmental impacts of making additional lands available for a potential exchange. The preliminary assumption is there will be a Finding of No Significant Impact (FONSI), if it is determined there is a significant impact during this process, then the BLM would conduct an environmental impact statement analysis.

1.1 Purpose and Need

In order to comply with the Dingell Act, the BLM needs to amend the 2007 RMP to address the ability to make exchanges before all Native and State entitlements are met. The purpose of this action is to identify lands the BLM can make available for exchange as required under the Dingell Act. The need is to determine whether BLM-managed public lands within the East Alaska planning area near Thompson Pass, Alaska can be made available for an exchange.

1.2 Planning Area

The planning area for this RMP Amendment/EA comprises 1,280 acres in Sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska, administered by GFO and selected by the State of Alaska. The planning area is located east of the city of Valdez, Alaska at approximately Mile 23 of the Richardson Highway (see Map 4).

1.3 Decision to be Made

The decision to be made is whether BLM-managed public lands within the East Alaska planning area near Thompson Pass, Alaska can be made available for an exchange, and under what terms and conditions.

1.4 Reasonably Foreseeable Future Actions

If lands are exchanged, it is reasonably foreseeable that some development in the planning area could take place. While it is difficult to speculate on the type of development, access roads and some loss of vegetation is likely if development does occur. Development could be visible from the highway. Development that has occurred in the area is typically adjacent to the highway and includes campgrounds, visitor waysides, lodges and restaurants, helicopter-pads, parking, pull-outs, scenic overlooks, and an Alaska Department of Transportation (AKDOT) maintenance camp. There are rights-of way (ROW) for power lines and for oil transportation in the vicinity. There is a rock quarry at the entrance to Keystone Canyon and gravel sources readily available in Valdez, making gravel development unlikely. The State Heiden View subdivision is located nearby; however, the steep terrain in the planning area does not seem conducive to further subdivision development. Most businesses that have developed in the area operate seasonally, either in the winter or summer. Any development that would occur would be challenged by limits of the steep terrain, winter snow loads and conditions, and cost of development. These

sections of land are sub-alpine with short willow and some dwarf birch, and there are no known timber resources. Therefore, timber operations are not likely to occur. The BLM has issued land use permits, authorizations, and special recreation permits for commercial operations in the area of Thompson Pass, but not for these specific parcels of land.

If the lands are not identified for exchange, it is likely the lands would be conveyed to the State of Alaska under its current selection. If lands were conveyed to the State, lands are likely to be managed for recreation purposes under the State's Copper Basin Area Management Plan (1986). If State selections were lifted, rejected, or relinquished, the lands would become unencumbered BLM-managed public lands and would be managed in accordance with the East Alaska RMP general management guidelines, or under the East Alaska RMP as amended.

1.5 Scoping and Issues

The BLM uses a scoping process (40 CFR 1500-1508) to identify potential issues in the preparation for effects analysis. The principal goals of scoping are to identify issues, concerns and potential impacts that require a detailed analysis.

Public notification of the development of this RMP Amendment/EA was initiated on November 24, 2020, on the BLM NEPA ePlanning website

(https://eplanning.blm.gov/eplfrontoffice/eplanning/nepa/nepa_register.do). The BLM also issued a press release soliciting scoping comments from the public on November 23, 2020 and again on December 21, 2020, when the scoping period was extended. Additionally, the BLM sent letters directly to potentially impacted federally recognized tribes and Alaska Native Corporations within the planning area informing them of the scoping period and inviting them to consult on a government-to-government or government-to-corporation basis. The BLM accepted public scoping comments for 43 days, closing the comment period on January 4, 2021.

The BLM received approximately 143 scoping comment submissions. There were 129 unique comment letters. The BLM reviewed and categorized the public scoping letters and used the planning issues raised in the scoping comments to help guide the development of the range of alternative management strategies for this RMP Amendment/EA. For a detailed description of those resources of concern identified through public scoping and internal scoping, please refer to Appendix B, Table B-1.

1.5.1 Issues/Concerns Identified for Analysis

Through internal scoping and in consideration of public comments, the BLM has identified the following issues to be considered in the RMP Amendment/EA:

Issue 1 – How would the proposed action described in the alternatives affect recreation management and public access?

Issue 2 – How would the proposed action described in the alternatives affect cultural resources?

Issue 3 – How would the proposed action described in the alternatives affect social and economic conditions?

Issue 4 – How would the proposed action described in the alternatives affect landownership and uses?

1.5.2 Issues Identified but Eliminated from Further Analysis

The BLM has determined that no further analysis is required for the following issues or concerns raised during internal scoping and from public scoping comments for the amendment. These issues were considered in the 2007 East Alaska RMP; that analysis is incorporated by reference where appropriate.

Lands with Wilderness Characteristics

The two sections of land contained within the proposed action are in close proximity (between .45 and 2.45 miles) to the Richardson Highway, are used by snow machine, OHV's, and tracked vehicles and are located within a heavily utilized helicopter supported recreation area. There is an ANCSA 17(b) public access easement in the adjoining sections of private lands which allows for motorized use in which some users pass through the project area lands to get to. The East Alaska RMP of 2007 did not contain an inventory for Lands with Wilderness within the project area. An inventory for presence or absence of wilderness characteristics was completed for the project area in February of 2021 (BLM 2021a). This inventory concluded that Lands with Wilderness Characteristics are not found within the two sections of land in the Proposed Action. The planning area does not meet the minimum size criteria (5,000 acres contiguous lands) defined in BLM manual 6310 Conducting Wilderness Characteristics Inventory on BLM Lands since it contains only two sections of lands totaling 1280 acres (BLM 2021b). Furthermore, consistent with Section C-2, "There may be some circumstances under which an inventory of the entire area is not required. For example, if a proposed project would only cross a small corner of an inventory unit and would be confined to previously disturbed land that is an unnatural condition, a full inventory may not be necessary" (BLM 2021b, p. 6). In this instance, the project area encompasses only a small corner of the overall managed lands (two sections of land totaling 1,280 acres out of 15,135 acres of BLM managed lands within the area). The lands are not contiguous or adjoining with other lands which have been formally determined to have wilderness or potential wilderness values, or any federal lands managed for the protection of wilderness characteristics. Additionally, the lands are managed under the State of Alaska Generally Allowed Uses which allows for motorized cross-country travel of OHV's up to 1500 lbs. and large vehicles up to 10,000 lbs. Known motorized use (OHV, snow machine, track vehicles) occurs in the area which contribute to disturbances such as vegetation stripping, vegetation crushing, and erosion. Due to these factors, this issue has been eliminated from further analysis.

Water

Within the planning area is a small unnamed lake, the Lowe River, and two small tributaries to the Lowe River. According to the State of Alaska Department of Natural Resources (AKDNR) water estates mapper, there are no surface or subsurface water rights within the two proposed

sections (AKDNR Mapper). There are no sites indicated in the State of Alaska Department of Environmental Conservation (AKDEC) contaminated sites database which might indicate water quality issues or contaminated sites (AKDEC Mapper). In addition, BLM does not have any specific water management projects/plans for the water bodies within the planning area.

The East Alaska FEIS/PRMP analyzed and disclosed impacts to water quality from uses such as road and trail construction, recreational use, fire management, vegetation management, and exploration of locatable minerals; this analysis is incorporated herein by reference (pp. 450-463). The FEIS concluded that development could have a negative impact on water quality. During periods of disturbance to vegetation and soils, water quality could be degraded in nearby lakes and streams as turbidity and total dissolved solids (TDS) increase. The amount of increased turbidity and TDS would be a function of the sediment that reaches the water, the volume of water, and the natural amounts of turbidity and TDS. It is assumed that future development that could occur if lands are exchanged would be low intensity and in line with the limited infrastructure and development in the Thompson Pass region. Because the specific nature of any future development in the planning area is speculative, this plan amendment does not put forward management alternatives that would have a measurable effect on water resources; therefore, this issue was not considered in detail and has been eliminated from further analysis.

Fisheries

The headwaters of the Lowe River, which are primarily fed by Deserted Glacier, flow through Marshall Pass, about 20 miles east of Valdez. From there, it flows through Heiden Canyon, downstream of the BLM-managed public lands. Within the planning area there is a small unnamed lake, the Lowe River, and two small unnamed tributaries to the Lowe River. There have not been any fisheries inventories on these waterbodies, but neither are known to support BLM identified sensitive species or contain populations of Threatened or Endangered species. The section of Lowe River that flows through the planning area is extremely fast-flowing with heavy glacial sediment during the summer and fall.

There are no documented fisheries resources in this section of the Lowe River or in nearby tributaries and/or lakes. The nearest salmonid fisheries resource to the planning area is Bear Creek, a tributary to the Lowe River at mile 16.7 of the Richardson Highway, which is approximately 10 miles downstream of the planning area. Coho salmon spawning and rearing were documented in Bear Creek and that creek has been formally recognized as anadromous under Alaska state statute AS 16.05.871(a) in the Alaska Department of Fish and Game's (ADF&G) Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes (AWC) as waterbody number 221-60-11370-2321 (Johnson and Blossom 2019). This plan amendment is not putting forward management alternatives that would have a measurable effect on fisheries; therefore, no further analysis is necessary.

Visual Resources

The BLM includes four Visual Resource Management (VRM) inventory classifications in the 2007 East Alaska RMP for managing scenic values (BLM 2007, Section V). Through its VRM

classification, the BLM ensures that the scenic values of public lands are considered before authorizing uses that may result in adverse visual impacts. The visual resources and aesthetics information classes below provide a baseline for analyzing potential impacts of the Proposed Action. Management objectives for the VRM classifications:

- Class I Objective: "To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention."
- o Class II Objective: "To retain the existing character of the landscape. The level of change to the characteristic landscape should be low."
- Class III Objective: "To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate."
- Class IV Objective: "To provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." VRM classes and their associated resource management objectives apply to all BLM-managed lands.

For this EA, there are no VRM Class I and II lands (e.g., Wilderness and Wilderness Study Areas) in the planning area (East Alaska FEIS/PRMP pp. 303- 305). It is assumed that future development that could occur would be low intensity, and in line with the limited infrastructure and development in the Thompson Pass region. As such, they are not projected to rise above the impacts expected for VRM Class III areas. Considering the current limited development and infrastructure in the Thompson Pass region and any reasonably foreseeable development even if an exchange took place, the effects on visual resources would be consistent with BLM Class III VRM management objectives. Therefore, the impacts to visual resources were not analyzed in further detail in the EA.

Paleontological Resources

The Potential Fossil Yield Classification for the planning area is 3a with Moderate Potential for the local geologic strata. The area contains Upper Cretaceous aged volcanic and metamorphosed marine flysch strata from the Valdez Group. This may contain invertebrate fossils but has no known vertebrate fossils that would be considered scientifically significant (USGS 2021). Volcanic strata present are unlikely to contain any fossils. The Upper Cretaceous metamorphosed marine flysch has been heavily altered by heat and pressure, likely damaging, warping, or altering any embedded fossils. There are no reported fossils or collections localities in or around the planning area. For these reasons, no further analysis is necessary.

Subsistence Use

The lands in the proposed action are currently selected for conveyance to the State and are not considered Federal Public Lands as defined in the ANILCA Section 102(3). Therefore, these lands do not fall under the regulatory authority of the Federal Subsistence Board and appropriate federal subsistence regulations for harvest of wildlife, fish, and shellfish on federal public lands in Alaska. If the State were to relinquish their selections on these lands, they would become

unencumbered BLM-managed public lands and would fall under both ANILCA regulations and State hunting regulations. The State has indicated they would relinquish their selection on these parcels if they were approved for exchange through this planning process. However, the State's relinquishment is conditional to a conveyance to CAC and would occur simultaneously with conveyance to CAC. If the conveyance to CAC does not occur, the lands would remain as State-selected, BLM-managed public land until the lands were either conveyed to the State or the selections were relinquished or rejected. Subsistence use would still be permitted and available under state hunting regulations on adjacent state land. Comments received during the scoping period indicate the area is used mainly for berry picking and hunting for hare and ptarmigan. These activities may still occur on adjacent state land under state regulation. Access to other BLM land for subsistence purposes would remain intact through reserved easements across any exchanged lands. This plan amendment is not putting forward management alternatives that would have a measurable effect on subsistence uses; therefore, no further analysis is necessary.

Wildlife Management

Wildlife expected to be in the area may include grizzly bear, black bear, moose, Bald and Golden eagle, mountain goat, waterfowl, small game, and various unclassified small mammals (East Alaska FEIS/PRMP, Map 32, 35, 36, 37 and 38). There are no known Endangered Species Act (ESA) Threatened or Endangered species present in the planning area (Environmental Conservation Online System). The East Alaska RMP does not designate any special areas of concern for any wildlife species in the area. The area surrounding Valdez is considered Bald eagle nesting habitat (East Alaska FEIS/PRMP Map 38); however, the change in land management would not likely affect any of the population in the area as eagles are protected under the Bald and Golden Eagle Protection Act. One comment in the scoping period asked the BLM to address tundra swans nesting in the planning area. If development does occur and the unnamed pond in the planning area is disturbed, swans and other waterfowl may utilize other waterbodies on adjacent state land for nesting. Hunting within the planning area is currently regulated under State hunting regulations. If the State relinquishes its selection or it is rejected, the land hunting regulation would fall under both ANILCA subsistence regulations and State hunting regulations. If these lands are exchanged and become privately owned, members of the public would be required to gain permission from the landowner prior to hunting these lands and therefore, wildlife is likely to experience lessened hunting pressure. The plan amendment is not putting forward management alternatives that would have a measurable effect on wildlife resources; therefore, no further analysis is necessary.

Forest and Vegetation Management

Productive timber resources are not present in this planning area. The lands in the proposed action are in a sub-alpine zone, an elevated ecosystem band which exists above the timber line. Sub-alpine ecosystems consist of stunted, clumped balsam poplar and other dwarf willow species and dwarf birch. These stunted trees and shrubs do not exceed 3 meters in height and are no more than 12 cm in diameter at breast-height, therefore, are not considered to be productive timber resources (Pojar and MacKinnon 2013). Further, there is no record of forest disturbance

from timber harvest or special forest product harvest in the planning area nor do there exist any active timber harvest authorizations in similar alpine ecosystems in Alaska.

The East Alaska FEIS/PRMP analyzed and disclosed impacts to forest and vegetation from uses such as road and trail construction, recreational use, fire management, vegetation management, and exploration of locatable minerals; this analysis is incorporated herein by reference (pp. 464-473). Possible impacts to vegetation from development could include the direct removal of vegetation, the fragmentation of habitat and habitat loss, and a facilitation of weed invasions. If land within the planning area were exchanged in future and development occurs, it is reasonably foreseeable that the proposed action would affect shrubs in the planning area. However, the total bio-mass, type and vegetation density precludes them from being viable timber and thus does not warrant further consideration. Other vegetation species present in the planning area include those typical of alpine environments such as berry-producing, low-growing bushes, Labrador tea, grasses, and other flowering herbaceous species. There are no BLM Sensitive Plant Species found within 45 miles of the planning area to consider (AKNHP 2020)

It has been concluded that this action would not introduce any invasive species which might adversely affect the forest. Although occurrences of invasive species have been recorded along the Richardson Highway in the past, invasive plants have not been found to propagate off the roadway or disturbed areas of the Trans-Alaska Pipeline. Reasonably foreseeable vegetation removal or alteration would not have lasting overall affects to the sub-alpine ecosystem. The shrub classes that exist propagate by arial seeding and therefore will regenerate naturally and erosion is not expected to occur other than natural rates of erosion and soil deposition processes; therefore, this issue was not considered in further detail.

Soils

Soils in the plan amendment area have been previously surveyed in 1979 on a very broad scale and lack detail except for use in general land use planning. The USDA Natural Resource Conservation Service (NRCS) is in the process of conducting more intensive soil surveys that will include BLM's planning area. This soil survey and associated ecological site descriptions are within the NRCS North Copper River Area (AK659) of the Southern Alaska Coastal Mountains Major Land Resource Area. No information is publicly available yet except the survey area boundary.

Soil resources may be affected by natural forces and by human activities. Soils also support other resources such as vegetation, water quality, and recreation. There are no sites indicated in the ADEC contaminated sites database (https://dec.alaska.gov/spar/csp.aspx) which might indicate soil resource issues or contaminated sites within the planning area. The East Alaska FEIS/PRMP analyzed and disclosed impacts to soils from uses such as road and trail construction, recreational use, fire management, vegetation management, and exploration of locatable minerals; this analysis is incorporated herein by reference (pp. 438-450). The FEIS concluded that development could result in increased soil compaction, soil loss, and erosion. Compaction of native soils could occur through construction activity and excessive vehicle traffic in unpaved areas. Excessive surface water runoff or loss of protective vegetation cover could cause erosion. It is assumed that future development that could occur if lands are exchanged would be low

intensity and in line with the limited infrastructure and development in the Thompson Pass region. Because the specific nature of any future development in the planning area is speculative, this plan amendment does not put forward management alternatives that would have a measurable effect on soil resources; therefore, this issue was not considered in detail and has been eliminated from further analysis.

Public Health and Safety

Amending the East Alaska RMP to make lands available for exchange within the East Alaska RMP planning area would not adversely affect public health or safety. The amendment would not authorize a land exchange, rather it would identify lands that would be available for exchange. The proposed action is administrative in nature and could not adversely affect public health and safety. Effects on public health and safety were not considered in further detail and have been eliminated from further analysis.

Mineral Resources

Research has not revealed a comprehensive mineral potential report for the areas of this amendment. The planning area is within the Prince William Sound Mining District. This region's primary mineral resources are gold and copper (Koschmann and Bergendahl 1968). Gold bearing quartz veins are widespread in the Southeast Valdez quadrangle. Country rocks to gold bearing quartz in Valdez Group metalflysch can be variably silicified, carbonitized, and sericitized (Goldfarb et al. 1997). Placer gold has been historically mined in the Lowe River which flows through the planning area according to Winkler et al. 1981, though the precise location of mining activity on the river is unknown. There are currently no mining claims within the planning area. These sections are State-selected, BLM-managed public lands which are closed to mineral exploration and development at the current time. If lands are conveyed to the State of Alaska or exchanged to a private entity, the mineral resources could be developed under state mining regulations; however, it is assumed that if future development were to occur it would be low intensity and in line with the limited infrastructure and development in the Thompson Pass region. Because the specific nature of any future development in the planning area is speculative, this plan amendment does not put forward management alternatives that would have a measurable effect on mineral resources; therefore, this issue was not considered in detail and has been eliminated from further analysis.

Environmental Justice

Environmental justice impacts would be present if there is expected to be a disproportionate, negative impact on minority or low-income populations. Visitors to the planning area come from a wide variety of locations in Alaska, and elsewhere, and there is no data on the extent to which they may come from low-income or minority populations. If there are local economic or social effects from any changes in recreation use patterns, they would likely be felt most strongly in Valdez. Valdez is not considered to be a minority population. In 2018, 88 percent of the population was "white alone" (not Hispanic or Latino), considering both race and ethnicity; no

minority comprised 50 percent of the population, nor was the percentage of minorities present meaningfully greater than that of the surrounding area (data in this section from Economic Profile System 2021). Valdez would not be considered a low-income community because the percent of people below poverty, 9 percent, was lower than that of the State, 11 percent. Valdez also had a much lower percentage of residents who received public assistance income than the statewide percentage. In addition, there would not be a measurable impact on subsistence uses. Therefore, there is no potential for disproportionate, negative impacts to environmental justice populations and no further analysis is needed.

1.6 Planning Criteria

The BLM planning regulations (43 CFR 1610.4-2) require the development of planning criteria to guide the preparation of an RMP Amendment/EA. Planning criteria are the standards, rules, and other guidelines developed by BLM staff, with public input, for use in forming judgements about plan level decision-making, analysis, and data collection. These criteria guide the development of a plan by helping define decision space or sideboards:

The BLM identified the following planning criteria for this project:

- The RMP Amendment/EA will cover BLM administered, State-Selected lands within sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska;
- The RMP Amendment/EA will consider a reasonable range of alternatives;
- The BLM will consider current scientific information, research, new technologies, and monitoring;
- The BLM will ensure consistency with Secretarial Order 3373 (SO 3373) *Evaluating Public Access in Bureau of Land Management (BLM) Public Land Disposals and Exchanges* and BLM Information Bulletin No. 2020-010, which requires documentation of impacts to recreational access as well as a comparison of acres disposed of and exchanged since 2017; and
- The RMP/EA will comply with all applicable law, regulation, policy, executive orders, BLM policy and program guidance.

1.7 Planning Process

When amending an RMP, the BLM uses a multi-step planning process identified in 43 CFR 1600 and the BLM Land Use Planning Handbook (BLM 2005). The following outlines the planning process being adhered to for this project:

- As described in Section 1.4, the BLM provided a 30-day public scoping period after publication of a Notice of Intent in the *Federal Register*.
- Release of this Draft RMP Amendment/EA and an unsigned draft FONSI will initiate a 30-day public comment period during which the BLM will host a virtual public meeting.

- The BLM will consider substantive and relevant comments received during the public comment period, revise the alternatives and/or impacts analysis as needed, and publish a PMRPA/EA along with an approved FONSI.
- Release of the Proposed RMP Amendment and Final EA triggers a 30–day public protest period and 60-day Governor's Consistency Review. The RMP Amendment/EA will not be approved by a Decision Record (DR) until all protests and any consistency issues identified by the Governor's office have been resolved.
- Following the issuance of a DR, implementation-level decisions shall be subject to a 30-day appeal period to the Interior Board of Land Appeals (IBLA).

1.8 Relationship to Statutes, Regulations, Other NEPA Documents

The proposed action complies with federal environmental statutes and regulations, Executive Orders, and Department of Interior and BLM policies. Key statutes, regulations, plans and policies with bearing on the planning criteria for the RMP Amendment/EA are listed below:

- East Alaska Resource Management Plan and Approved ROD (2007)
- National Environmental Policy Act (1969)
- Alaska National Interest Lands Conservation Act (1980)
- Federal Land Policy and Management Act (1976)
- Section 106 of the National Historic Preservation Act (1966, as amended)
- Native American Consultation per Executive Orders 13007 and 13175
- BLM Manual and Handbook 1780, Tribal Relations
- Secretarial Order 3373 Evaluating Public Access in Bureau of Land Management (BLM)
 Public Land Disposals and Exchanges
- Information Bulletin 2020-010 Implementation of Secretarial Order 3373: Evaluating Public Access in Bureau of Land Management Public Land Disposals and Exchanges
- Section 1113 of the John D. Dingell, Jr. Conservation, Management, and Recreation Act
- State of Alaska Copper River Basin Area Plan (1986)

2.0 Alternatives

2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the East Alaska RMP would not be amended to allow land exchanges prior to all Native and State entitlements being met nor in any new geographic areas. For externally generated exchange proposals or applications, the No Action Alternative is generally to reject the proposal or action. Sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska (see Map 1) would remain as State-selected, BLM-managed public land until the lands were either conveyed to the State or the selections were relinquished or rejected and became BLM-managed unencumbered public lands. Lands would be managed under the existing East Alaska RMP. The Final EIS for the existing East Alaska RMP provides

an overview of impacts that were expected to occur in the East Alaska Management Area within which the planning area falls (see Map 1).

2.2 Alternative 2 – Exchange Sections 5 and 6

This alternative identifies two parcels of land in Thompson Pass area, sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska (see Map 2), to make available for a potential land exchange through a plan amendment. These two sections are currently selected by the State. If the State selections are relinquished or rejected, these lands would be available for exchange. Each section is 640 acres, for a total of approximately 1,280 acres. If a land exchange occurred, public access would be reserved for both section 5 and 6 through the land exchange process. This amendment would not otherwise affect the RMP for these lands.

2.3 Alternative 3 – Exchange Section 5 only

This alternative would amend the East Alaska RMP so that only section 5, Township 9 South, Range 2 West, Copper River Meridian, Alaska (see Map 3) is available for exchange. This alternative was developed based on scoping comments received from the public that Section 6 is heavily used for recreation activities. As in Alternative 2, if a land exchange occurred, public access would be reserved across the exchanged lands. This amendment would not otherwise affect the RMP for these lands.

If a land exchange were to occur and lands became privately owned, it is reasonably foreseeable that some development and loss of vegetation could occur. While development could be visible from the highway, it would likely be less visible than alternative 2, as development would occur away from the highway, in section 5 only. Any development occurring in section 5 would likely require a ROW or some form of access from the highway to section 5. Development that has occurred within the vicinity of Thompson Pass is the same as described in Alternative 2.

2.4 Alternatives Considered but not Analyzed in Detail

An alternative suggested by public scoping comments asked the BLM to consider other lands for exchange instead of the two proposed sections under Alternative 2. The BLM manages relatively few public lands in the Chugach Region. The Dingell Act requires the BLM to identify lands it can make available for land exchange with CAC that are accessible and economically viable. The BLM was unable to identify any lands under its management in the Chugach Region Land Exchange Study which meet these requirements of the Dingell Act to analyze other than the two proposed sections under Alternative 2.

3.0 Affected Environment and Environmental Consequences

3.1 How would the Proposed Action Affect Recreational Opportunities and Public Access?

3.1.1 Affected Environment

The planning area is classified as Primitive and Semi Primitive Non-Motorized within the East Alaska Resource Management Plan of 2007. Colloquially known as Thompson Pass, or more specifically as the "Hairpin Turn," the lands comprise a heavily used, road accessible, year-round recreational area. The planning area is primarily utilized for berry picking, hiking, skiing, snow machining, snowcat use, and hunting. While exact recreation usage is unknown, there were 91 comments submitted during the public scoping period regarding access, recreation management, and general recreation, indicating it is a popular public use area. Since Section 6 is located 0.45 miles from the Richardson Highway and Section 5 begins 1.40 miles from the highway, the planning area is easily accessed from multiple pullouts and provides convenient access for short duration (a few hours to day-long) recreational pursuits. While the site offers no fishing opportunities, it is a popular location for hunting of upland game birds such as ptarmigan, rabbit hunting, and occasional moose hunting. The area also offers exceptional views to road travelers. The average annual daily traffic count on the Richardson Highway near the planning area is 338 cars per day (Alaska DOT 2021). Currently all portions of the 1,280 acres within the planning area are State-selected, BLM-managed public lands. There are an additional 12,800 acres of state lands which are comparable in accessibility and recreational opportunity located along the Richardson Highway from milepost 19-37. There are private lands immediately east of the planning area. The surface estate of that land is owned by Tatitlek Corporation and subsurface estate is owned by Chugach Alaska Corporation. There is an ANCSA 17(b) public access easement (EIN # 77, C5, G, M) which provides access from the eastern border of the planning area through these private lands to public lands further east towards Marshall Pass and the Copper River.

Secretarial Order 3373 is intended to enhance the DOI efforts to support conservation stewardship; increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish; and encourage the enjoyment of land and waters managed by the Department. The order ensures that recreational public access is an important value now and in the future as BLM makes decisions involving the disposal or exchange of lands. Public access for purposes of this order should be construed broadly as publicly available access to Federal or State lands (SO 3373). The order also requires discussion of existing access utilized by the public, anticipated impacts to adjacent tracts of publicly accessible lands, and potential increased access to existing public lands from the proposed exchange.

3.1.2 Environmental Impacts—No Action Alternative

Under the No Action Alterative there would be no effects to recreational opportunities and public access. Existing and future use of the area would remain relatively unchanged. Recreational opportunities and public access, including hunting and fishing as well as encouraging the enjoyment of land and waters managed by the BLM would remain unimpeded. Lands within the

planning area would remain in public use, selected until such time as they are conveyed to the State or the selection is relinquished or rejected. If conveyed, the lands would likely be managed under the State's Copper River Basin Area Plan (1986), which recognizes the area as "having very high recreational value" (A-5). If selections were relinquished, they would become BLM unencumbered public lands and would be managed under the guidance of the East Alaska RMP (2007).

3.1.3 Environmental Impacts—Alternative 2

Alternative 2 would make available for exchange 1,280 acres of BLM-managed public lands currently available for high quality recreation opportunities, hunting, and public access. These lands are easily accessed from the Richardson Highway and support a wide array of year-round users. It is expected that some users would become displaced and seek other areas for recreational and hunting opportunities, including adjacent state lands. The State manages 12,800 acres of lands in the Thompson Pass area which are comparable in accessibility and recreational opportunity to the planning area. Alternative 2 would result in a 10 percent loss of lands of similar access and recreational opportunity available for public use. This alternative would link together private lands starting at about 0.45 miles east of the Richardson Highway continuing in a southeasterly direction down the Tasnuna River to the Copper River.

An exchange could put the lands into private ownership. If a public access easement within the planning area was not provided, users would need to travel north from the Richardson Highway through State patented public lands to reach sections 31-33 of Township 8 South, Range 2 West, Copper River Meridian, Alaska, to access an established ANCSA 17(b) public easements (EIN #77, C5, G, M) which then provides access to public lands east of the planning area. Under this alternative, current users will be displaced and the entire 1,280 acres currently utilized for recreational pursuits may no longer be available for public use unless a public access easement is retained as a condition of any land exchange. Alternative 2 allows that public access will be reserved through the land exchange process. Regardless of the establishment of a public easement or not, current users could be displaced, and the entire 1,280 acres currently utilized for recreational pursuits may no longer be available for public use since ANCSA 17(b) public access easements or other public access easements only provide for transportation through and across private lands. If recreational use is displaced onto nearby State lands, then no change in recreational impacts would be expected. There would be no significant effects to recreational use or access as a result of this alternative with the inclusion of public access retention.

3.1.4 Environmental Impacts — Alternative 3

Alternative 3 would make available for exchange all 640 acres of BLM-managed public lands in section 5, Township 9 South, Range 2 West, Copper River Meridian, Alaska which are currently available for recreation opportunities, hunting, and public access. Under this alternative, the 640 acres of BLM-managed public lands in section 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska would be retained by the BLM until such time that the selected parcels are conveyed to the State or the selections are relinquished or rejected. Both section 5 and 6 can be easily accessed from the Richardson Highway and support a wide array of year-round users. Due to the proximity of section 6 to the Richardson Highway (.45 miles) versus the proximity of section 5 (1.40 miles) a higher degree of recreational use occurs in section 6. The State manages

12,800 acres of lands in the Thompson Pass area which are comparable in accessibility and recreational opportunity to the planning area lands. Alternative 2 would result in a 5 percent loss of lands of similar access and recreational opportunity available for public use. This alternative would link together private lands starting at about 1.45 miles east of the Richardson Highway continuing in a southeasterly direction down the Tasnuna River to the Copper River. If a public access easement within section 5 was not provided, users would need to travel north from the Richardson Highway across State patented lands to reach sections 31-33, Township 8 South, Range 2 West, Copper River Meridian, Alaska, to access existing ANCSA 17(b) public access easement (EIN #77, C5, G, M) which then accesses public lands east of the planning area. Current users will be displaced; however, they will not be displaced to the extent of Alternative 2. The 640 acres currently utilized for recreational opportunities in section 5 may no longer be available for public use if a public access easement is not provided as a condition of any land exchange. Alternative 3 allows that public access will be reserved through the land exchange process. Regardless of the establishment of an ANCSA 17(b) public access easement or other form of public access easement, current users could be displaced from 640 acres in section 5. However, they will not be displaced to the extent of Alternative 2. The 640 acres currently utilized for recreational opportunities will no longer be available for public use since public easements only provide for transportation through and across private lands. Displaced users will see other areas for recreation and hunting opportunities, including adjacent State lands. Hunting opportunity specifically would be most affected under this alternative. The section retained is closer to the Richardson Highway, receives more use, and likely contains less overall hunting opportunity due to proximity to noise disturbance and human presence. There would be no significant effects to recreational use or access as a result of this alternative with the inclusion of public access retention.

3.1.5 Mitigation and Residual Impacts

Establishment of an ANCSA 17(b) public access easement or other public easements within sections of land under consideration for exchange would allow for continued access to the Lowe River and/or through the planning area to Marshall Pass.

While not possible to analyze at this stage, if an exchange occurs, BLM should attempt to acquire lands which provide equal access rights, opportunities to hunt and fish, and ability to enjoy land and waters managed by the DOI as the lands to be conveyed. Such review of access rights should also take into account differing modes of travel dependent upon the season.

3.2 How Would the Proposed Action Affect Cultural Resources?

3.2.1 Affected Environment

Historically the Thompson Pass area was a boundary region between the coastal Pacific Eskimo, or Chugach, and the interior Ahtna Athapaskans (Athabascans) (Clark 1984; De Laguna and McClellan1981). The two groups were reportedly hostile to each other, conducting raids on each other up and down the Copper River for most of the 19th century. However, the Thompson Pass area, reportedly, did not see much use by either group for either travel or subsistence. The State's

Alaska Heritage Resource Survey (AHRS 2021) database does not list any prehistoric archaeological sites within several miles of Thompson Pass.

As part of an "All American Route" to newly discovered gold fields in the Copper River Basin and near Eagle City, the U.S. Army sent Captain W.R. Abercrombie to the region in 1898 to locate a more viable route than the Valdez Glacier trail he reported after his 1884 expedition to the interior (Lethcoe and Lethcoe 1996). In June of 1898, an expeditionary party lead by Hospital Steward John Cleave located a route above Keystone Canyon, along the Lowe and Tasnuna Rivers through Marshall Pass. However, this route reached the Copper River below an impassible Woods Canyon, between them and the Copper River Basin. Thompson Pass, or "Thomson Pass" as Abercrombie named it, was identified as part of a route to the interior by a member of his party, Corporal Heiden in September 1898, who located and brushed a path around Keystone Canyon, through Thompson Pass into the headwaters of the Tsaina River. The majority of documented or reported historic sites in the Thompson Pass area are related to either the 1898 "Military Trail," the "Valdez Trail" or later "Richardson Road," as well as the roadhouses constructed to serve travelers of the route (AHRS 2021).

The Valdez Trail passed largely to the west and north of the planning area. However, a branch trail over Marshall Pass to the Tasnuna River, discovered by Cleave in 1898, was used in 1907 for hauling a 70-ton steamship and related supplies to the Copper River and Northwestern Railroad, which was not yet under construction (Janson, 1975). Horses and sleds were used during the winter of 1907 to freight the steamer, broken down into its parts, from Valdez to the Tasnuna River, where it was reassembled. The steamer, renamed the Chitina, was put to use on the Copper River, ferrying passengers and freight from Copper Center down river as far as Abercrombie Rapids. This historic route has been identified by the State of Alaska as traversing from west to east in the two identified sections. It is further identified locally as the "Marshall Pass Trail" or by the State of Alaska as the "Keystone Canyon Thompson Pass Trail," an RS2477, or a self-executing grant of right-of-way on pre 1976 trails in Alaska. However, no cultural resource investigations have occurred within the planning area to locate or document historic remains associated with this trail.

3.2.2 Environmental Impacts—No Action Alternative

Under the No Action Alternative, the BLM would retain in public ownership approximately two linear miles of the un-surveyed and uninvestigated historic "Marshall Pass Trail" or "Keystone Canyon Thompson Pass Trail," unless the selected parcels are conveyed to the State. Under the current East Alaska RMP, any BLM discretionary actions that could impact the trail and any associated historic properties would be subject to review under Section 106 of the National Historic Preservation Act (NHPA) before the action occurred; therefore, there are no anticipated environmental impacts.

3.2.3 Environmental Impacts—Alternative 2

Alternative 2 would identify both sections 5 and 6 as available for exchange and could lead to the conveyance from public ownership to private ownership of approximately two un-surveyed and uninvestigated linear miles of the historic "Marshall Pass Trail" or "Keystone Canyon Thompson Pass Trail." The transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term

preservation of a property's historic significance is considered an "adverse effect" (36 CFR 800.5). This alternative has the most potential to adversely impact approximately two miles of historic trail as well as any other undiscovered historic properties, including artifacts and camp sites from the Gold Rush or early 1900's.

However, prior to any land exchange, and in consultation with the Alaska State Historic Preservation Officer (SHPO), the BLM is responsible for complying with NHPA Section 106: identifying cultural resources on the affected lands (36 CFR 800.4), determining whether there are any adverse effects to eligible cultural resources (36 CFR 800.5), and resolving those adverse effects (36 CFR 800.6).

3.2.4 Environmental Impacts— Alternative 3

Alternative 3 would identify only section 5 as available for exchange and could lead to the conveyance from public ownership to private ownership approximately one un-surveyed and uninvestigated linear mile of the historic "Marshall Pass Trail" or "Keystone Canyon Thompson Pass Trail." The transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of a property's historic significance is considered an "adverse effect" (36 CFR 800.5).

Approximately one mile of this trail near the Richardson Highway would be retained in public ownership and would not be affected. This alternative has the potential to adversely impact approximately one mile of historic trail as well as any other undiscovered historic properties, including artifacts and camp sites from the Gold Rush or early 1900's.

However, same as Alternative 2, prior to any land exchange, and in consultation with the Alaska State Historic Preservation Officer (SHPO), the BLM is responsible for complying with NHPA Section 106: identifying eligible cultural resources on the affected lands (36 CFR 800.4), determining whether there are any adverse effects to identified eligible cultural resources (36 CFR 800.5), and resolving those adverse effects (36 CFR 800.6).

3.2.5 Mitigation and Residual Impacts

Compliance with NHPA Section 106 (36 CFR 800) is required prior to any exchange of lands. This process would include cultural resource surveys of the affected lands with the potential for cultural resources or historic properties as well as the documentation of those resources. Mitigation for any adverse effects to eligible properties arising from the exchange of lands with a private owner would require specific consultation about those eligible properties with the Alaska SHPO and any other affected tribes or interested parties, such as the City of Valdez or a local historical society.

3.3 How Would the Proposed Action Affect Social and Economic Conditions?

3.3.1 Affected Environment

The main social and economic consideration for lands under consideration for exchange is existing recreational use and how it could change under the alternatives. Visitors to the planning area come from a wide variety of locations in Alaska (and elsewhere) and there is no data on

their place of residence. If there are local economic or social effects from any changes in recreation use patterns, they would likely be felt in Valdez more than in any other single community. In 2018, the population of Valdez was about 3,870, a 1.7 percent decrease from 2010 (data in this paragraph from Economic Profile System 2021b). Nearly 90 percent of the population is "white alone" (not Hispanic or Latino) and the per capita income was about \$47,000, considerably above the statewide per capita income of about \$36,000. The population had higher levels of education than statewide averages, with a higher percentage of residents graduating from high school and obtaining bachelor's or advanced degrees. The industries employing the highest proportion of residents were public administration (24 percent); education, health care, and social assistance (20 percent); transportation, warehousing, and utilities (14 percent); professional, administration, management, and waste management (11 percent); retail trade (6 percent); and arts, entertainment, recreation, accommodations, and food (5 percent). Valdez is known for its wide variety of outdoor recreation opportunities.

3.3.2 Environmental Impacts—No Action Alternative

There would be no effects to recreational opportunities and public access, so existing and future use of the area would remain relatively unchanged. Lands within the planning area would remain in public ownership and available for recreation use and activities. Therefore, there would be no associated effects on social or economic conditions.

3.3.3 Environmental Impacts—Alternative 2

As described in Section 3.1.3 of this RMP/EA, Alternative 2 would make available for exchange 1,280 acres of public lands currently available for high quality recreation opportunities, public access, and hunting opportunities from BLM management. These lands are easily accessed from the Richardson Highway and support a wide array of year-round users. It is expected that some users would become displaced and seek other areas for recreational and hunting opportunities, including adjacent state lands. Scoping comments suggested that many current users highly value recreational opportunities in the Thompson Pass area, which includes both the planning area and State lands. Commenters identified a variety of winter recreation opportunities include skiing, snowboarding, and snow machining.

Displaced users could find similar opportunities in the greater Thompson Pass area, although the number of users impacted is not known. Therefore, no social or economic impacts would occur. Local users from Valdez or nearby communities would still be able to have similar recreation experiences, and more-distant users would still travel to the Thompson Pass area, maintaining current spending patterns. If displaced local users were not able to find comparable recreational opportunities in the general area, then they would either have to travel farther or find substitute activities, possibly with a loss in quality. However, with little data on current use patterns by local residents, including how important opportunities in the planning area are compared to other current recreational opportunities, it's difficult to say whether quality of life would be affected. Similarly, without data on use patterns from visitors who live farther away, it's not possible to say whether current spending in the local area would be affected if those more-distant visitors were displaced from the exchanged lands. If recreational use is displaced onto nearby State lands, then no change in social or economic impacts would be expected. In summary, the best we can say is that expected social and economic impacts would be minor. Public comments on

the Draft RMP Amendment/EA, if site-specific, may be helpful in refining this highly qualitative estimate of effects.

Another complication in estimating social and economic impacts is that we do not know how a potential entity that would receive these lands in exchange would manage the lands. However, the lands are identified as being accessible and economically viable. As such, while not knowing the specifics of how it would occur, it is expected that the land would be put into an economical use. However, since the use cannot be foreseen, it is unknown if the net social and economic effects would be positive or negative and the degree of the effect.

3.3.4 Environmental Impacts— Alternative 3

As described Section 3.1.4 of this RMP/EA, Alternative 3 would make available for exchange 640 acres of public lands in section 5, Township 9 South, Range 2 West, Copper River Meridian, Alaska, which are currently available for recreation opportunities and public access. Due to the proximity of section 6 to the Richardson Highway (.45 miles) versus the proximity of section 5 (1.40 miles) a higher degree of recreational use occurs in section 6. Regardless of the establishment of a public access easement, current users may be displaced, but not to the extent of Alternative 2.

The social and economic impacts of Alternative 3 would therefore be similar to those described under Alternative 2 but present to a lesser degree. Given the lack of user data, it is not possible to say how much less the impacts would be or whether activities would be affected differentially.

3.3.5 Mitigation and Residual Impacts

The mitigation measures described in Section 3.1.5 of this RMP/EA would decrease the likelihood of changes in use patterns that could result in social and economic impacts, but the magnitude of the change is unknown.

3.4 How Would the Proposed Action Affect Land Ownership and Uses?

3.4.1 Affected Environment

The lands identified in this plan amendment, sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska, are State-selected, BLM-managed public lands. They are not open for exchange under the current East Alaska RMP. Because these lands are State-selected, the selection would have to be relinquished or rejected before they could be made available for exchange. Exchanges may be proposed to the BLM by any person, State, or local government (43 CFR 2201.1(a)).

The lands north and west of sections 5 and 6 are State conveyed lands. There is a parcel of State-selected, BLM-managed public lands, (6.66 acres) in section 31, Township 8 South, Range 2 West. The lands to the east are patented to the Tatitlek Corporation, and the lands to the south are selected by the Tatitlek Corporation, top filed by the State and BLM-managed public lands.

Residential areas and some businesses occur from approximately Mile 11 Richardson Highway, on into Valdez. At approximately Mile 18.5 of the Richardson Highway, is other private property, some of which is utilized for recreation and rafting the Lowe River. At approximately Mile 19 Richardson Highway, there is an AKDOT maintenance facility that provides equipment

storage for work on Thompson Pass and on into Valdez. There is also a residence at this location. At approximately Mile 24 Richardson Highway, across the road from the proposed land exchange area, there is a State campground (Blueberry Lake) that is utilized for camping, fishing and berry picking. At approximately Mile 26.5 Richardson Highway, there is an AKDOT camp to provide equipment storage and crew housing for work on Thompson Pass. At approximately Mile 28.5 Richardson Highway, there is a State recreational area for the Worthington Glacier. At approximately Mile 37 Richardson Highway, there is a privately owned lodge, this is also a base for heliskiing activity. At approximately Mile 46 Richardson Highway, there is a privately owned lodge and a residential area. This lodge is also a base for heliskiing activity.

3.4.2 Environmental Impacts—No Action Alternative - 1

Under the No Action Alternative, both sections would remain as State-Selected, BLM-managed public lands and would be managed under the direction currently provided for in the East Alaska RMP unless the land is conveyed to the State of Alaska.

3.4.3 Environmental Impacts—Alternative 2

Alternative 2 identifies two parcels of land in the Thompson Pass area, sections 5 and 6, Township 9 South, Range 2 West, Copper River Meridian, Alaska, to make available for a potential exchange. If an exchange occurred, these sections would no longer be public lands managed by the BLM. If sections 5 and 6 are exchanged to a private entity there is the possibility that casual use public access would either be restricted or denied. The BLM would negotiate and reserve, at the time of exchange, public access easement(s) within sections 5 and 6, to ensure continued public access through private property to reach public lands and resources.

3.4.4 Environmental Impacts—Alternative 3

Alternative 3 identifies one parcel of land in the Thompson Pass area, section 5, Township 9 South, Range 2 West, Copper River Meridian, Alaska, to make available for a potential land exchange. If an exchange occurred, section 5 would no longer be public lands managed by the BLM. If section 5 is exchanged to a private entity there is the possibility that casual use public access would either be restricted or denied. BLM would negotiate, at the time of exchange, to reserve designated public access routes across section 5.

3.4.5 Mitigation and Residual Impacts

If lands become available for exchange, at the time of any exchange, the BLM would negotiate and reserve public access easement(s) through any lands leaving federal management.

4.0 Consultation and Coordination

4.1 Federal and State Government Agencies.

The State of Alaska Department of Natural Resources (AKDNR) submitted a conditional letter of relinquishment to the BLM on April 20, 2020. The BLM notified AKDNR, and AKDOT Thompson Pass area managers via email on December 12, 2020 and on December 20, 2020 of the public scoping effort for the RMP Amendment. No scoping comments were received from

AKDNR or AKDOT. The City of Valdez was also notified of the scoping effort by email during the scoping period.

4.2 Government-to-Government Consultation and Regional and Village Native Corporations

Invitations to consult, either on a government-to-government basis or government-to-corporation basis, were sent to the Federally Recognized Tribes and Alaska Native Corporations within the Chugach Region and planning area on November 23, 2020.

The following Federally Recognized Tribes, Tribes, Tribal Corporations, and Alaska Native Corporations were mailed and called:

Native Village of Eyak, Alaska Native Village of Chenega, Alaska Qutekcak Native Tribe, Alaska Valdez Native Tribe, Alaska Eyak Corporation, Alaska Chugach Alaska Corporation, Alaska English Bay Corporation, Alaska Port Graham Corporation, Alaska Tatitlek Corporation, Alaska Chenega Corporation, Alaska

In response, the BLM received an email from Native Village of Eyak on December 28, 2020 stating that the project was not in their traditional use area and that they would not be further participating in this planning effort. No other comments from Tribes or Alaska Native Corporations were received.

4.3 Media

Use of local media is essential in providing adequate notice for the varying stages of the planning process. Radio and print media of local and statewide circulation were used to disseminate information concerning scoping public comments and the planning schedule. The BLM used the Valdez public radio station, KCHU, that has a listening area that covers the planning area and broadcasts to all of Prince William Sound and the Copper River Basin. Additionally, press releases were sent to the Statewide news media.

5.0 List of Appendices

Appendix A—List of Preparers

Appendix B—Table of Issues Considered

Appendix C—Acronyms and Abbreviations

DOI-BLM-AK-A020-2020-0037-RMP-EA

Appendix D—List of References

Appendix E—Maps

Appendix A: List of Preparers

Name	Title	Resource Area
Cory Larson	Outdoor Recreation Planner	Recreation, LWC, ROS, SO 3373
John Jangala	Archaeologist	Cultural Resources, Paleontology
Brian Ubelaker	Wildlife Biologist	Wildlife, T&E, Subsistence
Brenda Becker	Lands and Realty Specialist	Lands and Realty
Tim Sundlov	Fisheries Biologist	Fisheries
Mike Sondergaard	Hydrologist	Water Quality
Rhonda Williams	Lands and Realty Specialist, CDSO	Public Health and Safety
Stewart Allen	Socioeconomic Specialist	Socioeconomics, Environmental Justice
Denton Hamby	Outdoor Recreation Planner	Visual Resources
Tim Skiba	Forester	Forests and Rangelands
		Forestry Resources and Woodland Products
Kyle Kraynak	Environmental Protection Specialist	Mineral Resources

Appendix B: Table of Issues Considered

Table B-1: List of Issues Considered

Determination*	Issue	Rationale for Determination
NI	Air Quality	As stated in the East Alaska RMP the air quality in the planning area is pristine. This plan is not putting forward management alternatives that would have a measurable effect on air quality; therefore, this issue was not considered in further detail.
NP	Areas of Critical Environmental Concern	There are no areas of critical environmental concerns within the project area.
PI	Cultural Resources	The National Register Eligible Valdez to Eagle gold rush trail as well as a historic branch of that trail through Marshal Pass are located in or near the planning area. The proposed Area of Potential Effects has not been archaeologically investigated and could contain cultural resources that would be eligible for the National Register of Historic Places.
NP	Environmental Justice	Low-income or minority populations would not be affected (as described in Section 1.4.2)
NP	Fire Management	Fire Management Specialist does not consider this an issue in the planning area. There is no recorded fire history in the area and vegetative fuel types are not conducive to wildfire.
NI	Fish Habitat	The headwaters of the Lowe River flow through Marshall Pass primarily fed by Deserted Glacier about 20 miles east of Valdez. It then soon flows through Heiden Canyon downstream of the BLM-managed land. Within planning area there is a small unnamed lake, the Lowe River, and two small unnamed tributaries to the Lowe River. The section of Lowe River that flows through the planning area is extremely fast-flowing with heavy glacial sediment during the

Determination*	Issue	Rationale for Determination
		summer and fall. There are no documented fisheries resources in this section of the Lowe River or nearby tributaries. The nearest fisheries resources are Coho salmon spawning and rearing in a tributary to the Lowe River at mile 16.7 of the Richardson Highway, which is approximately 10 miles downstream of BLM-managed lands. This plan amendment does not put forward management alternatives that would have a measurable effect on fisheries; therefore, this issue was not considered in further detail.
NP	Floodplains	No issues identified for floodplains in the planning area.
NP	Forests and Rangelands	No issues were identified through public input or internal scoping. There are no valued timber products present in the planning area. The proposed action does not put forward management alternatives that would have a measurable impact to forestry resources or products; therefore, no further analysis is required.
NP	Forestry Resources and Woodland Products	No issues identified, and no valued timber products exist on the proposed selected lands; therefore no further analysis is required.
NI	Invasive, Non-native Species	It has been concluded that this action would not introduce any invasive species which might adversely affect the forest. Although occurrences of invasive species have been recorded along the Richardson Highway in the past, invasive plants have not been found to propagate off the roadway or disturbed areas of the Trans-Alaska Pipeline. Reasonably foreseeable vegetation removal or alteration would not have lasting overall affects to the sub-alpine ecosystem, the shrub classes that exist propagate by arial seeding and therefore will regenerate naturally and erosion is not

Determination*	Issue	Rationale for Determination
		expected to occur other than natural rates of erosion and soil deposition processes; therefore, this issue was not considered in further detail
PI	Lands and Realty	These two sections of land are selected by the State and are BLM-managed public lands. There is a trail that runs from the Richardson Highway to the conveyed lands in section 4.
NI	Lands with Wilderness Characteristics	The two sections of land contained within the proposed action are in close proximity (between .45 and 2.45 miles) to the Richardson Highway, are used by snow machine, OHV's, and tracked vehicles and are located within a heavily utilized helicopter supported recreation area. There is an ANCSA 17(b) public access easement in the adjoining sections of private lands which allows for motorized use in which some users pass through the project area lands to get to. The East Alaska RMP of 2007 did not contain an inventory for Lands with Wilderness within the project area. An inventory for presence or absence of wilderness characteristics was completed for the project area in February of 2021 (BLM 2021a). This inventory concluded that Lands with Wilderness Characteristics are not found within the two sections of land in the Proposed Action. The planning area does not meet the minimum size criteria (5,000 acres contiguous lands) defined in BLM manual 6310 Conducting Wilderness Characteristics Inventory on BLM Lands since it contains only two sections of lands totaling 1280 acres (BLM 2021b). Furthermore, consistent with Section C-2, "There may be some circumstances under which an inventory of the entire area is not required. For example, if a proposed project would only cross a small corner of an inventory unit and would be confined to previously disturbed land that is an unnatural condition, a full inventory may not be necessary" (BLM

Determination*	Issue	Rationale for Determination
		2021b, p. 6). In this instance, the project area encompasses only a small corner of the overall managed lands (two sections of land totaling 1,280 acres out of 15,135 acres of BLM managed lands within the area). The lands are not contiguous or adjoining with other lands which have been formally determined to have wilderness or potential wilderness values, or any federal lands managed for the protection of wilderness characteristics. Additionally, the lands are managed under the State of Alaska Generally Allowed Uses which allows for motorized cross-country travel of OHV's up to 1500 lbs. and large vehicles up to 10,000 lbs. Known motorized use (OHV, snow machine, track vehicles) occurs in the area which contribute to disturbances such as vegetation stripping, vegetation crushing, and erosion. Due to these factors, this issue has been eliminated from further analysis.
NI	Migratory birds and wildlife	Wildlife expected to be in the area may include grizzly bear, black bear, moose, Bald and Golden eagle, mountain goat, waterfowl, small game, and various unclassified small mammals (East Alaska FEIS/PRMP, Map 32, 35, 36, 37 and 38). There are no known Endangered Species Act (ESA) Threatened or Endangered species present in the planning area (Environmental Conservation Online System). The East Alaska RMP does not designate any special areas of concern for any wildlife species in the area. The area surrounding Valdez is considered Bald eagle nesting habitat (East Alaska FEIS/PRMP Map 38); however, the change in land management would not likely affect any of the population in the area as eagles are protected under the <i>Bald and Golden Eagle Protection Act</i> . One comment in the scoping period asked the BLM to address tundra swans nesting in the planning area. If development does occur and the unnamed pond in the planning area is disturbed, swans and other

Determination*	Issue	Rationale for Determination
		waterfowl may utilize other waterbodies on adjacent state land for nesting. Hunting within the planning area is currently regulated under State hunting regulations. If the State relinquishes its selection or it is rejected, the land hunting regulation would fall under both ANILCA subsistence regulations and State hunting regulations. If these lands are exchanged and become privately owned, members of the public would be required to gain permission from the landowner prior to hunting these lands and therefore, wildlife is likely to experience lessened hunting pressure. The plan amendment is not putting forward management alternatives that would have a measurable effect on wildlife resources; therefore, no further analysis is necessary.
NI	Mineral Resources	Research has not revealed a comprehensive mineral potential report for the areas of this amendment. The planning area is within the Prince William Sound Mining District. This region's primary mineral resources are gold and copper (Koschmann and Bergendahl 1968). Gold bearing quartz veins are widespread in the Southeast Valdez quadrangle. Country rocks to gold bearing quartz in Valdez Group metalflysch can be variably silicified, carbonitized, and sericitized (Goldfarb et al. 1997). Placer gold has been historically mined in the Lowe River which flows through the planning area according to Winkler et al. 1981, though the precise location of mining activity on the river is unknown. There are currently no mining claims within the planning area. These sections are State-selected, BLM-managed public lands which are closed to mineral exploration and development at the current time. If lands are conveyed to the State of Alaska or exchanged to a private entity, the mineral resources could be developed under state mining regulations; however, it is assumed that if future development were to occur it

Determination*	Issue	Rationale for Determination
		would be low intensity and in line with the limited infrastructure and development in the Thompson Pass region. Because the specific nature of any future development in the planning area is speculative, this plan amendment does not put forward management alternatives that would have a measurable effect on mineral resources; therefore, this issue was not considered in detail and has been eliminated from further analysis.
NI	Native American Religious Concerns	Consultations are/will be conducted and there is no indication of Native American Religious Concerns.
NI	Noise Resources	This amendment is not putting forward management alternatives nor approves any action that would have a measurable effect on noise; therefore, this issue was not considered in further detail.
NI	Paleontological Resources	The PFYC classification is 3a with Moderate Potential for this area. The area contains Upper Cretaceous aged volcanic and metamorphosed marine flysch strata from the Valdez Group. This may contain invertebrate fossils but no known vertebrate fossils (USGS 2021).
PI	Recreation Resources	The area is easily accessible and utilized by recreational users. Future exchanges or conveyances could limit or restrict recreational uses or access to the planning area.
PI	Socioeconomics	If there are significant changes in use patterns, there could be an economic effect in Valdez. Quality of life could be affected for Valdez residents (and others) if recreational access or opportunities are lost that could not be replaced.
NI	Soils	Soils in the plan amendment area have been previously surveyed in 1979 on a very broad

Determination*	Issue	Rationale for Determination
		scale and lack detail except for use in general land use planning. The USDA Natural Resource Conservation Service (NRCS) is in the process of conducting more intensive soil surveys that will include BLM's planning area. This soil survey and associated ecological site descriptions are within the NRCS North Copper River Area (AK659) of the Southern Alaska Coastal Mountains Major Land Resource Area. No information is publicly available yet except the survey area boundary.
		The soils resource may be affected by natural forces and by human activities. Soils also support other resources such as vegetation, water quality, and recreation. There are no sites indicated in the ADEC contaminated sites database (https://dec.alaska.gov/spar/csp.aspx) which might indicate soil resource issues or contaminated sites. BLM does not have any specific projects or plans within the planning area that would affect the existing soils. Since this plan is not putting forward management alternatives that would have a measurable effect on soil resources, this issue was not considered in further detail and has been eliminated from further analysis.
NP	Threatened, Endangered or Candidate Plant or Animal Species	According to the USFWS Environmental Conservation Online System there are no known populations of threatened or endangered species within the proposed planning area and therefore, no consultation with the U.S. Fish and Wildlife Service is considered necessary pursuant to Section 7 of the Endangered Species Act and none will be undertaken. As such, no further analysis is necessary.
NI	Vegetation	Productive timber resources are not present in this planning area. The lands in the proposed action are in a sub-alpine zone, an elevated ecosystem band which exists above the timber

Determination*	Issue	Rationale for Determination
		line. Sub-alpine ecosystems consist of stunted, clumped balsam poplar and other dwarf willow species and dwarf birch. These stunted trees and shrubs do not exceed 3 meters in height and are no more than 12 cm in diameter at breastheight, therefore, are not considered to be productive timber resources (Pojar and MacKinnon 2013). Further, there is no record of forest disturbance from timber harvest or special forest product harvest in the planning area nor do there exist any active timber harvest authorizations in similar alpine ecosystems in Alaska.
		The East Alaska FEIS/PRMP analyzed and disclosed impacts to forest and vegetation from uses such as road and trail construction, recreational use, fire management, vegetation management, and exploration of locatable minerals; this analysis is incorporated herein by reference (pp. 464-473). Possible impacts to vegetation from development could include the direct removal of vegetation, the fragmentation of habitat and habitat loss, and a facilitation of weed invasions. If land within the planning area were exchanged in future and development occurs, it is reasonably foreseeable that the proposed action would affect shrubs in the planning area. However, the total bio-mass, type and vegetation density precludes them from being viable timber and thus does not warrant further consideration. Other vegetation species present in the planning area include those typical of alpine environments such as berry-producing, low-growing bushes, Labrador tea, grasses, and other flowering herbaceous species. There are no BLM Sensitive Plant Species found within 45 miles of the planning area to consider (AKNHP 2020)
		It has been concluded that this action would not introduce any invasive species which might adversely affect the forest. Although occurrences of invasive species have been

Determination*	Issue	Rationale for Determination
		recorded along the Richardson Highway in the past, invasive plants have not been found to propagate off the roadway or disturbed areas of the Trans-Alaska Pipeline. Reasonably foreseeable vegetation removal or alteration would not have lasting overall affects to the sub-alpine ecosystem. The shrub classes that exist propagate by arial seeding and therefore will regenerate naturally and erosion is not expected to occur other than natural rates of erosion and soil deposition processes; therefore, this issue was not considered in further detail.
NI	Visual Resources	BLM includes four Visual Resource Management (VRM) inventory classifications in the East Alaska RMP for managing scenic values. Of the four, Class I is the most restrictive; Class IV is the least restrictive. The proposed project is within Class III. In accordance with the East Alaska RMP, VRM Class III objective is " to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not detract from the existing landscape." The effects of the proposed action on visual resources would be consistent with BLM Class III VRM management objectives. The plan amendment is not putting forward management alternatives that would have a measurable effect on visual resources; therefore, this issue was not considered in further detail.
NP	Wastes, Hazardous or Solid	No issues identified
NI	Water	Within the planning area is a small unnamed lake, the Lowe River, and two small tributaries to the Lowe River. According to the State of Alaska Department of Natural Resources

Determination*	Issue	Rationale for Determination
		(AKDNR) water estates mapper, there are no surface or subsurface water rights within the two proposed sections (AKDNR Mapper). There are no sites indicated in the State of Alaska Department of Environmental Conservation (AKDEC) contaminated sites database which might indicate water quality issues or contaminated sites (AKDEC Mapper). In addition, BLM does not have any specific water management projects/plans for the water bodies within the planning area.
		The East Alaska FEIS/PRMP analyzed and disclosed impacts to water quality from uses such as road and trail construction, recreational use, fire management, vegetation management, and exploration of locatable minerals; this analysis is incorporated herein by reference (pp. 450-463). The FEIS concluded that development could have a negative impact on water quality. During periods of disturbance to vegetation and soils, water quality could be degraded in nearby lakes and streams as turbidity and total dissolved solids (TDS) increase. The amount of increased turbidity and TDS would be a function of the sediment that reaches the water, the volume of water, and the natural amounts of turbidity and TDS. It is assumed that future development that could occur if lands are exchanged would be low intensity and in line with the limited infrastructure and development in the Thompson Pass region. Because the specific nature of any future development in the
		planning area is speculative, this plan amendment does not put forward management alternatives that would have a measurable effect on water resources; therefore, this issue was not considered in detail and has been eliminated from further analysis.

Determination*	Issue	Rationale for Determination
NP	Wetlands/Riparian Zones	There are no wetland zones.
NI	Wild and Scenic Rivers	There are no designated WSR's within the proposed planning area
NP	Wilderness and Wilderness Study Areas	There are no congressionally designated Wilderness or Wilderness Study Areas within the planning area.
NI	Wildlife	Wildlife expected to be in the area may include grizzly bear, black bear, moose, Bald and Golden eagle, mountain goat, waterfowl, small game, and various unclassified small mammals (EARMP, Map 32, 35, 36, 37 and 38). There are no known Endangered Species Act (ESA) Threatened or Endangered species present in the planning area (Environmental Conservation Online System). The East Alaska RMP does not designate any special areas of concern for any wildlife species in the area. The area surrounding Valdez is considered Bald eagle nesting habitat (EARMP Map 38); however, the change in land management would not likely affect any of the population in the area as eagles are protected under the <i>Bald and Golden Eagle Protection Act</i> . One comment in the scoping period asked the BLM to address tundra swans nesting in the planning area. If development does occur and the unnamed pond in the planning area is disturbed, swans and other waterfowl may utilize other waterbodies on adjacent state land for nesting. As stated above, hunting is currently regulated under State hunting regulations. If the State relinquishes its selection or it is rejected, the land hunting regulation would fall under both ANILCA subsistence regulations and State hunting regulations. If these lands are exchanged and become privately owned, members of the public would be required to gain permission from the

DOI-BLM-AK-A020-2020-0037-RMP-EA

Determination*	Issue	Rationale for Determination
		landowner prior to hunting these lands and therefore, wildlife is likely to experience lessened hunting pressure. The plan amendment is not putting forward management alternatives that would have a measurable effect on wildlife resources; therefore, no further analysis is necessary.

^{*}Possible determinations:

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present and may be impacted to some degree. Will be analyzed in affected environment and environmental impacts. (NOTE: PI does not necessarily mean impacts are likely to be significant, only that there are impacts to this issue, resource or use. Significance will be determined through analysis and documented in a Finding of No Significant Impact or Environmental Impact Statement.).

Appendix C: Acronyms and Abbreviations

AKDEC Alaska Department of Environmental Conservation

AKDOT Alaska Department of Transportation

AKDNR Alaska Department of Natural Resources

AKNHP Alaska Natural Heritage Program

ANCSA Alaska Native Claims Settlement Act

ANILCA Alaska National Interest Lands Conservation Act

BLM Bureau of Land Management
CAC Chugach Alaska Corporation

CEQ Council on Environmental Quality

CFR Code of Federal Regulations

DOI Department of the Interior

DR Decision Record

EA Environmental Assessment

EA RMP East Alaska Resource Management Plan

EO Executive Order

ESA Endangered Species Act

FLPMA Federal Land Policy Management Act of 1976, as amended

FONSI Finding of No Significant Impact

GFO Glennallen Field Office

IM Instruction Memorandum

NEPA National Environmental Policy Act

NHPA National Historic Preservation Act

RMP Resource Management Plan

ROD Record of Decision

ROW Right-of-way

SHPO State Historic Preservation Officer

State State of Alaska

USGS U.S. Geologic Survey

VRM Visual Resource Management

Appendix D: List of References

AKDEC Mapper. State of Alaska Division of Spill Prevention and Response – Contaminated Sites Interactive Map. https://dec.alaska.gov/spar/csp.aspx. Accessed on February 26, 2021.

AKDNR Mapper. State of Alaska Department of Natural Resources Alaska Mapper – Interactive Access to the State of Alaska Land Records.

http://dnr.alaska.gov/mapper/controller?do=load_map&map_num=00006&gsid=FB BC317FD5DE972213C20CE1E5D6E51B.tomcat-90#map=6/-16316713.07/9044063.94. Accessed on February 26, 2021.

Alaska DOT. State of Alaska Department of Transportation. Traffic Data - Transportation Data Programs, Department of Transportation & Public Facilities - State of Alaska. 2021.

Alaska Heritage Resource Survey. ArcMap Database, State of Alaska Office of History and Archaeology, Accessed January 13, 2021.

Bald and Golden Eagle Protection Act of 1940, 16 USC 668(a); 50 CFR 22) (1940)

Bureau of Land Management.

Land Use Planning Handbook (H-1601-1). 2005

East Alaska Proposed Resource Management Plan and Final EIS. 2006.

East Alaska Resource Management Plan Record of Decision and Approved Resource Management Plan. 2007.

National Environmental Policy Act Handbook H- 1790-1. 2008

Planning for Recreation and Visitor Services. Handbook 8320-1. 2014.

Documentation of BLM Wilderness Characteristics Inventory Findings from Previous Inventory on Record: Thompson Pass Hairpin Lands. 2021a.

Conducting Wilderness Characteristics Inventory on BLM Lands – Manual 6310. 2021b.

DOI-BLM-AK-A020-2020-0037-RMP-EA

Clark, Donald. Pacific Eskimo: Historical Ethnogrpahy, In Handbook of North American Indians, Vol.5. Smithsonian Institution. 1984.

De Laguna, Frederica and Catherine McClellan. Ahtna. In Handbook of North American Indians, Vol. 6. Smithsonian Institution. 1981.

Environmental Conservation Online System, USFWS website, https://ecos.fws.gov/ipac/location/index

Endangered Species Act of 1973, 16 USC 1531-1544, 87 Stat. 884) (1973)

Giefer, J., and B. Blossom. 2020. Catalog of waters important for spawning, rearing, or migration of anadromous fishes – Southcentral Region, effective June 1, 2020.

Alaska Department of Fish and Game, Special Publication No. 20-03, Anchorage.

Goldfarb, R.J., Miller, L.D., Leach, D.L., and Snee, L.W, 1997, Gold deposits in metamorphic rocks in Alaska, in Goldfarb, R.J., and Miller, L.D., eds., Mineral Deposits of Alaska: Economic Geology Monograph 9, p. 151-190.

Janson, Lone. The Copper Spike. Alaska Northwest Books. 1975.

Koschmann, A.H. and M.H. Bergendahl. Principal Gold-Producing Districts of the United States. 1968.

Lethcoe, James and Nancy Lethcoe. Valdez Gold Rush Trails of 1898-1899. Prince William Sound Books. 1996.

Pojar, Jim and Andy MacKinnon. Alpine Plants of the Northwest: Wyoming to Alaska. Lone Pine Publishing. 2013.

Secretarial Order 3373. US Department of Interior. Order No. 3373, Sec. 1. March 2019

State of Alaska. Copper River Basin Area Plan. 1986.

Migratory Bird Treaty Act of 1918 16 USC 703 (1918)

DOI-BLM-AK-A020-2020-0037-RMP-EA

Economic Profile System. 2021. Data generated from Populations at Risk Report, Valdez, AK, accessed 1/14/2021 at https://headwaterseconomics.org/apps/economic-profile-system.

Economic Profile System. 2021b. Data generated from Demographics Report for Valdez, AK, accessed 1/14/2021 at https://headwaterseconomics.org/apps/economic-profile-system.

- U.S. Geological Survey. Geologic Map of Alaska, Online Interactive Geology Mapper. https://alaska.usgs.gov/science/geology/state_map/interactive_map/AKgeologic_map.html. Accessed January 13, 2021.
- Winkler, G.R., Silberman, M.L., Grantz, Arthur, Miller, R.J., and MacKevett, E.M., Jr., 1981, Geologic map and summary geochronology of the Valdez Quadrangle, southern Alaska: U.S. Geological Survey Open-File Report 80-892-A, 2 sheets, scale 1:250,000.

Appendix E: Maps

Map 1 - Map of Alaska BLM RMP boundaries

Map 2 – Map of Alternative 2

Map 3 – Map of Alternative 3

Map 4 – Map of Valdez and the planning area