

July 2024

## Castner Glacier Recreation Area Management Plan

Draft Environmental Assessment

DOI-BLM-AK-A020-2024-0004-EA

Applicant:

N/A

Casefile Number:

N/A



*Castner Glacier.*

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**TABLE OF CONTENTS**

**CHAPTER 1. INTRODUCTION..... 1-1**

**1.1. Background..... 1-1**

**1.2. Purpose and Need..... 1-4**

    1.2.1. Decision to be Made ..... 1-4

**1.3. Land Use Plan Conformance ..... 1-4**

    1.3.1. Relationship to Statutes, Regulations, and Policies ..... 1-6

**1.4. Scoping and Issues..... 1-6**

    1.4.1. Issues Analyzed in Detail..... 1-7

    1.4.2. Issues not Analyzed in Further Detail..... 1-8

**CHAPTER 2. ALTERNATIVES..... 2-1**

**2.1. Alternative A – No Action ..... 2-1**

    2.1.1. Roaded Natural ROS Area..... 2-2

    2.1.2. Semi-Primitive Non-Motorized ROS Area..... 2-2

    2.1.3. Primitive ROS Area ..... 2-3

**2.2. Alternative B – Proposed Action..... 2-7**

    2.2.1. Action 1 – Delineate Recreation Management Zones (RMZs) ..... 2-7

    2.2.2. Action 2 – Define Recreation Setting Characteristics (RSCs)..... 2-9

    2.2.3. Action 3 – Implement Supplementary Rules ..... 2-14

    2.2.4. Action 4 – Define Limitations on OHV Use ..... 2-14

    2.2.5. Action 5 – Designate Trails and Conditions of Limitations ..... 2-15

    2.2.6. Action 6 – Manage Special Recreation Permits ..... 2-15

    2.2.7. Action 7 – Issue Land Use Authorizations ..... 2-15

**2.3. Alternative C..... 2-16**

    2.3.1. Action 1 – Delineate Recreation Management Zones (RMZs) ..... 2-16

    2.3.2. Action 2 – Define Recreation Setting Characteristics (RSCs)..... 2-16

    2.3.3. Action 3 – Implement Supplementary Rules ..... 2-16

    2.3.4. Action 4 – Define Limitations on OHV Use ..... 2-17

    2.3.5. Action 5 – Designate Trails and Conditions of Limitations ..... 2-17

    2.3.6. Action 6 – Manage Special Recreation Permits ..... 2-17

    2.3.7. Action 7 – Issue Land Use Authorizations ..... 2-17

**2.4. Design Features Common to All Action Alternatives ..... 2-17**

**2.5. Comparison of Alternatives..... 2-19**

**2.6. Alternatives Considered but Eliminated from Detailed Analysis..... 2-27**

**CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS ..... 3-29**

**3.1. Scope of Analysis ..... 3-29**

**3.2. Reasonably Foreseeable Environmental Trends and Planned Actions ..... 3-29**

    3.2.1. Recreation ..... 3-29

    3.2.2. Lands and Realty..... 3-30

    3.2.3. Socioeconomics ..... 3-30

**3.3. Recreation (Issues #1, #2, and #3)..... 3-30**

    3.3.1. Affected Environment..... 3-31

    3.3.2. Environmental Impacts ..... 3-36

    3.3.3. Cumulative Impacts ..... 3-47

**3.4. Lands and Realty (Issues #5 and #6) ..... 3-48**

    3.4.1. Affected Environment..... 3-48

    3.4.2. Environmental Impacts ..... 3-49

    3.4.3. Cumulative Impacts ..... 3-51

**3.5. Socioeconomics (Issue #7)..... 3-51**

    3.5.1. Affected Environment..... 3-52

    3.5.2. Environmental Impacts ..... 3-56

    3.5.3. Cumulative Impacts ..... 3-59

**CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION..... 4-1**

**4.1. Public Involvement..... 4-1**

    4.1.1. Pre-Scoping Issue Identification ..... 4-1

    4.1.2. External Public Scoping Period and Outreach..... 4-1

**4.2. Consultation and Coordination ..... 4-2**

    4.2.1. Consultation Under Section 106 of the National Historic Preservation Act ..... 4-2

**CHAPTER 5. PREPARERS AND REFERENCES ..... 5-1**

**5.1. List of Preparers..... 5-1**

**5.2. References ..... 5-2**

## LIST OF FIGURES

Figure 1. Historical Depiction of the Castner Glacier and Nearby Terrain .....	1-2
Figure 2. Canwell and Augustana Subunits of the Delta Range SRMA .....	1-3
Figure 3. BLM ROS Class Spectrum.....	2-2
Figure 4. Existing ROS Classes in the Castner Glacier Area .....	2-3
Figure 5. Proposed RMZs in the Castner Glacier Planning Area .....	2-9
Figure 6. Recreation Setting Components and Recreation Setting Characteristics .....	2-10
Figure 7. Existing Signage at the South Trailhead, Winter and Summer .....	3-33
Figure 8. Castner Glacier Parking Area, February 2024 .....	3-33
Figure 9. Per Capita Income in the Analysis Area and Alaska.....	3-52
Figure 10. Land Ownership in the Analysis Area and in Alaska.....	3-53
Figure 11. Jobs by Industry in the Analysis Area and Alaska (2022) .....	3-54
Figure 12. Alaska Visitor Volume by Region and Season, 2022 .....	3-55
Figure 13. Tourism Direct Spending by Region, 2022-2023.....	3-56

## LIST OF TABLES

Table 1. Issues Analyzed in Detail in the Castner Glacier RAMP EA.....	1-7
Table 2. Issues not Included in the Castner Glacier RAMP EA.....	1-8
Table 3. East Alaska RMP-Prescribed Physical, Social, and Operational Characteristics for each ROS Class in the Castner Glacier Planning Area (No Action).....	2-4
Table 4. Physical, Social, and Operational RSCs for each RMZ in the Castner Glacier Planning Area (Proposed Action) .....	2-11
Table 5. Design Features.....	2-17
Table 6. Summary Comparison of Alternatives .....	2-21
Table 7. East Alaska RMP-Prescribed Versus Existing Social Components of the ROS in the Planning Area.....	3-35
Table 8. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Contacts with Other Groups .....	3-37
Table 9. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Group Sizes.....	3-38
Table 10. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Evidence of Use .....	3-38
Table 11. Comparison of Impacts by Alternative for Issue #2 – Maximum Number of Contacts with Other Groups in Common Commercial Operating Areas .....	3-40
Table 12. Comparison of Impacts by Alternative for Issue #3 – Evidence of Use in Common Visitation Areas .....	3-42
Table 13. Comparison of Impacts by Alternative for Issue #4 – Maximum Group Size in Common Visitation Areas.....	3-45
Table 14. Comparison of Impacts by Alternative for Issue #4 – Estimated Possible High Visitation Day (SRP Groups Only).....	3-45
Table 15. Population, Household Income, and Unemployment Rate for the Analysis Area and Alaska .....	3-52
Table 16. Summary of Impacts for Issue 7 by Alternative .....	3-58
Table 17. List of Preparers.....	5-1

**APPENDICES**

APPENDIX A: Mitigation Measures, Best Management Practices (BMPs), and/or Stipulations for Authorizations

APPENDIX B: Public Scoping Report

APPENDIX C: Castner Glacier Recreation Area Management Plan (RAMP)

APPENDIX D: Castner Glacier RAMP Travel Management Plan (TMP)

APPENDIX E: Maps for the Castner Glacier RAMP EA

**ACRONYMS**

ADOT&PF	Alaska Department of Transportation and Public Facilities
ANILCA	Alaska National Interest Lands Conservation Act
AO	authorized officer
BLM	Bureau of Land Management
BMP	best management practice
CCTZ	Castner Cave and Trail Zone
CGZ	Castner Glacial Zone
CFR	Code of Federal Regulations
DOLWD	Alaska Department of Labor and Workforce Development
e-bikes	electronic bicycles
EA	environmental assessment
GFO	Glenallen Field Office
GPRA	Government Performance and Results Act
GVW	gross vehicle weight
IDT	interdisciplinary team
LNT	leave no trace
MP	milepost
NEPA	National Environmental Policy Act
NNIS	non-native invasive species
OHV	off-highway vehicle
RAMP	recreation area management plan
RMP	resource management plan
RMZ	recreation management zones
RNZ	Roaded Natural Zone
ROP	required operating procedure
ROS	recreation opportunity spectrum
ROW	right-of-way
RSC	recreation setting characteristics
SHPO	State Historic Preservation Officer
SO	Secretarial Order
SRMA	special recreation management area
SRP	special recreation permit
SVO	Successor Village Organization
TMP	travel management plan
USFWS	U.S. Fish and Wildlife Service
VRM	visual resource management

## **CHAPTER 1. INTRODUCTION**

The Bureau of Land Management (BLM) is developing a recreation area management plan (RAMP) for the Castner Glacier area as a step-down implementation level plan from the 2007 East Alaska Resource Management Plan (East Alaska RMP). The Castner Glacier is located in Interior Alaska; 32 miles north of Paxson and 48 miles south of Delta Junction. BLM lands in this area are managed under the East Alaska RMP, and with the signing of the East Alaska RMP Record of Decision in 2007, the Castner Glacier area was included in the Canwell Subunit of the Delta Range Special Recreation Management Area (SRMA) (Appendix E, Map 1-3). The Castner Glacier planning area encompasses approximately 4,695 acres that are used as a year-round recreation destination for Alaska residents, out-of-state visitors, and international tourists.

The Castner Glacier RAMP would define recreation management zones (RMZ), recreation setting characteristics (RSC), management actions and monitoring protocols, and additional rules or regulations regarding visitor use and visitor actions within the Castner Glacier planning area. Proposed management actions in the RAMP respond to current and anticipated demand for recreation opportunities and experiences in the Castner Glacier planning area and the need to manage future recreation activity to reduce the risk of degradation to natural and recreational resources resulting from overuse. If adopted, the RAMP would reflect issues raised by the public, engaged stakeholders, and BLM employees over a 16-year monitoring period (2006-2022) with a particular focus on issues brought to the BLM's attention in the past 3 to 4 years. The degree to which specific management decisions are carried out as identified in the RAMP would be dependent upon national priorities, available personnel, funding opportunities, future monitoring, and ongoing or future concerns voiced by users of the Castner Glacier planning area. BLM developed this draft environmental assessment (EA) to accompany the RAMP pursuant to the National Environmental Policy Act (NEPA) to disclose the direct, indirect, and cumulative environmental impacts that would result from the proposed action. Management actions not identified within the RAMP or analyzed within this EA would need to be analyzed in future NEPA documents prior to implementation.

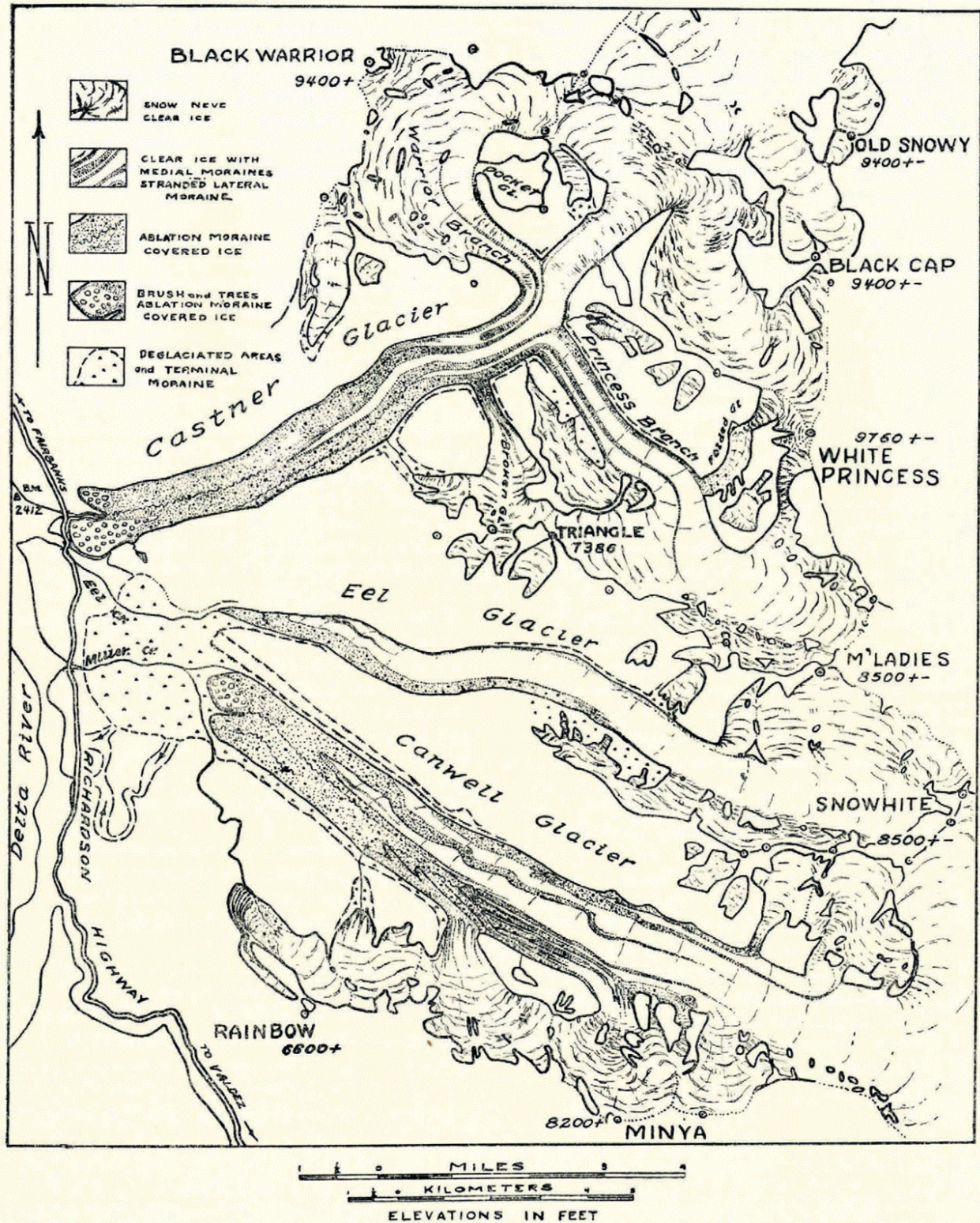
### **1.1. Background**

Named by Edwin Forbes Glenn in 1898 during an Interior Alaska expedition after United States (U.S.) Army Lieutenant Joseph Compton Castner, Castner Glacier is a dendritic, or branched, glacier approximately one-half mile wide with a maximum length of about 13 miles.

Approximately seven miles east of the face of the glacier, two large glacier branches, the Warrior Branch to the north and the Princess Branch to the south, converge into the main flow to create a single glacier (Figure 1). There are about four miles of heavy ablation moraine at the glacier's terminus, where rock and sediment are apparent on the surface due to accelerated ice loss. The glacier terminus is also cut by a supraglacial stream which creates a canyon within the glacier walls (Nielsen and Post 1953). Supraglacial stream activity has also created an iconic ice cave near the face of the glacier, and additional ice caves have formed in the vicinity of the glacier terminus.



Figure 1. Historical Depiction of the Castner Glacier and Nearby Terrain



Source: Nielsen and Post 1953

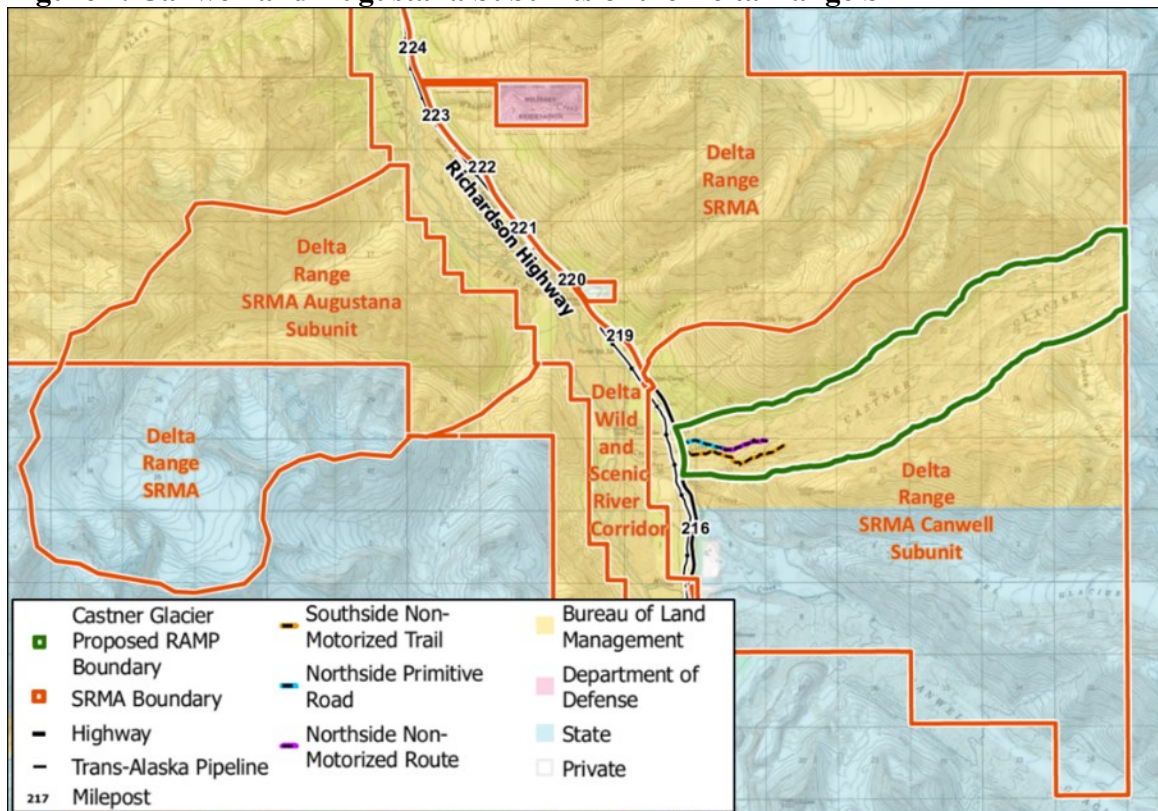


The Castner Glacier lies just to the east of the BLM-managed Delta Wild and Scenic River Corridor, another popular recreation destination. It is part of a network of glaciers in the Delta Range, an eastern subset of the Alaska Range that stretches across Interior Alaska and includes Denali. Along with nearby Canwell and Gulkana Glaciers, Castner Glacier is one of multiple glaciers accessible via a short hike from around milepost (MP) 217 of the Richardson Highway, which connects Glennallen to Delta Junction and Fairbanks. The Richardson Highway provides access to a wide range of diverse recreation opportunities and some of the most accessible glacier hikes in Interior Alaska. Figure 2 shows the Castner Glacier planning area within the Delta Range SRMA’s Canwell Subunit (see also Appendix E, Map 2).

Castner Glacier is just over one mile from the Richardson Highway. Trails to the glacier are accessed by a small parking area within the highway right-of-way (ROW) that is currently maintained and plowed in the winter by the Alaska Department of Transportation and Public Facilities (ADOT&PF). Due to its proximity to the Richardson Highway and ease of access, Castner Glacier has become a must-see for many winter visitors to the state and is becoming increasingly popular with residents for a unique glacier and ice cave experience. As its popularity grows, the BLM has a responsibility to manage the area to protect existing resources and visitor experiences.

The area's remote location, which is 48 miles from the nearest town (Delta Junction) and 104 miles from the BLM Glennallen Field Office (GFO), presents management challenges including travel time, inclement weather issues, and lack of facility and infrastructure development or basic services. The only commercial business located within one hour of the project site is Black Rapids Lodge, which is seven miles away.

**Figure 2. Canwell and Augustana Subunits of the Delta Range SRMA**



## 1.2. Purpose and Need

The purpose of the Castner Glacier RAMP is to serve as a step-down planning document tiering from the East Alaska RMP that would guide recreation management within the Castner Glacier planning area. The RAMP would identify a long-term vision and establish on-the-ground implementation actions to address changes in use patterns in the area that were not anticipated during the development of the East Alaska RMP. The proposed action is necessitated by increased recreational use, associated user impacts, and use conflicts in the Castner Glacier planning area. Actions identified within the Castner Glacier RAMP would be consistent with the management framework prescribed in the East Alaska RMP and Delta Range SRMA and would manage the area for primitive, semi-primitive non-motorized, and roaded natural recreation opportunities.

### 1.2.1. Decision to be Made

The BLM will make a decision about whether to implement one of the Castner Glacier RAMP alternatives as proposed in section 2.2 or 2.3 or to take no action. To make this decision, the authorized officer (AO) will review the analysis of direct, indirect, and cumulative environmental impacts presented in Chapter 3 and consider how well the alternatives conform to existing BLM land use plans and other statutes, regulations, and policies.

## 1.3. Land Use Plan Conformance

The East Alaska RMP provides the overall long-term management direction for lands encompassed by the proposed project (BLM 2007). The two action alternatives considered in this draft EA are consistent with the East Alaska RMP. Specifically, the action alternatives are consistent with the following goals, objectives, and land use allocations described in the East Alaska RMP for management of the Delta Range SRMA, of which the Castner Glacier RAMP area is part.

### II. Management Decisions; I. Lands and Realty; I-1: Goal

- *Provide a balance between land use (rights-of-way, land use permits, leases, and sales) and resource protection that best serves the public at large (BLM 2007, p. 19).*

### II. Management Decisions; I. Lands and Realty; I-6: Access; I-6-a: Goal

- *Manage trails to provide access to public lands, recreation, and subsistence opportunities (BLM 2007, p. 24).*

### II. Management Decisions; M. Recreation; M-1: Goal

- *Manage recreation to maintain a diversity of recreational opportunities (BLM 2007, p. 34).*

### II. Management Decisions; M. Recreation; M-2: Allocations; 5. Delta Range Area

- *This area would be **designated a SRMA**... **Objectives** for the area would be to maintain the existing recreation opportunity spectrum (ROS) classes, which include primitive, semi-primitive non-motorized, semi-primitive motorized, and roaded natural. The area would be designated as limited to off-highway vehicles (OHVs), with implementation-level consideration given to designated trails and maintenance of some non-motorized*

*trails. BLM-managed portions of the Fels, Canwell, Castner, and McCallum Creek Glaciers and drainages are closed to snowmachines...from 10/15 – 5/15. Snowmachines in this area would be permitted to access subsistence hunting...Minimal or no development will be considered at trailheads that access areas managed for a primitive or semi-primitive recreation experience. No helicopter supported commercial activities would be permitted in areas managed for a primitive recreation experience (BLM 2007, p. 38).*

## **II. Management Decisions; T. Travel Management and OHV Use; T-1: Goals (OHVs)**

- *Manage trails to provide access to public lands, recreation, and subsistence opportunities.*
- *Manage trails to provide a diversity of recreation experiences and opportunities, including motorized and non-motorized.*
- *Manage trails to minimize resource impacts and reduce user conflicts.*
- *Manage trails with an emphasis on education where appropriate.*
- *Manage OHV use associated with permitted and development activities to provide for access while protecting resources (BLM 2007, p. 46).*

## **II. Management Decisions; T. Travel Management and OHV Use; T-2: Allocations (OHVs)**

- *Manage 44,000 acres in the Delta Range area as closed to snowmachines. See specific travel management area description below (BLM 2007, p. 47).*

## **II. Management Decisions; T. Travel Management and OHV Use; T-3: Implementation-Level Planning (OHVs)**

- *Each area designated as ‘limited’ would have an implementation-level plan completed. This plan would show a complete inventory of trails in the area, describe specific resource concerns or conflicts, and describe specific designated trails and conditions of limitations (seasonal, weight, or vehicle class, etc.) (BLM 2007, p. 47).*

## **II. Management Decisions; T. Travel Management and OHV Use; T-4: Travel Management Area Prescriptions (OHVs and Roads): 4. Delta Range Area:**

- *This area would be designated as “limited” to OHVs. Limitations will be considered in order to prevent unmanaged proliferation of OHV trails and to maintain existing recreation experiences in the area...Seasonal closure would begin on October 15 or when there is 12 inches average snowfall or 6 inches of frost. Seasonal closure would run until May 15. Snowmachine use outside those defined sub-units would be unrestricted. OHV use for resource development will be permitted consistent with Required Operating Procedures. New road construction would be permitted in the transportation utility corridor and for resource development. Retention of temporary roads would be considered in areas managed for a roaded natural recreation experience (BLM 2007, p. 49).*

### 1.3.1. Relationship to Statutes, Regulations, and Policies

This project will comply with all applicable state and federal laws and regulations including, but not limited to, the following:

- **NEPA 1969** – requires the preparation of EAs or environmental impact statements to describe the environmental effects of federal actions such as the proposed RAMP.
- **Federal Land Policy and Management Act 1976** –provides the basic policy guidance for BLM’s management of public lands.
- **Alaska National Interest Lands Conservation Act (ANILCA) 1980** – requires the BLM to consider the effects on land use for subsistence purposes when considering the issuance of land use permits such as leases, recreation permits, or ROWs.
- **Secretarial Order (SO) 3376 on Electronic Bicycles (e-Bikes) 2019** – SO 3376 directed all U.S. Department of the Interior agencies to develop a revision to the rule relating to use and definition of OHVs (43 CFR 8340.0-5). The BLM’s final rule instructed that, where certain criteria are met and an AO has expressly determined it to be appropriate as part of a land use planning or implementation level decisions, Class 1, 2, and 3 e-bikes should be exempted from the definition of OHV’s or motorized vehicles and treated as non-motorized bicycles. The proposed RAMP defines allowed use for e-bikes in the Castner Glacier planning area as deemed appropriate by the AO (see section 2.2.3).

### 1.4. Scoping and Issues

Internal scoping for this project began when initially presented to an interdisciplinary team (IDT) of BLM resource specialists on November 28, 2023. The IDT identified potential goals for the RAMP and a preliminary list of issues. Additional meetings were held with certain IDT members to refine the internal issues, address resource concerns, and discuss the inclusion of project design features (see Section 2.4) to minimize resource concerns or issues.

External public scoping for the project was initiated when the project description was posted on the BLM’s ePlanning website on January 18, 2024 (<https://eplanning.blm.gov/eplanning-ui/project/2030733/510>). The project website also provided relevant maps and documents. During the public scoping period, the project website included a link through which to submit scoping issues on the project. The project’s public scoping comment period was announced via a press release, email blast, and approximately one dozen posters hung in prominent public locations around Glennallen and Delta Junction. The scoping comment period was open from February 13, 2024 to March 14, 2024, and a virtual public meeting was held on February 14, 2024. Forty-one people attended the public meeting, during which the BLM presented an overview of the proposed RAMP, solicited feedback, and answered general project questions.

A total of 19 written comments were received during the 30-day comment period. The comments were analyzed to identify any issues or alternatives not yet considered. Several topics arose from the public comments such as:

- concerns about maintaining the rural and wild natural experience,
- concerns about impacts from commercial tours on the visitor experience,



- concerns about overcrowding in the planning area,
- concerns about motorized use, and
- concerns about a lack of facilities (restrooms, parking).

The project’s scoping report provides a summary of the outreach efforts, comments received, and issues developed during the scoping process (Appendix B). Issues identified during internal and external scoping that were carried forward for analysis are presented below in section 1.4.1.

#### 1.4.1. Issues Analyzed in Detail

Following the initial information gathering and scoping periods, the IDT developed a refined list of issues that were used to formulate a reasonable range of alternatives, to identify differences between the alternatives, and to define the scope of analysis (Table 1).

**Table 1. Issues Analyzed in Detail in the Castner Glacier RAMP EA**

Resource and Issue #	Issue Statement
Recreation - Issue 1	How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) in the Castner Glacier planning area affect the current recreation experience and recreational users?
Recreation - Issue 2	How would issuing a certain number of SRPs (10 in alternative B, 15 in alternative C) in the Castner Glacier planning area affect recreational users?
Recreation - Issue 3	How would supplementary rules specific to the use of drones, fireworks, fires, ice carving, ice climbing, or artificial lights for non-navigational purposes inside and within 100 feet of the Castner Glacier ice cave affect recreational users and uses?
Recreation - Issue 4	How would establishing group size limits (10 people for any group in alternative B; 7 people for SRPs and 10 people for all other groups in alternative C) affect recreational users in the Castner Glacier planning area?
Lands and Realty – Issue 5	How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of science and research activities in the Castner Glacier planning area?
Lands and Realty – Issue 6	How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of other land use actions (casual use, ROWs, leases, military training, etc.) in the Castner Glacier planning area?
Socioeconomics – Issue 7	How would commercial use limitations (i.e., limit on number of SRPs issued and group sizes) affect economic conditions and tour business viability in the Southeast Fairbanks Census Area and the Fairbanks North Star Borough?

### 1.4.2. Issues not Analyzed in Further Detail

Certain issues were considered during scoping but not analyzed in further detail in the EA. These are presented in Table 2 along with the rationale for the dismissal for each.

**Table 2. Issues not Included in the Castner Glacier RAMP EA**

Issue Statement	Rationale for Not Further Discussing in Detail in the EA*
What are the potential impacts to climate change from fossil fuel use in the planning area?	Changes in management and restrictions on activities described in the proposed action would involve or not lead to a measurable change in level of greenhouse gas emissions in the Castner Glacier area. However, the cumulative effects of climate change on other issues are considered in Chapter 3 of this document.
What cultural or historic resources might be impacted by implementation of the RAMP?	There are no National Register eligible or listed historic or cultural properties identified by previous archaeological surveys and are not anticipated to be present in the planning area (DOWL 2024). There is a lack of historic aged non-riverine sediments as well as the uneven and unstable terrain of recently deglaciated and recently deposited riverine sediments (Jangala 2024). Design features intended to protect any previously undiscovered archaeological or historical sites are included in the action alternatives. See Table 5; Cultural Resources
What Alaska Native concerns or places of religious and cultural importance might be impacted by implementation of the RAMP?	No Alaska Native religious concerns or places of religious or cultural importance have been identified during consultation and are not anticipated to be in the area.
How would the proposed action affect low-income or minority populations?	A low-income community is present in the analysis area. The proposed action would not create disproportionate effects, vulnerabilities, exposure, or sensitivity to any income, ethnicity, or racial group. The planning area is remote but an easily-accessible recreation area as it is directly adjacent to the Richardson Highway. Fees for recreational access can cause disproportionately high impacts on low-income populations. However, none of the action alternatives would introduce fees for non-commercial use within the Castner Glacier planning area. Implementation of the proposed RAMP would not induce disproportionate environmental impacts on low-income individuals in the Southeast Fairbanks Census Area. A minority community of concern is not present within the project area, thus not analyzed.
How would designating motorized and non-motorized trails in the RAMP impact existing roads and trails within, and public access to, the Castner Glacier planning area?	All action alternatives are a refined definition of the existing motorized and non-motorized access to the Castner Glacier planning area which is set forth in the East Alaska RMP. There are no new access routes proposed nor decommissioning of existing access routes; the weight restrictions proposed are a further clarification of guidance from the East Alaska RMP. The no action alternative does not explicitly define the trails but rather follows guidance given in the East Alaska RMP. Any other action alternative that would change motorized access in the planning area would not be consistent with the East Alaska RMP. Analysis of this issue would not help the responsible official make a reasoned choice between alternatives. See Appendix D for the travel management plan (TMP) for the planning area.

Issue Statement	Rationale for Not Further Discussing in Detail in the EA*
How would viewsheds in the planning area be impacted by implementation of the RAMP?	The area is designated as BLM visual resource management (VRM) classes 1, 2, and 4 (BLM 2007). Classes 1 and 2 allow for very little change to the existing landscape. Class 4 allows for major landscape modifications. Design features that are included in the action alternatives would limit impacts to viewsheds and are consistent with VRM classes 1, 2, and 4. See Table 5; Visual Resources.
How would a determination of navigability for Castner Creek affect management actions within the planning area?	Management actions in the RAMP would not differ based on a determination of navigability for Castner Creek. Analysis of this issue would not help the responsible official make a reasoned choice between alternatives.
How will vegetation within the planning area be impacted by implementation of the RAMP?	The effects from the proposed RAMP on existing vegetation, particularly from the introduction and spread of non-native invasive species (NNIS), are not analyzed in detail because there is no construction proposed nor is there any changes to motorized access, therefore a low likelihood of introduction of NNIS in the planning area will occur from implementation of the RAMP. Design features built into the SRP requirements presented with the RAMP will address limiting impacts from the introduction and spread of NNIS (Table 5; Vegetation and NNIS).
How would threatened and endangered species be impacted by the proposed RAMP?	There are no threatened or endangered species present in or near the planning area.
How are bats impacted by use of the Castner Glacier area, particularly the ice cave?	A survey for the presence of bats was conducted during the winter of 2023-2024 and it was determined that bats do not use the ice cave in the winter. Bats may use Castner Glacier in the summer months; however, since access to the ice cave is more difficult in the summer, it is unlikely that disruption from recreational visitors would be a concern. The inclusion of the project design features will limit disturbance and minimize impacts to bats (Table 5; Wildlife and Migratory Birds).
What are the impacts to local wildlife if visitors do not pick up their dogs' waste?	The inclusion of project design features (Table 5; Wildlife and Migratory Birds) will limit impacts to wildlife from dog feces.

\* Supporting documentation for these statements are included in the project record.

## CHAPTER 2. ALTERNATIVES

This chapter presents the alternatives considered during development of the RAMP that are analyzed in Chapter 3 and those alternatives that were dismissed from further consideration. It includes a description of each alternative considered and provides a comparison of alternatives in Table 6. The action alternatives were developed to meet the purpose and need described in Chapter 1 while taking into consideration comments received through internal and public scoping.

### 2.1. Alternative A – No Action

The goal of describing alternative A, the no action alternative, is to allow the reader to see the difference between taking no action and implementing one of the action alternatives. It provides a basis for comparison to the action alternatives.

With this alternative, BLM proposes continuation of existing management as outlined in the East Alaska RMP. Submitted requests for SRPs, casual use authorizations, land use leases, military training exercises, commercial filming activities, scientific research, and any other requested actions would be handled on a case-by-case basis with individual NEPA analyses conducted as appropriate. No helicopter-supported commercial activities would be permitted in areas managed for a primitive recreation experience, and the Castner Glacier planning area would continue to be closed to the use of OHVs from October 15 through May 15 annually, or with 12 inches of snow cover or 6 inches of frost.

The BLM currently uses the ROS to guide and direct recreation management on public lands. From the BLM Recreation and Visitor Services Handbook: “The ROS was developed as a tool to facilitate recreation inventory, evaluation, management, planning, and decision-making. To make the ROS easy to use, the spectrum was subdivided into ROS classes ranging from primitive to urban” (BLM 2014a, p. I-23). Typically, if an area falls on the primitive spectrum, the remoteness increases and the social encounters, level of access, and management controls will decrease (Figure 3).

There are three existing ROS areas identified for the Castner Glacier planning area: roaded natural, semi-primitive non-motorized, and primitive (Figure 4 and Appendix E, Map 4). These areas were tailored within the East Alaska RMP to more succinctly fit the physical (qualities of the landscape), social (qualities associated with use), and operational (management and controls over recreation use) components of recreation resources and user activities accessible within the boundaries of the GFO.



Figure 3. BLM ROS Class Spectrum



Under the no action alternative, the area would continue to be managed for the existing ROS areas (roaded natural, semi-primitive non-motorized, and primitive) as prescribed in the East Alaska RMP and described below in Section 2.1.1 through 2.1.3.

### 2.1.1. Roaded Natural ROS Area

The roaded natural ROS area begins at the eastern boundary of the Richardson Highway ROW and extends east 0.6 miles (Figure 4; Table 3). This area encompasses about 282 acres and contains:

- the primitive road on the north side of Castner Creek,
- the beginning of the non-motorized trail on the south side of Castner Creek,
- ADOT&PF parking areas adjacent to or within the highway ROW, and
- user-created dispersed campsites.

This area is characterized by sights and sounds of other people and vehicles and a high proximity to the Richardson Highway. Existing signage is minimal and consists of two sign panels, one at the terminus of the north primitive road and one at the beginning of the south non-motorized trail. The signs provide information regarding general hazards of the area, Leave No Trace principles and pack it in/pack it out guidelines, the winter motorized closure, and commercial use. Trails in this area are not maintained. Table 3 summarizes the prescribed physical, social, and operational components of the roaded natural ROS area from the East Alaska RMP.

### 2.1.2. Semi-Primitive Non-Motorized ROS Area

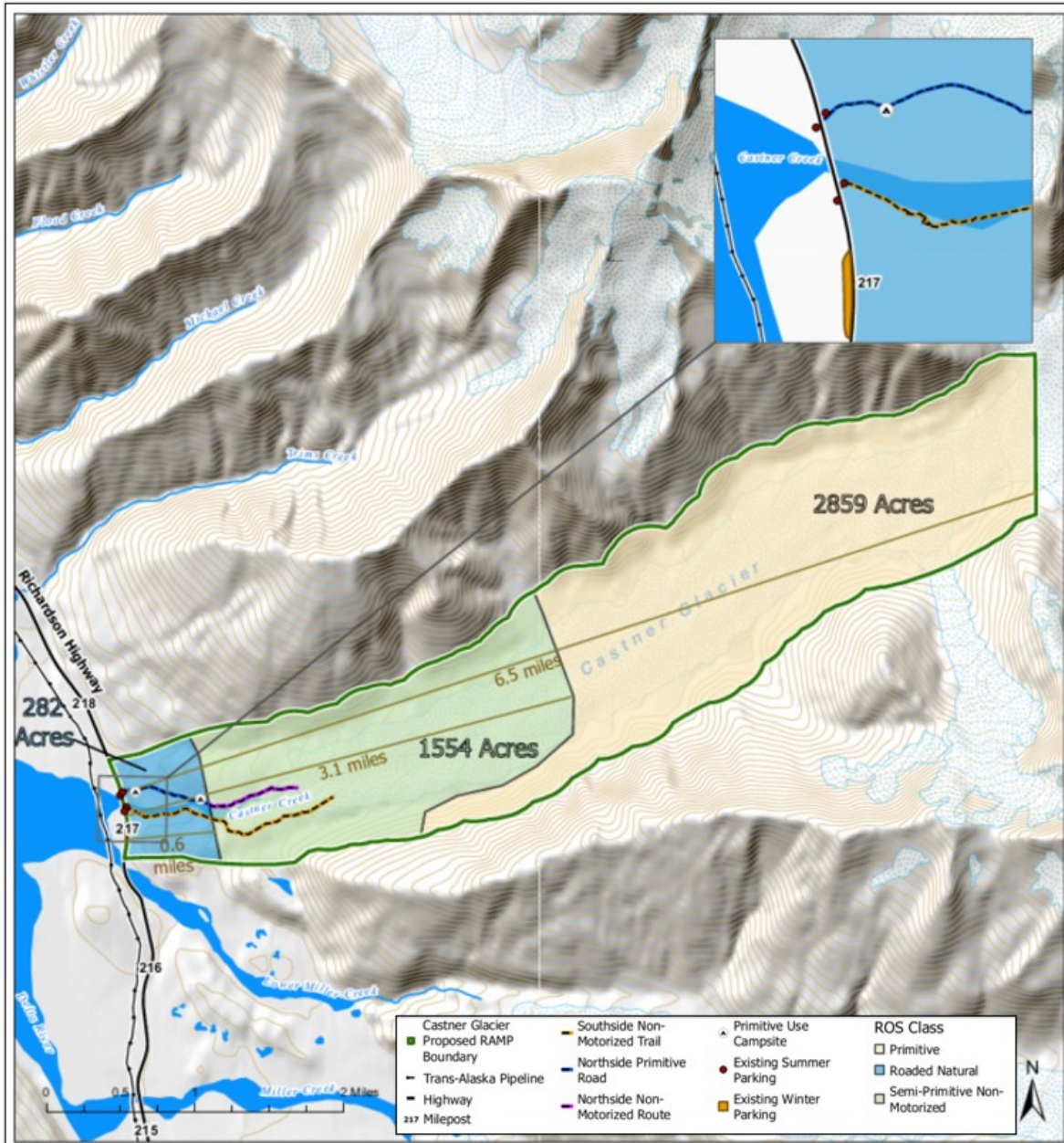
The semi-primitive non-motorized ROS area encompasses 1,554 acres beginning at 0.6 miles east of the Richardson Highway to 3.1 miles east of the highway (Figure 4; Table 3). This area contains the toe of the Castner Glacier, which is a major attraction for visitors to this area. This area is undeveloped and lacks signage, with user-created routes that vary in the winter with snow conditions, wind drifts, water levels, or overflow. Trails in this zone are not maintained. Table 3

summarizes the East Alaska RMP-prescribed physical, social, and operational components of the semi-primitive non-motorized ROS area.

**2.1.3. Primitive ROS Area**

The primitive ROS area begins 3.1 miles east of the Richardson Highway and extends another 3.4 miles east to the boundary of BLM and State of Alaska lands (Figure 4; Table 3). This is the largest existing ROS area with 2,859 acres of mostly glacial terrain. No signs of development or human intrusion are present. It is primarily used by mountaineering groups in late winter and spring as well as sheep hunters in August and September. Table 3 summarizes the East Alaska RMP-prescribed physical, social, and operational components of the primitive ROS area.

**Figure 4. Existing ROS Classes in the Castner Glacier Area**



**Table 3. East Alaska RMP-Prescribed Physical, Social, and Operational Characteristics for each ROS Class in the Castner Glacier Planning Area (No Action)**

ROS Area	Prescribed Physical Qualities	Prescribed Social Qualities	Prescribed Operational Conditions
<p><b>Roaded Natural</b></p>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Middle Country and Rural</i> Parts of this area are within 0.5 miles of paved/primary roads and highways, and the rest is within 0.5 miles of motorized routes.</li> <li>• <b>Naturalness:</b> <i>Middle Country</i> No changes to the landscape are present besides the existing north primitive road and a few dispersed campsites. The Richardson Highway is visible from this area.</li> <li>• <b>Visitor facilities:</b> <i>Back Country</i> Existing sign boards are located north and south side of Castner Creek. Developed trails available but are not maintained. No other facilities are present.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Middle Country</i> Visitors could expect 15 to 29 encounters per day on travel routes.</li> <li>• <b>Group sizes:</b> <i>Back Country</i> Average group size ranges from 4 to 6 people. No limits are placed on group sizes.</li> <li>• <b>Evidence of use:</b> <i>Middle Country</i> There are small areas of alteration with some vegetation showing wear near established trails. Occasional sounds of people are evident.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Middle Country</i> Motorized use present except for during the winter closure of October 15 to May 15 or for subsistence use.</li> <li>• <b>Visitor services and information:</b> <i>Primitive</i> No maps or brochures available onsite. Staff rarely present to provide onsite assistance.</li> <li>• <b>Management controls and regulations:</b> <i>Back Country</i> Basic user regulations exist at key access points; but there are minimum use restrictions.</li> </ul>

ROS Area	Prescribed Physical Qualities	Prescribed Social Qualities	Prescribed Operational Conditions
Semi-Primitive Non-Motorized	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive</i> This area is more than 0.5 miles from either mechanized or motorized trails and routes. Man-made structures are not present.</li> <li>• <b>Naturalness:</b> <i>Back Country</i> Natural landscape is present with modifications in harmony with surroundings and not visually obvious. User-created rock cairns and user-placed rocks are present to facilitate stream crossings.</li> <li>• <b>Visitor facilities:</b> <i>Primitive</i> User-created foot trails are present but no structures or facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Back Country</i> Visitors can expect 7 to 15 encounters per day on travel routes when accessing the glacier ice cave during peak times.</li> <li>• <b>Group sizes:</b> <i>Back Country</i> Average group size ranges from 4 to 6 people. No limits are placed on group sizes.</li> <li>• <b>Evidence of use:</b> <i>Back Country</i> Small areas of alteration are present. Surface vegetation shows wear with some bare soils. Occasional sounds of people. Evidence of use present in the form of litter and ice graffiti. Summer foot path is visible on the north side of Castner Creek.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Primitive and Middle Country</i> OHV use is present except for during the winter closure of October 15 to May 15 or for subsistence use.</li> <li>• <b>Visitor services and information:</b> <i>Primitive</i> No maps or brochures are available onsite. Staff are rarely present to provide onsite assistance.</li> <li>• <b>Management controls and regulations:</b> <i>Back Country</i> Basic user regulations are in place at key access points are present. There are minimum use restrictions.</li> </ul>



ROS Area	Prescribed Physical Qualities	Prescribed Social Qualities	Prescribed Operational Conditions
<b>Primitive</b>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive</i> This area is more than 0.5 miles from either mechanized or motorized trails and routes. Man-made structures are not present.</li> <li>• <b>Naturalness:</b> <i>Primitive</i> This area features an undisturbed natural landscape.</li> <li>• <b>Visitor facilities:</b> <i>Primitive</i> No structures are present; an unmaintained, sporadic footpath is present on the first two miles of the glacier.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Primitive</i> Visitors can expect fewer than 3 encounters per day at the glacier and fewer than 6 encounters per day on travel routes.</li> <li>• <b>Group sizes:</b> <i>Back Country</i> Average group size ranges from 4 to 6 people. No limits are placed on group sizes.</li> <li>• <b>Evidence of use:</b> <i>Primitive</i> There are no alterations of the natural terrain, although some sounds of people and footprints may rarely be observed.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Primitive</i> Only foot traffic is allowed in this area, with the exception of motorized subsistence uses.</li> <li>• <b>Visitor services and information:</b> <i>Primitive</i> No maps or brochures are available onsite. Staff are rarely present.</li> <li>• <b>Management controls and regulations:</b> <i>Primitive</i> No interpretive, informational, or visitor regulation signs are posted in this area.</li> </ul>

## 2.2. Alternative B – Proposed Action

Under this alternative, the BLM GFO is proposing to develop and implement a RAMP for the Castner Glacier planning area. The RAMP would describe specific management actions designed to protect resources and maintain the desired conditions prescribed by the East Alaska RMP. Certain specific use designations were given by the East Alaska RMP for the Canwell and Augustana subunits of the Delta Range SRMA, of which the planning area is part, and would be incorporated into this RAMP. This includes a prohibition on helicopter-supported commercial activities in areas managed for a primitive recreation experience and snowmachine use from October 15 through May 15.

The proposed action was developed to meet the purpose and need as described in Chapter 1, to create a planning document that would provide guidance to consider for future use authorizations, management of recreation, and desired experiences in the Castner Glacier planning area. The proposed action would create a site-specific plan that tiers off the overarching East Alaska RMP and provides specific direction for the Castner Glacier planning area to implement goals and objectives given for each resource (e.g., recreation, lands and realty, travel management, etc.). The objectives of the RAMP are site specific, providing on-the-ground management and administrative actions pertaining to uses of the land, overall visitation, access, and facilities to meet those objectives. Management objectives would be met through recreation management actions, such as commitment of resources and services to be offered to visitors. Administration objectives would be met through regulatory actions, such as the implementation of allocation systems, permits, use restrictions, and partnership agreements, as well as data management protocols. The proposed RAMP is consistent with the management framework prescribed in the East Alaska RMP and the Delta Range SRMA. Future monitoring plan/protocol (Section 5 of the RAMP, Appendix C) would document the degree to which the RAMP objectives, management objectives, and administration objectives are being met.

The RAMP contains nine implementation actions, described in the following sections, that have been designed to meet these specific management and administrative objectives. The proposed RAMP is included in its entirety as Appendix C.

### 2.2.1. Action 1 – Delineate Recreation Management Zones (RMZs)

The RAMP would establish RMZs that seek to characterize the unique recreation opportunities expected by users within each zone of the Castner Glacier planning area. The existing ROS classes provide a baseline to delineate the RMZs and identify existing recreational uses and expected visitor activities, experiences, and benefits per zone. Three RMZs are defined in the RAMP based on use and recreational activities that take place in each zone. They are the Roded Natural Zone (RNZ), the Castner Cave and Trail Zone (CCTZ), and the Castner Glacial Zone (CGZ). See Figure 5 and Appendix E, Map 5 for a visual representation of the proposed RMZs.

#### 2.2.1.1. Roded Natural Zone (RNZ)

The RNZ would start at the eastern boundary of the Richardson Highway ROW and extend east 0.6 miles. Similar to the existing roded natural ROS area, this zone would encompass about 307 acres, see the highest number of annual visitors, and contain several existing features:

- the primitive road on the north side of Castner Creek,

- the beginning of the non-motorized trail on the south side of Castner Creek,
- ADOT&PF parking areas adjacent to or within the highway ROW, and
- user-created dispersed campsites.

The proposed RNZ was defined by the area in which sights and sounds of other people and vehicles are most prevalent due to the proximity to the Richardson Highway. The RNZ would include all existing ADOT&PF-owned and managed staging and parking areas for access to the glacier or points beyond in the Alaska Range. BLM is not proposing to construct any other staging or parking areas under the proposed action. It is anticipated that additional signage would be developed in partnership with ADOT&PF in their proposed parking areas upon completion of the upgrades to the Richardson Highway near the planning area. Dog waste bags may also be provided in this zone.

Trails in this zone would not be maintained, however the north primitive road may receive periodic brushing and grading as needed. The RNZ would be open to motorized access during the summer months within maintained parking areas and along the north primitive road. The RNZ would be closed to motorized access during the winter months.

#### 2.2.1.2. *Castner Cave and Trail Zone (CCTZ)*

The CCTZ would start approximately 0.6 miles east of the Richardson Highway and extend east to the toe of Castner Glacier, measuring about 282 acres. The proposed CCTZ western boundary would be established 0.6 miles east of the Richardson Highway at the existing semi-primitive non-motorized ROS area boundary. The CCTZ would contain existing features, namely:

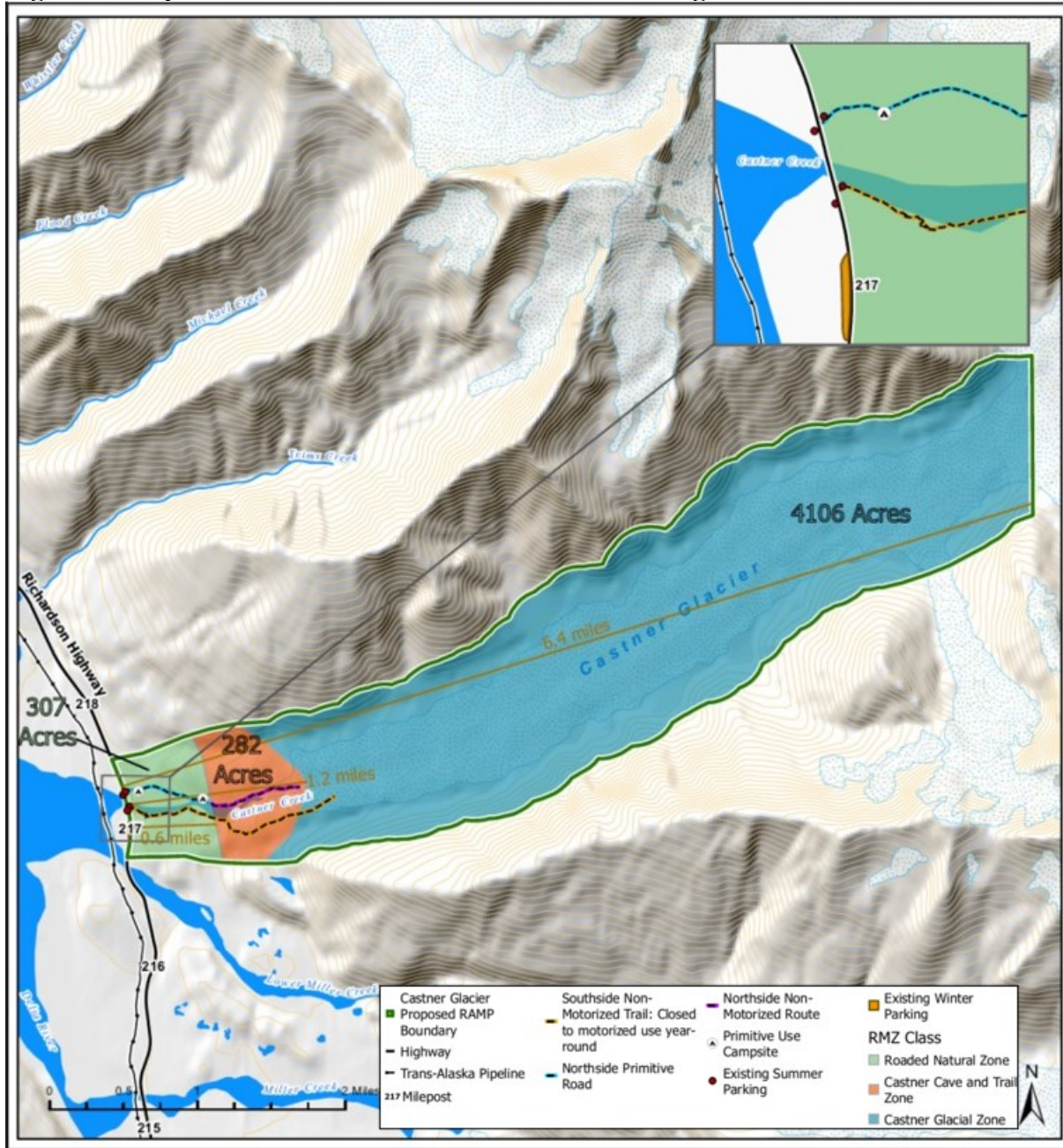
- the non-motorized route on the north side of Castner Creek,
- continuation of the non-motorized trail on the south side of Castner Creek, and
- the toe of the Castner Glacier.

At the time of writing this EA, an ice cave exists at the toe of the glacier that is a major attraction for visitors to this area and would be included in this zone. As the Castner Glacier recedes, the eastern boundary of this zone would shift to match the glacier terminus, since it accounts for a high level of visitation based on the attraction of the ice cave. The CCTZ would remain undeveloped, with user-created routes that vary in the winter with snow conditions, wind drifts, water levels, or overflow. Trails in this zone would not be maintained. Motorized access within the CCTZ would only be allowed from the terminus of the north primitive road extending upstream within 100 feet of all flowing waters of Castner Creek, outside of the winter closure period. No development or signage is proposed in this zone.

#### 2.2.1.3. *Castner Glacial Zone (CGZ)*

The CGZ extends from the ice cave entrance easterly up Castner Glacier to the boundary of BLM and State of Alaska lands, which is located 6.5 miles east of the Richardson Highway. It would include about 4,106 acres of glacial terrain and all surrounding uplands below the vegetation line within the Castner Glacier drainage. The CGZ would contain an existing intermittent path for approximately two miles along the glacier, which can change or vary by year depending on ice conditions and glacial movement. This would be the most remote of the three zones; no development or signage exists or is proposed in this zone.

Figure 5. Proposed RMZs in the Castner Glacier Planning Area



**2.2.2. Action 2 – Define Recreation Setting Characteristics (RSCs)**

The BLM formerly relied solely on ROS classes to guide and direct recreation management on public lands. In 2014, the BLM issued their recreation management handbook, H-8320-1, Planning for Recreation and Visitor Services (BLM 2014a). This guidance included direction to formally breakout and identify RSCs when completing recreation land use plans, such as a RAMP, and to use RSCs along with ROS classes in support of recreation management. RSCs formerly provided the definition or body of ROS classes and now are identified as stand-alone



characteristics. RSCs describe the desired recreation conditions of an area by using physical, social, and operational components supporting the ROS classes (Figure 6).

The physical, social, and operational components of RSCs are similar to the existing system of ROS classes and characteristics, but are described and considered individually. Physical RSCs are defined as the quality of the landscape such as remoteness, naturalness, and level of visitor facilities available. Social RSCs set expectations for how many other people one would encounter through expected number of contacts with other groups, group sizes, and evidence of use. Operational RSCs define public access and types of public travel allowed in the area, visitor services and information available, and level of management controls and regulations present. To set desired recreation conditions for an area, each of the RSCs are given one of six classifications similar to the formerly-used ROS designations, from most remote to least remote: primitive, back country, middle country, front country, rural, and urban. The RSC categories are defined in the BLM's Planning for Recreation and Visitor Services Handbook H-8320-1 (BLM 2014a).

The proposed action would set RSCs for each of the three RMZs described in Section 2.2.1. See Table 4 below and the proposed RAMP (Appendix C) for a matrix of the RSCs proposed for each zone.

**Figure 6. Recreation Setting Components and Recreation Setting Characteristics**



Source: BLM 2014a

Table 4. Physical, Social, and Operational RSCs for each RMZ in the Castner Glacier Planning Area (Proposed Action)

Proposed RMZs	Proposed Physical RSCs	Proposed Social RSCs	Proposed Operational RSCs
<b>Roaded Natural Zone</b>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Front Country and Rural</i> Parts of this zone would be within 0.5 miles of paved/primary roads and highway, and the rest would be within 0.5 miles of motorized routes. The primitive road on the north side of Castner Creek, where OHV use would be allowed from May 16 to October 14, would be incorporated into this zone.</li> <li>• <b>Naturalness:</b> <i>Middle Country (no change from existing)</i> No changes to the landscape are present besides the existing north primitive road and a few dispersed campsites. The Richardson Highway is visible from this zone.</li> <li>• <b>Visitor Facilities:</b> <i>Back Country (no change from existing)</i> Existing sign boards at the north and south side of Castner Creek would remain. Additional signage may be developed in partnership with ADOT&amp;PF at their proposed parking areas. Developed trails would be available but not maintained. No other facilities are proposed.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Middle Country (no change from existing)</i> Visitors could expect 15 to 29 encounters per day on travel routes.</li> <li>• <b>Group sizes:</b> <i>Back Country (no change from existing)</i> Group size would be capped at 10 people, but average group size would be 4 to 6 people per group.</li> <li>• <b>Evidence of use:</b> <i>Middle Country (no change from existing)</i> There would continue to be small areas of alteration, some vegetation showing and wear near established trails. Occasional sounds of people would continue to be evident.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Middle Country (no change from existing)</i> OHV use could be present except for during the winter closure of October 15 to May 15 or for subsistence use.</li> <li>• <b>Visitor services and information:</b> <i>Back Country</i> Staff would be on-site twice a month during the winter and once a month during the summer. Existing signage would be maintained and additional signage may be developed with ADOT&amp;PF.</li> <li>• <b>Management controls and regulations:</b> <i>Front Country</i> Rules, regulations, and ethics would be clearly posted, including use restrictions, limitations, and closures.</li> </ul>



Proposed RMZs	Proposed Physical RSCs	Proposed Social RSCs	Proposed Operational RSCs
<p><b>Castner Cave and Trail Zone</b></p>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive (no change from existing)</i> This zone would be more than 0.5 miles from either mechanized or motorized trails and routes. Man-made structures would continue to be not present.</li> <li>• <b>Naturalness:</b> <i>Primitive</i> Rock cairns would be removed on monitoring trips. Rocks placed to facilitate stream crossings would remain as they appear natural within the surrounding landscape.</li> <li>• <b>Visitor facilities:</b> <i>Primitive (no change from existing)</i> User-created foot trails would continue to be present but no structures or facilities would be allowed.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Back Country (no change from existing)</i> Visitors could expect 7 to 15 encounters per day on travel routes when accessing the glacier ice cave during peak times.</li> <li>• <b>Group sizes:</b> <i>Back Country (no change from existing)</i> Group size would be capped at 10 people, but average group size would be 4 to 6 people per group.</li> <li>• <b>Evidence of use:</b> <i>Back Country (no change from existing)</i> Supplementary rules would restrict ice graffiti and vandalism within the ice cave.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Primitive and Middle Country (no change from existing)</i> Seasonal motorized use would continue to be permitted on from the terminus of the north primitive road extending upstream within 100 feet of all flowing waters of Castner Creek outside of the winter closure period of October 15 to May 15 or for subsistence use.</li> <li>• <b>Visitor services and information:</b> <i>Primitive (no change from existing)</i> No maps or brochures would be available onsite. Staff would be present during high-use periods.</li> <li>• <b>Management controls and regulations:</b> <i>Primitive</i> No interpretive, informational, or visitor regulation signs would be posted in this zone. SRP limits would be implemented.</li> </ul>

Proposed RMZs	Proposed Physical RSCs	Proposed Social RSCs	Proposed Operational RSCs
Castner Glacial Zone	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive (no change from existing)</i> This zone would be more than 0.5 miles from either mechanized or motorized trails and routes. Man-made structures are not present.</li> <li>• <b>Naturalness:</b> <i>Primitive (no change from existing)</i> The zone would feature an undisturbed natural landscape.</li> <li>• <b>Visitor facilities:</b> <i>Primitive (no change from existing)</i> No structures would be present in this zone; a sporadic footpath is present on the first two miles of the glacier and would not be altered or maintained.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts with other groups:</b> <i>Primitive (no change from existing)</i> Visitors could expect fewer than 3 encounters per day at the glacier and fewer than 6 encounters per day on travel routes.</li> <li>• <b>Group sizes:</b> <i>Primitive</i> Group size would be capped at 10 people, but average group size would be fewer than or equal to 3 people per group.</li> <li>• <b>Evidence of use:</b> <i>Primitive (no change from existing)</i> No alterations of the natural terrain, although some sounds of people and footprints may rarely be observed in this zone.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public access and types of public travel allowed:</b> <i>Primitive (no change from existing)</i> Only foot traffic would be allowed in this zone, with the exception of subsistence OHV uses.</li> <li>• <b>Visitor services and information:</b> <i>Primitive (no change from existing)</i> No maps or brochures would be available onsite. Staff would be rarely present to provide onsite assistance.</li> <li>• <b>Management controls and regulations:</b> <i>Primitive (no change from existing)</i> No interpretive, informational, or visitor regulation signs would be posted in this zone. SRP and military training limits would be implemented.</li> </ul>

### 2.2.3. Action 3 – Implement Supplementary Rules

The proposed action would implement supplementary rules to be enforced within the Castner Glacier planning area to protect recreation resources, support or enhance the RSCs, and limit or reduce user conflicts and impacts to recreational resources.

#### 2.2.3.1. *Establish Group Size Limits*

The proposed action would limit all groups to a maximum of 10 people per group. This would include both independent visitor groups and permitted groups operating under an SRP or other land use authorization. Independent groups in excess of 10 individuals would be considered on a case-by-case basis and if the use is found acceptable, must have prior written approval from the AO. Groups operating under an SRP would not be permitted to exceed 10 people per group.

#### 2.2.3.2. *Limit or Prohibit Uses*

To prevent user conflicts, protect recreational resources, and support or enhance the proposed RSCs within the Castner Glacier planning area, the RAMP would limit or prohibit certain uses within the glacier’s ice cave or within 100 feet of the ice cave entrance under the proposed action. These rules include:

- no drone use,
- no fires,
- no fireworks,
- no carving, writing, or defacing of the glacial ice,
- no artificial lights except when used for navigational purposes, and
- no ice climbing, suspension of ropes, anchors, or other implements.

#### 2.2.3.3. *Identify Commercial Users*

The proposed action would require commercial operators, or those using public lands and related waters for recreational business or financial gain, to be identified. Commercial operators conducting business on BLM-managed lands within the Castner Glacier planning area would need to have in their possession a valid and current SRP and would need to identify their transport vehicle via a BLM-provided hang tag or placard.

### 2.2.4. Action 4 – Define Limitations on OHV Use

Alternative B proposes to define “limited” as it relates to OHV<sup>1</sup> use within the Castner Glacier planning area. Most of the land within the Castner Glacier planning area would be closed to motorized use year-round. Seasonal motorized use would only be permitted on the north primitive road and from the terminus of the north primitive road extending upstream within 100 feet of all flowing waters of Castner Creek outside of the winter closure dates (October 15 to May 15 or with 12 inches of snow cover or 6 inches of frost). All classes of e-bikes would be considered a motorized use and would be subject to the same seasonal and area restrictions as

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<sup>1</sup> The term “OHV” is broad and encompasses any motorized vehicle capable of or designed for travel on or immediately over land, water, or other natural terrain.

other OHVs. All lands within the Castner Glacier planning area that are open to seasonal motorized use (except for the north primitive road) would be subject to a 3,000-pound gross vehicle weight (GVW) limit. No limitations would apply to motorized use for federal subsistence purposes.

#### **2.2.5. Action 5 – Designate Trails and Conditions of Limitations**

Under this alternative, the BLM would conduct and complete an inventory of existing trails in the Castner Glacier planning area, describe resource concerns or conflicts, and describe specific designated trails and conditions of limitations per the East Alaska RMP. The RAMP would serve as the mechanism to perform implementation level planning as it relates to travel management. The RAMP would contain an inventory of each trail and route within the Castner Glacier planning area identifying the designations, resource concerns or conflicts, limitations, tools for implementation, and maintenance needs. See Appendix D for the proposed TMP for the planning area. The RAMP also contains a monitoring plan/protocol (Section 5 of the RAMP, Appendix C) that would document the degree to which the trail conditions are being met.

#### **2.2.6. Action 6 – Manage Special Recreation Permits**

Under alternative B, a maximum of 10 commercial SRPs would be issued or active at any one time by the GFO for use in the Castner Glacier planning area. SRP holders would be required to adhere to and uphold the proposed RSCs in whichever zone(s) they operate. SRPs for competitive events (e.g., races or other structured activity) would be considered on a case-by-case basis, are date specific and short in duration, and would not count towards the maximum of 10 issued SRPs. Temporary and short-term vending permits to sell goods and services in the planning area would be considered in the RNZ only in conjunction with a recreation activity. The RAMP also contains a monitoring plan/protocol (Section 5 of the RAMP, Appendix C) that would document the degree to which the SRP management conditions are being met.

#### **2.2.7. Action 7 – Issue Land Use Authorizations**

The BLM receives requests for non-Federal use of their public lands such as leases, permits, and easements, which are handled by their Lands and Realty Program under 43 CFR 2920. This implementation action was developed as part of the proposed action to simplify and clarify the land use authorization process in the Castner Glacier planning area, and to ensure adherence to the proposed RSCs for each zone. Under the proposed action, the RAMP would categorize requests for these lands and realty actions that the GFO receives most often for the Castner Glacier planning area into three major categories:

- military training exercises,
- science and research activities, and
- commercial filming and photography.

The GFO would authorize future land use requests based on specific parameters for each of these categories as described below. The AO would also retain the right to consider and authorize lands and realty actions on a case-by-case basis as needed with appropriate NEPA analysis. The RAMP also contains a monitoring plan/protocol (Section 5 of the RAMP, Appendix C) that would document the degree to which the land use authorization conditions are being met.

### 2.2.7.1. *Lands and Realty Actions: Science and Research Activities*

Under the proposed action, authorizations for science and research activities would be limited to three ongoing projects at a time and would only be granted to proposals that uphold the proposed RSCs in the zones they operate within. These authorizations would be designated as casual use with additional stipulations as appropriate.

### 2.2.7.2. *Lands and Realty Actions: Military Training Exercises*

The proposed action would limit military training exercises to one ongoing exercise at a time within the planning area and would only grant approvals to groups that uphold the proposed RSCs in the zones they operate within. These authorizations would be designated as casual use with additional stipulations as appropriate.

### 2.2.7.3. *Lands and Realty Actions: Commercial Filming and Photography*

Commercial filming and photography operations would be limited to one ongoing permit at a time under the proposed action. These groups would also be required to adhere to the proposed RSCs in the zones they operate within. These authorizations would be designated as casual use with additional stipulations as appropriate.

### 2.2.7.4. *Lands and Realty Actions: Other Leases, Permits, or Easements*

Under the proposed action, the AO would retain the right to authorize other lands and realty actions not falling into one of the above categories for authorizations such as ROW requests, renewable energy projects, or electric power lines on a case-by-case basis after appropriate NEPA analysis.

## 2.3. **Alternative C**

Alternative C was developed in response to the perceived demand for SRPs in the Castner Glacier planning area. The GFO receives many requests for SRPs and has received anecdotal reports of commercial operators guiding tours in the planning area without an SRP. The GFO developed another alternative to attempt to meet the demand for guided recreational experiences, while still maintaining the proposed RSCs and protecting resources and the visitor experience. The implementation actions would be identical to alternative B with the exception of implementation actions 3 and 6.

### 2.3.1. **Action 1 – Delineate Recreation Management Zones (RMZs)**

This implementation action would be the same as in alternative B. See Section 2.2.1 and Figure 5.

### 2.3.2. **Action 2 – Define Recreation Setting Characteristics (RSCs)**

This implementation action would be the same as in alternative B. See Section 2.2.2 and Table 4.

### 2.3.3. **Action 3 – Implement Supplementary Rules**

#### 2.3.3.1. *Establish Group Size Limits*

Under alternative C, any non-commercial group using or visiting the area would be limited to a maximum of 10 people per group. Permitted commercial recreational groups operating under an

SRP would be limited to a maximum of 7 people per group. Groups in excess of 10 individuals (for non-commercial groups only) must obtain prior written approval from the AO and may be considered on a case-by-case basis.

#### 2.3.3.2. *Limit or Prohibit Uses*

This implementation action would be the same as in alternative B. See Section 2.2.3.2.

#### 2.3.3.3. *Identify Commercial Users*

This implementation action would be the same as in alternative B. See Section 2.2.3.3.

#### 2.3.4. **Action 4 – Define Limitations on OHV Use**

This implementation action would be the same as in alternative B. See Section 2.2.4.

#### 2.3.5. **Action 5 – Designate Trails and Conditions of Limitations**

This implementation action would be the same as in alternative B. See Section 2.2.5.

#### 2.3.6. **Action 6 – Manage Special Recreation Permits**

This alternative would allow for a maximum of 15 commercial SRPs to be issued or active at any one time by the GFO for use in the Castner Glacier planning area. SRP holders would be required to adhere to and uphold the proposed RSCs in whichever zone(s) they wish to operate.

#### 2.3.7. **Action 7 – Issue Land Use Authorizations**

This implementation action would be the same as in alternative B. See Section 2.2.7.

### 2.4. **Design Features Common to All Action Alternatives**

Design features (methods, measures, or practices) intended to reduce or eliminate adverse impacts would be incorporated into all action alternatives. These design features include required operating procedures (ROPs), stipulations, and best management practices (BMPs). The ROPs and stipulations are derived from the East Alaska RMP (BLM 2007) and applicable ROPs are included. BMPs are methods, measures, or practices to directly or indirectly protect natural resources and abate or mitigate adverse impacts to those resources while meeting other resource goals and objectives. Design features common to all action alternatives are described briefly below in Table 5.

**Table 5. Design Features**

Resource	Design Features
Climate Change	The BLM GFO will be mindful of impacts from thinning ice, melting permafrost, or other conditions accompanying climate change that may affect the safety and environmental integrity of commercial permitted operations as well as recreational activities in the planning area. When the BLM is made aware of major events due to ice collapse or glacial flooding events the BLM will notify public lands users and commercial permit holders of changing conditions in the planning area.



Resource	Design Features
Cultural Resources	<p>There will be no disturbance of any archaeological or historical sites, including graves and remains of cabins, and no collection of artifacts whatsoever. Also, collection of vertebrate fossils, including mammoths and mastodon bones, tusks, etc. is strictly prohibited. If historic resources are encountered then all artifacts will be respectfully left in place and the GFO's cultural resources staff will be notified immediately.</p> <p>Issued SRPs will contain stipulations that if a previously unidentified archaeological or historic site(s) is encountered, the SRP holder will notify the BLM GFO. The GFO will consult with a BLM archeologist to determine further action.</p>
Recreation	<p>When new SRPs or short-term authorizations for events not covered under an existing SRP are requested, follow RSCs to identify optimum parameters for permitted activities and events to minimize potential for conflicts with other users and impacts to other resources.</p> <p>Monitoring of the site will be performed to ensure that desired recreation conditions (RSCs) are being met in the planning area. Monitoring will occur in the form of monitoring trips, website and social media monitoring, summer trail counters, winter parking lot counters, and visitor surveys. The RAMP contains a monitoring plan/protocol (Section 5 of the RAMP, Appendix C) that would document the degree to which the RSCs are being met.</p> <p>All SRP's will promote leave no trace (LNT) principles and pack in and pack out all refuse, human waste, and animal waste. SRP holders will be required to supply portable toilet facilities for their clients.</p> <p>Updated signs and education information will be provided at portals and on BLM websites to educate the public on LNT and pack in/pack out principles for refuse, human waste, and animal waste.</p> <p>The AO or designee will be responsible for ensuring commercial operators comply with stipulations of the permit. Observed or documented non-compliance will initiate prompt direct communications with the operator and may result in permit modification, suspension, or revocation.</p>
Riparian Areas and Water Quality	<p><b>East Alaska RMP ROP-water-c-6:</b> Human use will be managed to meet and maintain water quality standards and avoid management problems and water quality impacts. Issued SRP holders will be required to provide portable toilet systems as needed (e.g., wag bags).</p>
Socioeconomics	<p>Public outreach, consisting of notification to prospective operators, will occur within 14 business days of the signing of a decision record by the AO. Public outreach will also occur prior to open application periods for available SRPs.</p>
Vegetation and NNIS	<p><b>East Alaska RMP ROP-Veg-b:</b> Issued SRPs will contain stipulations that guided groups should minimize vegetation disturbance from permitted activities and manage permitted groups to prevent the introduction or spread of NNIS.</p>

Resource	Design Features
Visual Resources	<p><b>East Alaska RMP ROP-VRM-a:</b> Manage permits, leases, and easements to meet the VRM class objectives described below. The VRM classes for the planning area are shown in Appendix E, Map 6.</p> <p>Class I: Natural ecological changes and very limited management activity are allowed. The level of change to the characteristic landscape should be very low and must not attract attention.</p> <p>Class II: The level of change to the characteristic landscape should be low. Management activities may be seen, but should not dominate the view of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.</p> <p>Class IV: The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.</p>
Wildlife and Migratory Birds	<p>Issued SRPs holders will be required to provide portable toilet systems and pack in/pack out dog waste and human waste to protect wildlife from exposure to feces.</p> <p>Informational signage will include language about the risk of zoonotic disease to wild canids from domestic dogs. Dog waste bags may be provided at the trailheads located on the Richardson Highway.</p> <p>All operations will be conducted in such a manner as not to cause damage or disturbance to any fish or wildlife, or to impede rural residents from pursuing their traditional subsistence activities (ANILCA, Public Law 96-487).</p> <p>Permittees will not intentionally harass or harm migratory birds or interfere with their nesting and brood rearing activities.</p> <p>If a bald eagle nest is discovered, the BLM will follow the U.S. Fish and Wildlife Service (USFWS) National Bald Eagle Management Plan, and require SRP holders avoid disturbance (including repeated human activity) within 330 to 660 feet (depending on activity) of all bald eagle nests (USFWS 2007).</p> <p>The planning area may now or hereafter contain animals (or their habitats) identified as threatened, endangered, or sensitive status species. The BLM may recommend modifications to existing or pending SRPs to further its conservation and management objective to avoid any BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activities that are likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat.</p>

## 2.5. Comparison of Alternatives

Table 6 below offers a visual representation of the comparison of alternatives. For ease of comparison, the no action alternative within this EA describes ROS characteristics adopted from the current ROS classes and compares them to proposed RSCs to meet the objectives within

BLM's Planning for Recreation and Visitor Services handbook (H-8320-1) and better serve the needs of users in the Castner Glacier planning area.

Table 6. Summary Comparison of Alternatives

Implementation Action	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<b>Implementation Actions 1 and 2:</b> Establish Routed Natural Zone (RNZ) and define associated RSCs	The RNZ would not be established and ROS designations would remain in place.  The roaded natural ROS area (282 acres) would remain in place from Richardson Highway ROW corridor (150 feet of centerline) east to the semi-primitive non-motorized ROS boundary, ending approximately 0.6 miles east of the Richardson Highway.	The RNZ (307 acres) would extend from the Richardson Highway ROW corridor (150 feet of centerline) easterly to the CCTZ boundary, approximately 0.6 miles. Outside of the highway ROW (150 feet of centerline) future development of facilities would not be allowed. Minimal maintenance actions such as replacement of existing signage or maintenance of existing routes would be allowed.	Same as alternative B
<b>Recreation Settings</b>	Existing East Alaska RMP-prescribed ROS classes and characteristics would remain in place; RSCs would not be established.	RSCs would be applied as shown below.	Same as alternative B
<b>Physical</b>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Middle Country and Rural</i></li> <li>• <b>Naturalness:</b> <i>Middle Country</i></li> <li>• <b>Visitor facilities:</b> <i>Back Country</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Front Country and Rural</i></li> <li>• <b>Naturalness:</b> <i>Middle Country (no change)</i></li> <li>• <b>Visitor facilities:</b> <i>Back Country (no change)</i></li> </ul>	Same as alternative B
<b>Social</b>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Middle Country</i></li> <li>• <b>Group Size:</b> <i>Back Country</i></li> <li>• <b>Evidence of Use:</b> <i>Middle Country</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Middle Country (no change)</i></li> <li>• <b>Group Size:</b> <i>Back Country (no change)</i></li> <li>• <b>Evidence of Use:</b> <i>Middle Country (no change)</i></li> </ul>	Same as alternative B

Implementation Action	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<b>Operational</b>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Middle Country</i></li> <li>• <b>Visitor services and information:</b> <i>Primitive</i></li> <li>• <b>Management controls and regulations:</b> <i>Back Country</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Middle Country (no change)</i></li> <li>• <b>Visitor services and information:</b> <i>Back Country</i></li> <li>• <b>Management controls and regulations:</b> <i>Front Country</i></li> </ul>	Same as alternative B
<b>Implementation Actions 1 and 2:</b> Establish Castner Cave and Trail Zone (CCTZ) and Define Associated RSCs	<p>The CCTZ would not be established and ROS designations would remain in place.</p> <p>The semi-primitive non-motorized ROS area (1,554 acres) would remain in place from the eastern boundary of the existing roaded natural ROS to the western boundary of the existing primitive ROS, ending approximately 3.1 miles east of the Richardson Highway.</p>	<p>The CCTZ (282 acres) would extend from the eastern boundary of the RNZ easterly to the proposed CGZ boundary, approximately 1.2 miles. Development of facilities would not be allowed. User created structures (rock cairns, natural bridges, etc.) may be removed if they detract from prescribed RSCs of the zone.</p> <p>Minimal maintenance actions such as replacement of existing signage or maintenance of existing routes would be allowed.</p>	Same as alternative B
<b>Recreation Settings</b>	Existing East Alaska RMP-prescribed ROS classes and characteristics would remain in place; RSCs would not be established.	RSCs would be applied as shown below.	Same as alternative B
<b>Physical</b>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive</i></li> <li>• <b>Naturalness:</b> <i>Back Country</i></li> <li>• <b>Visitor facilities:</b> <i>Primitive</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive (no change)</i></li> <li>• <b>Naturalness:</b> <i>Primitive</i></li> <li>• <b>Visitor facilities:</b> <i>Primitive (no change)</i></li> </ul>	Same as alternative B

Implementation Action	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<b>Social</b>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Back Country</i></li> <li>• <b>Group Size:</b> <i>Back Country</i></li> <li>• <b>Evidence of Use:</b> <i>Back Country</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Back Country (no change)</i></li> <li>• <b>Group Size:</b> <i>Back Country (no change)</i></li> <li>• <b>Evidence of Use:</b> <i>Back Country (no change)</i></li> </ul>	Same as alternative B
<b>Operational</b>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Primitive and Middle Country</i></li> <li>• <b>Visitor services and information:</b> <i>Primitive</i></li> <li>• <b>Management controls and regulations:</b> <i>Back Country</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Primitive and Middle Country (no change)</i></li> <li>• <b>Visitor services and information:</b> <i>Primitive (no change)</i></li> <li>• <b>Management controls and regulations:</b> <i>Primitive</i></li> </ul>	Same as alternative B
<b>Implementation Actions 1 and 2:</b> Establish Castner Glacial Zone (CGZ) and Define Associated RSCs	<p>The CGZ would not be established and ROS designations would remain in place.</p> <p>The primitive ROS area (2,859 acres) would remain in place from the eastern boundary of the semi-primitive non-motorized ROS easterly to the end of the planning area, ending approximately 6.5 miles east of the Richardson Highway.</p>	<p>The CGZ (4,106 acres) would extend from the eastern boundary of the CCTZ easterly to the end of the planning area, approximately 6.4 miles east of the Richardson Highway. Replacement of existing signage would be allowed. User created structures (rock cairns, natural bridges, etc.) may be removed if they detract from prescribed RSCs of the zone.</p>	Same as alternative B
<b>Recreation Settings</b>	Existing East Alaska RMP-prescribed ROS classes and characteristics would remain in place; RSCs would not be established.	RSCs would be applied as shown below.	Same as alternative B



Implementation Action	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<b>Physical</b>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive</i></li> <li>• <b>Naturalness:</b> <i>Primitive</i></li> <li>• <b>Visitor facilities:</b> <i>Primitive</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Remoteness:</b> <i>Primitive (no change)</i></li> <li>• <b>Naturalness:</b> <i>Primitive (no change)</i></li> <li>• <b>Visitor facilities:</b> <i>Primitive (no change)</i></li> </ul>	Same as alternative B
<b>Social</b>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Primitive</i></li> <li>• <b>Group Size:</b> <i>Back Country</i></li> <li>• <b>Evidence of Use:</b> <i>Primitive</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Contacts:</b> <i>Primitive (no change)</i></li> <li>• <b>Group Size:</b> <i>Primitive</i></li> <li>• <b>Evidence of Use:</b> <i>Primitive (no change)</i></li> </ul>	Same as alternative B
<b>Operational</b>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Primitive</i></li> <li>• <b>Visitor services and information:</b> <i>Primitive</i></li> <li>• <b>Management controls and regulations:</b> <i>Primitive</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Public Access and types of public travel allowed:</b> <i>Primitive (no change)</i></li> <li>• <b>Visitor services and information:</b> <i>Primitive (no change)</i></li> <li>• <b>Management controls and regulations:</b> <i>Primitive (no change)</i></li> </ul>	Same as alternative B

Implementation Action	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<p><b>Implementation Action 3:</b> Implement Supplementary Rules</p>	<p>No specific activity restrictions.</p>	<ul style="list-style-type: none"> <li>• All visitors would be limited to 10 people in a group.</li> <li>• Drones, fireworks, fires, ice carving, ice climbing, suspension of ropes, anchors or other implements, and artificial lights for non-navigational purposes would not be allowed in or within 100 feet of the Castner Glacier ice cave.</li> <li>• Commercial operators conducting business on BLM-managed lands within the Castner Glacier planning area must have in their possession a valid and current SRP and must identify their transport vehicle via a BLM-provided hang tag or placard.</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial recreational visitors would be limited to 7 people in a group; non-commercial visitors or those operating under a lands and realty permit would be limited to 10 people in a group.</li> <li>• Other components of this implementation action would remain the same as alternative B.</li> </ul>
<p><b>Implementation Action 4:</b> Define Limitations on OHV Use</p>	<p>Seasonal OHV use would remain permitted as defined in the East Alaska RMP. BLM-managed portions of the Castner Creek glacier and drainage would remain closed to snowmachines from October 15 to May 15 or with 12 inches of snow cover or 6 inches of frost. Snowmachines in these areas would be permitted to access subsistence resources.</p>	<p>Seasonal OHV use would be permitted on the north primitive road and from the terminus of the north primitive road extending upstream within 100 feet of all flowing waters of Castner Creek outside of the winter closure dates only (October 15 to May 15 or with 12 inches of snow cover or 6 inches of frost). All OHV use (except for on the north primitive road) would be subject to a 3,000-pound GVW limit. No limitations would be placed on motorized use for federal subsistence purposes.</p>	<p>Same as alternative B</p>

<b>Implementation Action</b>	<b>Alternative A (No Action)</b>	<b>Alternative B (Proposed Action)</b>	<b>Alternative C</b>
<b>Implementation Action 5:</b> Designate Trails and Conditions of Limitations	Additional travel management designations and trail inventory would not be undertaken for existing trails in the Castner Glacier planning area.	BLM would conduct and complete an inventory of existing trails in the Castner Glacier planning area and apply designations to each to facilitate management and maintenance.	Same as alternative B
<b>Implementation Action 6:</b> Manage Special Recreation Permits (SRPs)	SRPs would be approved or denied on a case-by-case basis with no limitations on the number of permits issued annually.	A maximum of 10 SRPs would be issued annually. SRPs would be managed to not degrade visitor experience for other users at the Castner Glacier planning area and to meet RSCs in the zone of operation.	A maximum of 15 SRPs would be issued annually. SRPs would be managed to not degrade visitor experience for other users at the Castner Glacier planning area and to meet RSCs in the zone of operation.
<b>Implementation Action 7:</b> Issue Land Use Authorizations (Lands and Realty Actions)	Authorizations for lands and realty actions would be considered on a case-by-case basis based on their compliance with and adherence to guidelines from the East Alaska RMP and after appropriate NEPA analysis.	<p>Authorizations for lands and realty actions would be limited as follows:</p> <ul style="list-style-type: none"> <li>• science and research activities – three ongoing projects at a time,</li> <li>• military training exercises – one ongoing exercise at a time, and</li> <li>• commercial filming and photography operations – one ongoing project at a time.</li> </ul> <p>The AO would retain the right to authorize other lands and realty actions not falling into one of the above categories for authorizations such as ROW requests, renewable energy projects, or electric power lines on a case-by-case basis after appropriate NEPA analysis.</p>	Same as alternative B

## 2.6. Alternatives Considered but Eliminated from Detailed Analysis

A wide variety of recreation possibilities exist in the Castner Glacier planning area, leading to a wide variety of desired conditions for the area from the public and stakeholders. The BLM considered other alternatives raised through internal and external scoping as part of the alternatives development process. The following alternatives were dismissed from further consideration for the reasons detailed below.

A development alternative consisting of built infrastructure such as additional BLM-managed parking area(s), restroom facilities, trails, trail marking or signage, enhanced interpretation, a campground, and other visitor facilities was suggested via public comments. This alternative was eliminated from detailed analysis because development actions such as these are inconsistent with the land use plan for the area. The East Alaska RMP states that minimal or no development will be considered at trailheads that access areas managed for a primitive recreation experience (BLM 2007, p. 38). For these reasons a development alternative will not be considered for further analysis. Additionally, parking areas are within ADOT&PF ROW for the Richardson Highway and would continue to be managed by ADOT&PF. A parking area expansion is being considered by ADOT&PF within the scope of their upcoming Richardson Highway realignment project, and is analyzed in this document under the cumulative effects analysis as a reasonably-foreseeable future action.

During the scoping period, alternatives related to the use of OHVs in the area were put forward by the public. Comments were received requesting that the BLM consider an alternative that would allow snowmachines and other OHVs to access the Castner Glacier planning area in the winter and in turn, to access other lands beyond the planning area. A counter alternative to close the area completely to snowmachines was also submitted during the scoping period. These alternatives were dismissed because they both would not meet specific management guidelines for the area (Delta Range SRMA). In the approved East Alaska RMP, recreation resources are defined for the Delta Range SRMA, of which the Castner Glacier planning area is part. “BLM-managed portions of the Fels, Canwell, Castner, and McCallum Creek glaciers and drainages would be designated as closed to snowmachines...from 10/15 – 5/15” (BLM 2007, p. 38). Travel management area prescriptions for the Delta Range Area in the approved RMP support this designation, stating that “This area would be designated as ‘limited’ to OHVs...seasonal closure would begin on October 15 or when there is 12 inches average snowfall or 6 inches of frost. Seasonal closure would run until May 15. Snowmachine use outside those defined subunits would be unrestricted” (BLM 2007, p. 49). The RMP requires the existing ROS classes to be maintained within the Delta Range SRMA. Seasonal (summer) OHV use in the planning area is supported by the East Alaska RMP. However, the existing primitive ROS (where the types of public access allowed include foot, horse, and non-motorized float boat travel) would not be able to be maintained if OHV access was no longer subject to these seasonal or spatial limitations.

Alternatives to expand of the size of the Delta Range SRMA to include the nearby Red Canyon area, or to expand the SRMA to include the slopes of the valley and to designate trails or hiking routes within these areas were requested during scoping. Adding Red Canyon to the Castner Glacier area was dismissed because the Red Canyon area is on State of Alaska land and is not managed by the BLM. The slopes of the valley around the Castner Glacier planning area are already included in the Delta Range SRMA; however, additional trails would not be designated

in these areas because they are managed for a semi-primitive non-motorized or a primitive recreation experience and trail designations would not meet the RSCs for these ROS classes.

Others requested designation of additional motorized trails outside of the SRMA. Additional motorized trails outside of the SRMA were not considered because that is beyond the scope of this project.

An alternative was also submitted to tighten management of commercial operations in the planning area, to include restrictions on commercial use such as a cap on SRPs at the existing number and to limit days of the week, times, and size of tour groups allowed. This alternative was dismissed because the BLM is required by the East Alaska RMP to manage the planning area for a diversity of recreational experiences as long as they conform to the existing ROS classes. The demand for SRPs is high, as a product of a high demand for guided tours in this area. Additionally, this alternative would be technically infeasible. The area's remote location makes management on this scale difficult, if not impossible, to enforce limitations on commercial operations.

## **CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS**

This chapter analyzes the issues identified in Table 1 (Issues to be Analyzed in Detail) and the chapter is set up by each issue's broader category: recreation, lands and realty, and socioeconomics. The chapter describes: the scope of analysis contained in this EA; provides the relevant baseline for the existing-conditions related to each issue; the future foreseeable trends of each issue; any planned actions in the project area, and; the analysis of potential impacts from the implementation of all three project alternatives. Where applicable, the environmental consequences sections describe effects that are common to all alternatives followed by descriptions of effects that are unique to each alternative.

### **3.1. Scope of Analysis**

The scope of the analysis contained in this EA includes the 4,695 acres of the Castner Glacier RAMP planning area plus the surrounding lands in the Delta Range SRMA from now until 20 years in the future, which is the duration of the proposed RAMP. The analysis of socioeconomic resources also includes the Southeast Fairbanks Census Area and the Fairbanks North Star Borough to capture impacts to recreational service providers in the communities where they are based.

The BLM established this scope of analysis in consideration of both independent and connected actions. There is one action addressed in this chapter that may appear to be a connected action, but is an independent action. The ADOT&PF is planning to realign the Richardson Highway corridor in this area and construct parking for access to the Castner Glacier trails. This action would require acquisition of additional ROW from the BLM, which would be coordinated through a separate process with the Lands and Realty program within the GFO. The ADOT&PF action is not dependent on this proposed action (the Castner Glacier RAMP), and BLM's proposed action does not automatically trigger the ADOT&PF action, therefore the two are not connected actions. Potential impacts from the ADOT&PF project are, however, considered in the cumulative effects analysis of each resource. (Section 3.2 further explains the relationship of this action to the proposed action.)

### **3.2. Reasonably Foreseeable Environmental Trends and Planned Actions**

This section includes a discussion of future environmental trends and planned actions in the analysis area, including BLM actions, actions by federal agencies other than BLM, and non-federal actions, that may impact the resource areas of concern analyzed in this EA.

#### **3.2.1. Recreation**

The reasonably foreseeable recreation trends in the proposed project area include a generalized increase in outdoor recreation, in particular winter recreation, as more people embrace winter as a time to get outside. Popularity of winter sports such as Nordic skiing, backcountry skiing, and snowmachining continues to increase in Alaska (Alaska Department of Natural Resources 2023). Northern lights viewing and glacier tourism are additional activities that have been driving winter tourism to Alaska in recent years. The 2023-2024 winter season (October to April) surpassed the 2023 summer season for arrivals into the Fairbanks airport, and the Alaska



Railroad had a record number of passengers on their Aurora Winter Train in March 2024, with a 23 percent increase over March 2023 (Alaska Business 2024). A literature review on glacier tourism presents some of the impetus for visitation to these areas; glaciers represent beautiful and dynamic landscapes but also are a tangible example of the effects of climate change that can be seen and experienced, which has likely increased general interest in visiting these types of places (Welling et al. 2015).

Planned actions with the potential to impact recreation in the area include several ADOT&PF improvements projects along the Richardson Highway from Valdez to Fairbanks. One particular ADOT&PF project encompasses MP 206 to 233 of the Richardson Highway and includes the abovementioned proposed improvements to the parking areas that provide access to the Castner Glacier planning area (ADOT&PF 2022). The Black Rapids Lodge located approximately 10 miles north of the area offers a place for recreators to stay, often holds music events held at their site, and has plans to restore the historic Rapids Roadhouse (Lodge at Black Rapids 2024). The future Alaska Energy Metals Nikolai Project is near the planning area, which would raise general awareness of resources, including recreation opportunity, along the Richardson Highway corridor and employees from the future mine may recreate in the area (Stantec 2024).

### **3.2.2. Lands and Realty**

In addition to those reasonably foreseeable future actions mentioned in Section 3.2.1, requests for land use for military trainings in the planning area have been on the rise in recent years. Also, the BLM is considering issuing additional ROW (via a highway easement deed) to ADOT&PF for the planned Richardson Highway realignment near and within the planning area. The East Alaska RMP states "... isolated, unmanageable tracts resulting from highway realignment along the Richardson and Glenn Highways would be made available for disposal" (BLM 2007, p. 23).

### **3.2.3. Socioeconomics**

Any of the future planned actions mentioned above that would impact ease of access to the area (ADOT&PF Richardson Highway improvements) or promote winter recreation in Interior Alaska could also impart quality of life benefits to local residents and increase revenue earned by local businesses that operate within the planning area.

## **3.3. Recreation (Issues #1 - #4)**

This section includes a description of existing recreation uses and the range of recreational opportunities and experiences available within the Castner Glacier planning area and the greater Delta Range SRMA. In addition, this section describes how proposed management actions would affect the recreation or visitor experience. The visitor experience is measured through a qualitative narrative description of anticipated impacts to the social qualities of the ROS (number of contacts, group size, evidence of others) within the planning area. Where possible, the visitor experience is quantified through a calculation of area and percentage of each prescribed ROS class characteristic and proposed RSCs as related to the whole planning area, and anticipated changes to number of social encounters in each alternative.

As the planning area is remote and BLM on-site management is infrequent, data on visitation used in the analysis of recreation issues are obtained mainly from annual post-use reports from SRP holders, parking lot inventories provided by BLM staff during site visits, and anecdotal reports by BLM staff or visitors of large group gatherings or other unauthorized uses. In the

summer of 2023, infrared counters were placed along the north non-motorized trail designed to record a person moving past at walking speed to capture summertime use. In addition, a pre-scoping questionnaire was distributed to gather input on the planning area use. (See Section 4.1.1 for more information.)

***Issue #1 – RMZs and RSCs***

***Issue statement:*** How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) in the Castner Glacier planning area affect the current recreation experience and recreational users?

***Issue #2 – Commercial Use Limits***

***Issue statement:*** How would issuing a certain number of SRPs (10 in alternative B, 15 in alternative C) in the Castner Glacier planning area affect recreational users?

***Issue #3 – Limit or Prohibit Uses***

***Issue statement:*** How would supplementary rules specific to the use of drones, fireworks, fires, ice carving, ice climbing, or artificial lights for non-navigational purposes inside and within 100 feet of the Castner Glacier ice cave affect recreational users and uses?

***Issue #4 – Group Size Limits***

***Issue statement:*** How would establishing group size limits (10 people for any group in alternative B; 7 people for SRPs and 10 people for all other groups in alternative C) affect recreational users in the Castner Glacier planning area?

**3.3.1. Affected Environment**

**3.3.1.1. Historical Recreational Use**

Documented recreational use along the Richardson Highway dates back to the 1940s. Travelers between Fairbanks and Valdez began exploring the lakes, rivers, and mountains along the route as the highway became more suitable for automobile travel. The National Park Service reported the area’s scenic views and large-game hunting resources (National Park Service 1944). The Castner Glacier, with its accessible location a short walk away from the Richardson Highway, has documented use as early as the 1950s for recreation and glaciology study (Nielsen and Post 1953). The Alaska Alpine Club has a history of encouraging use and exploration of the Alaska Range and has hosted race events at different glacial sites in the eastern Alaska Range from the late 1960s until 1987, which has contributed to the popularity and awareness of the planning area (Mueter n.d.). When the BLM began the East Alaska RMP planning process in 2003, the Alaska Alpine Club advocated for non-motorized winter use of the area and provided information that demonstrated decades of mountaineering and winter use at Castner Glacier and surrounding areas (BLM 2007).

Minor administrative actions, primarily in the form of monitoring and public education, began at Castner Glacier after the signing of the East Alaska RMP in 2007. After that time, monitoring trips solely occurred in the winter months at approximately one-month intervals between December and March. Public use at Castner Glacier has continued to increase in the past 10 years, becoming a popular winter destination for residents of Alaska, U.S. tourists, and more recently, international visitors.

3.3.1.2. *Current Recreational Use and Visitor Experience*

There are minimal existing visitor facilities or use restrictions at the site. There are two signs in the planning area; one is located near the Richardson Highway at the west end/start of the southern route to Castner Glacier and the other is near the Richardson Highway at the west end/start of the north primitive road. The signs indicate that the user is traveling in the Delta Range SRMA, gives basic a basic closure notice for OHVs, general hazard information, requirements for commercial operations, and contact information for the GFO (Figure 7).

Current access is provided by undeveloped parking areas, in the form of gravel pullouts or widened shoulders, on all four corners of the Castner Creek bridge within ADOT&PF's ROW (Appendix E, Map 7). These areas are not maintained in the winter and are typically only available for use in snow-free months. Another small parking area is located near the Richardson Highway at the west end/start of the north primitive road, and a larger, more developed parking area is located south of the bridge on the west side of the Richardson Highway. The larger parking area is the primary winter parking location and is owned and maintained in the winter by ADOT&PF. The parking areas were constructed by ADOT&PF in the early 2000s to alleviate parking congestion along the Richardson Highway and have resulted in increased awareness of and use of the site. On winter weekends, these parking areas are often near capacity (Figure 8). Inadequate parking facilities have led to illegal parking and people walking along the Richardson Highway to access the trailhead on busy weekend days, causing pedestrian and vehicle safety concerns.

Social media has boosted awareness of the Castner Glacier ice cave and helped attract attention to the site from international visitors. In recent years, the area has been most popular in the winter and shoulder seasons (October through March), with people visiting to view the glacier and ice cave, hike, snowshoe, camp, ski, and photograph nature, among other activities. Based on informal winter use monitoring by BLM that has occurred since 2007, winter recreation use has steadily increased from an estimated 5,000 visits in 2021 to an estimated 7,000 to 8,000 visits in 2022 and 2023 (BLM 2024a). Summer use of the area has also been increasing. In 2023 a summer counter was installed and recorded an average of 250 visits per month in July, August, and September. Commercial use reporting and BLM observations demonstrate that 70 percent of overall use occurs from October to March (BLM 2024a). Analysis of annual reports from existing SRP holders indicates that from 2021 to 2023, around 95 percent of commercial tours occurred in these months (BLM 2024b). Current estimated use exceeds 12,000 visitors per year, with the most visitation occurring in the existing roaded natural ROS area. Most of the visitation consists of independent visitors, in groups of 4 to 6, but large groups of 20 or more have been reported.

**Figure 7. Existing Signage at the South Trailhead, Winter and Summer**



**Figure 8. Castner Glacier Parking Area, February 2024**



There are commercial tours operating within the planning area offering guide services to Castner Glacier. As of 2024, four commercial operators hold GFO-issued SRPs providing guiding services to Castner Glacier and are authorized to operate anywhere within the Delta Range SRMA (BLM 2021; BLM 2020a; BLM 2020b; BLM 2019). Guided groups larger than 10 are required to request prior approval from the GFO which generally keeps average group sizes under 10 for commercial groups. SRP holders are not required to report their group size per trip; however, one SRP reported their average group size per trip in 2023 was 2.95 people (BLM 2024b). Other SRP holders have been approved to bring groups from 4 up to 20 (with prior approval). One tour operator seeking an SRP for the planning area stated in the pre-scoping questionnaire that their minimum group size is 4 and can be upwards of 30 plus on holiday weekends (BLM 2024c).

There are also commercial guides that advertise for and operate tours in the planning area without authorization via an SRP. From 2022 to 2023, the GFO contacted or received inquiries or from an additional 21 commercial operators interested in conducting commercial activities at Castner Glacier. The use of the area for military training purposes also brings large groups to the area, but these groups generally travel beyond the roaded natural ROS area to access the primitive ROS area beyond. Other recreational uses and activities that have caused conflicts include drone use, fires inside the cave, use of fireworks, graffiti or ice art, large private user group size, concerts, raves, laser shows, and ice skating. While some of these uses are not authorized under the East Alaska RMP, there is no guidance for other activities.

#### 3.3.1.3. *Existing ROS Areas and Social Components of the ROS*

There are three existing ROS classes in the Castner Glacier area (Figure 4, Table 3). The roaded natural area is 282 acres (6 percent) of the planning area and is 0.5 miles or less from roads and trails open to motorized use. The roaded natural area contains the small parking area off the Richardson Highway and the beginning of the existing trails on the north and south side of Castner Creek. This area is used for parking, gathering, and staging. The area is closed to motorized use from October 15 to May 15 annually or with 12 inches of snow cover or 6 inches of frost, but summer time motorized use is allowed and does occur in this area.

The semi-primitive non-motorized area is 1,554 acres (33 percent) of the planning area and begins at the eastern edge of the roaded natural class, approximately 0.6 miles east of the Richardson Highway. Motorized use also occurs in this area with the same seasonal constraints as listed above. Typical activities include OHV touring, hiking, horseback riding, cross-country skiing, hunting, and fishing. This area also contains the Castner Glacier ice cave, which is a major draw for many visitors to the area.

The primitive area is 2,859 acres (61 percent) of the Castner Glacier planning area and begins 3.1 miles east of the Richardson Highway at the eastern edge of the semi-primitive non-motorized class. There are no marked or obvious trails in this area and motorized use is prohibited year-round. Activities in the primitive class include hiking, horse packing, camping, fishing, and hunting.

The BLM uses the social components of the ROS to describe the expected visitor experience for a given area as it relates to presence of other users. The social components are described through a description of:

- contacts with other groups (how many groups one would expect to encounter during a visit),
- group size (how large is the average group size), and
- evidence of use (how visible or noticeable are other visitors or past visitors).

Table 7 gives a summary of the social components of the ROS that were prescribed as the desired condition for the planning area in the East Alaska RMP versus those that currently exist in all three ROS areas. Since the writing of the RMP, popularity of the site has grown, resulting in changes to the existing social components in each ROS area. As shown in Table 7, the existing ROS social components in the planning area are not always meeting those prescribed in the RMP.

**Table 7. East Alaska RMP-Prescribed Versus Existing Social Components of the ROS in the Planning Area**

<b>Roaded Natural</b> <b>(282 acres; 6 percent)</b>	<b>Semi-Primitive Non-Motorized</b> <b>(1,554 acres; 33 percent)</b>	<b>Primitive</b> <b>(2,859 acres; 61 percent)</b>
<ul style="list-style-type: none"> <li>• <b><u>Contacts with other groups:</u></b>  <b>Prescribed: <i>Middle Country</i></b>                      (15-29 encounters)   <b>Actual:</b> Visitors could expect 15 to 29 encounters per day on travel routes. (<i>Middle Country</i>)</li> <li>• <b><u>Group sizes:</u></b>  <b>Prescribed: <i>Back Country</i></b>                      (4-6 people/group)   <b>Actual:</b> Average group size ranges from 4 to 25 people. No limits are placed on group sizes. (<i>Front Country</i>)</li> <li>• <b><u>Evidence of use:</u></b>  <b>Prescribed: <i>Middle Country</i></b>                      (Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.)   <b>Actual:</b> There are small areas of alteration with some vegetation showing wear near established trails. Occasional sounds of people are evident. (<i>Middle Country</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Contacts with other groups:</u></b>  <b>Prescribed: <i>Back Country</i></b> (7-15 encounters)   <b>Actual:</b> Visitors can expect 7 to 15 encounters per day on travel routes when accessing the glacier ice cave during peak times. (<i>Back Country</i>)</li> <li>• <b><u>Group sizes:</u></b>  <b>Prescribed: <i>Back Country</i></b>                      (4-6 people/group)   <b>Actual:</b> Average group size ranges from 4 to 25 people. No limits are placed on group sizes. (<i>Front Country</i>)</li> <li>• <b><u>Evidence of use:</u></b>  <b>Prescribed: <i>Back Country</i></b>                      (Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.)   <b>Actual:</b> Small areas of alteration are present. Surface vegetation shows wear with some bare soils. Occasional sounds of people. Evidence of use present in the form of litter and ice graffiti. Summer foot path is visible on the north side of Castner Creek. (<i>Middle Country</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Contacts with other groups:</u></b>  <b>Prescribed: <i>Primitive</i></b> (Fewer than 3 encounters/day at campsites and fewer than 6 encounters/day on travel routes.)   <b>Actual:</b> Visitors can expect fewer than 3 encounters per day at the glacier and fewer than 6 encounters per day on travel routes. (<i>Primitive</i>)</li> <li>• <b><u>Group sizes:</u></b>  <b>Prescribed: <i>Back Country</i></b>                      (4-6 people/group)   <b>Actual:</b> Average group size ranges from 4 to 6 people; however, no limits are placed on group sizes, and group sizes exceeding 20 people have been reported. (<i>Front Country</i>)</li> <li>• <b><u>Evidence of use:</u></b>  <b>Prescribed: <i>Primitive</i></b> (No alteration of the natural terrain. Footprints only observed. Sounds of people rare.)   <b>Actual:</b> There are no alterations of the natural terrain, although some sounds of people and footprints may rarely be observed. (<i>Primitive</i>)</li> </ul>

### 3.3.2. Environmental Impacts

Direct and indirect impacts to the current expected recreation experience were evaluated by examining the existing social components of the ROS and how those might be impacted by each of the issues presented. Effects were quantified wherever possible. If a quantitative comparison was not available, qualitative effects were estimated using local knowledge and professional judgement. Impacts were categorized as short term (1 to 5 years) and long term (5 to 20 years) in this analysis.

#### 3.3.2.1. Issue #1 – RMZs and RSCs

**Issue statement:** *How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) in the Castner Glacier planning area affect the current recreation experience and recreational users?*

Analysis of issue #1 considered how recreational users' experiences might change through estimation of change in social encounters and evidence of use from other visitors. A quantitative measurement of acres of each of the social characteristics by ROS area (or RMZ) in the planning area by alternative is shown in Tables 8-10 below.

#### Direct and Indirect Effects of Alternative A (No Action) – Issue #1

Under the no action alternative, the BLM would not establish RMZs and RSCs to manage recreation use and visitation in the Castner Glacier area. The roaded natural ROS area would remain at 6 percent of the planning area, the semi-primitive non-motorized ROS area would remain 33 percent of the planning area, and the primitive area would remain at 61 percent of the planning area. Management of the area would continue to be guided under the intended social qualities given in the RMP for each ROS area and would continue to be exceeded at certain times in popular areas with more frequency as visitation grows.

Visitor experience would remain largely the same but would be impacted by more social encounters in the near future since the site continues to be popular on social media and an increased number of visitors hold events in the ice cave. More than 15 encounters are expected at peak or event times in the semi-primitive non-motorized ROS area where the ice cave is located, which exceeds the back country designation for social encounters (7 to 15 expected; BLM 2014). Evidence of use would also be exceeded from middle country (expected) to the front country ROS class in the semi-primitive non-motorized area with more frequent events.

In the long term, glacier and northern lights tourism would continue to be popular and the social components of the ROS would move towards front country and possibly rural during busy winter weekends. Conversely, in the future the glacier may recede beyond the current location which would make it more difficult to easily access. If this occurs, the popularity of the site could decrease, leading the social components to trend more towards back country and primitive. See Section 3.3.3 for more about the cumulative impacts from climate change on the planning area.

#### Direct and Indirect Effects of Alternative B (Proposed Action) – Issue #1

The existing roaded natural ROS area would change to the RNZ and would increase in size by 25 acres from 282 acres to 307 acres (from 6 to 6.5 percent of the planning area) in the proposed action. The defined social RSCs in the RAMP for this zone would not change from the East Alaska RMP-prescribed ROS social components.



The semi-primitive non-motorized ROS area, most closely associated with the CCTZ in the proposed action, would decrease in size by 1,272 acres (from 1,554 acres to 282 acres), encompassing just 6 percent rather than 31 percent of the planning area. The defined social RSCs in the RAMP for this zone would not change from the East Alaska RMP-prescribed ROS social components.

The primitive ROS area would change to the CGZ and would increase in size by 1,247 acres from 2,859 acres to 4,106 acres, which is almost a 50 percent increase over existing area. The CGZ would comprise 85 percent of the planning area at the adoption of the proposed RAMP. East Alaska RMP-prescribed social components of the ROS would remain mostly unchanged from existing in this area, with the exception of the group size component which would change from back country to an RSC of primitive. However, since the proposed CGZ is much larger than the existing primitive ROS area, the RSCs prescribed for this zone would dominate the planning area in the proposed action in the short term. In the longer term, the border between the CCTZ and the CGZ would shift with recession of the glacier, reducing the size of the CGZ.

Establishment of RMZs and RSCs would change the social components of the ROS for parts of the planning area. It would, through education on BLM’s website, reduce user conflicts by defining the expected visitor experience and expectations in each RMZ for those recreating in the area. The defined RSCs would have an influential effect on the type of recreation sought out in the planning area. There would be a much greater acreage in the planning area of an expected primitive visitor experience. In the long-term, this would discourage other types of use throughout the planning area such as OHV use during the seasonal closure and larger group events, as information and education about the planning area is disseminated to visitors over time.

Direct and Indirect Effects of Issue #1 – Alternative C

The direct and indirect effects for issue #1 from alternative C would be identical to those described for the proposed action, since both alternatives propose to establish the same RMZs and RSCs in the planning area.

Comparison of Effects of Issue #1 Across Alternatives

Tables 8 through 10 below give a comparison of total acres of each social component of the ROS or RSC classification (contacts with other groups, group sizes, and evidence of use) by alternative.

**Table 8. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Contacts with Other Groups**

Alternative	Primitive	Back Country	Middle Country	Front Country	Rural	Urban
Alternative A (No Action)	2,859 acres	1,544 acres	282 acres	0 acres	0 acres	0 acres
Alternative B (Proposed Action) / Alternative C	4,106 acres	282 acres	307 acres	0 acres	0 acres	0 acres

**Table 9. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Group Sizes**

Alternative	Primitive	Back Country	Middle Country	Front Country	Rural	Urban
Alternative A (No Action)	0 acres	4,859 acres	0 acres	0 acres	0 acres	0 acres
Alternative B (Proposed Action) / Alternative C	4,106 acres	589 acres	0 acres	0 acres	0 acres	0 acres

**Table 10. Comparison of Impacts by Alternative for Issue #1 – Prescribed Social ROS or RSC Classification: Evidence of Use**

Alternative	Primitive	Back Country	Middle Country	Front Country	Rural	Urban
Alternative A (No Action)	2,859 acres	1,554 acres	282 acres	0 acres	0 acres	0 acres
Alternative B (Proposed Action) / Alternative C	4,106 acres	282 acres	307 acres	0 acres	0 acres	0 acres

### 3.3.2.2. Issue #2 – Commercial Use Limits

**Issue statement:** *How would issuing a certain number of SRPs (10 in alternative B, 15 in alternative C) in the Castner Glacier planning area affect recreational users?*

Analysis of issue #2 considered how recreational users' experiences could change through a qualitative and quantitative estimation of change in social qualities of the ROS, in particular contact with other groups, in the two areas closest to the Richardson Highway (roaded natural area and semi-primitive non-motorized area in the no action; RNZ and CCTZ in the action alternatives) where commercial operations are most common.

#### Direct and Indirect Effects of Issue #2 – Alternative A (No Action)

The no action alternative could produce several different outcomes, two of which are analyzed below:

- The *maximum-use scenario*, where the absence of a cap on the number of permits leads to issuance of several more SRPs (the analysis is based on number of tour providers that have expressed interest in obtaining an SRP for the planning area), or
- The *existing-condition scenario*, where no additional SRPs are issued by the GFO and the four existing SRPs remain (the analysis is based on existing number of SRPs). Under this scenario there would be no requirement for the GFO to issue additional SRPs.

Under the no action alternative *maximum-use scenario*, where SRPs would be granted on a case-by-case basis, short-term impacts would be minor as the number of processed and issued SRPs increases slowly over time, and as companies begin to start operating in the planning area with

their tour offerings. After more than approximately five years, however, the volume of commercial tours would lead to exceedances in the existing ROS social qualities. SRPs are generally issued for 5 to 10 years. As more tour operators earn the SRPs, they would be likely to retain and renew them. If all companies that have expressed interest or have operated without an SRP in the planning area were issued SRPs, there would be 25 SRPs issued for operations in the Delta Range SRMA.

Since approximately 95 percent of commercial use occurs between the months of October and March, the winter and shoulder seasons would be the most affected by the increased use by commercial tours (BLM 2024b). The visitor experience would be impacted if many tour groups operate on the same day, such as during popular late-winter weekends. If all SRP holders held tours at the site on the same day, assuming additional independent visitation of approximately 5 groups, the number of contacts with other groups would average 30, classifying as front country, and exceeding the back country and middle country setting prescribed for the roaded natural and semi-primitive non-motorized ROS areas, respectively. These impacts would be limited to the roaded natural and part of the semi-primitive non-ROS areas, or about 589 acres (12 percent) of the planning area.

If operators also begin offering more tours during the summer months, evidence of use on trails would increase through trampled vegetation and compacted soils that would result from increased visitation. The no action alternative would lead to difficulty maintaining consistency with the prescribed ROS social qualities designated for the area, especially contacts with other groups and evidence of use, because of increased commercial use.

Conversely, in the no action alternative *existing-condition scenario*, the number of visitors using guided tours would generally continue at existing levels, with slight increases in commercial visitation expected over time as site popularity grows. Impacts to social ROS components beyond what is currently forecast (see analysis of the no action alternative in Section 3.3.2.1) would only be felt if existing SRP holders began to increase their tour offering frequency, increase tour group sizes, or change the seasonality of tours within the boundaries of their SRP conditions.

#### Direct and Indirect Effects of Issue #2 – Alternative B (Proposed Action)

The proposed action would issue a total of 10 SRPs for access to the planning area. In a possible scenario of all 10 SRP holders operating in the planning area on the same busy visitation day and same timeframe, the average visitor would contact approximately 15 other groups while visiting the area. This would fall under the back country (7 to 15 contacts) or middle country (15 to 29 contacts) classification for contact with other groups and would conform to the proposed RSCs for the zones where commercial tours primarily operate (RNZ and CCTZ).

Since most SRP holders operate primarily in the winter season, the damage to vegetation and soils would be minimal. If operators also begin offering tours during the summer months, evidence of use on trails would increase through trampled vegetation and compacted soils that would result from increased summertime visitation. These impacts would be minor with the proposed action because only 10 SRPs would be issued. The evidence of use social RSC would remain as proposed middle country and back country for the RNZ and CCTZ (common commercial operating areas), respectively.

Direct and Indirect Effects of Issue #2 – Alternative C

Alternative C would issue a total of 15 SRPs for commercial use in the planning area. Using the same metrics as the previous sections, if all SRP holders arrived for a guided tour on the same day, a visitor might experience about 20 contacts with other groups (independent and guided) under this alternative. This would conform to the proposed social contacts RSC in the RNZ (middle country; 15 to 29 contacts), but exceed the social contacts RSC for the CCTZ (back country; 7 to 15 contacts). Impacts would be limited to the area of the CCTZ as tours generally do not proceed past the cave. (282 acres; 6 percent of the planning area).

As described above in the previous section, the damage to vegetation and soils would be minimal because commercial tours primarily operate during the winter months. If changes to summer commercial SRP use cause increased summer visits, the evidence of use on popular trails would be increased. Since there would be a limit of 15 SRPs issued, these impacts would be minor and the evidence of use social RSC would remain in the proposed middle country and back country for the RNZ and CCTZ, respectively.

Comparison of Effects of Issue #2 Across Alternatives

Table 11 illustrates the prescribed (alternative A) or proposed (alternatives B and C) group contacts versus the maximum expected group contacts for the two areas with the most commercial tour activity (the western-most area and the glacier terminus area) under each alternative.

**Table 11. Comparison of Impacts by Alternative for Issue #2 – Maximum Number of Contacts with Other Groups in Common Commercial Operating Areas**

Social Component: Contacts with Other Groups*	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
Primitive	Fewer than 3	Fewer than 3	Fewer than 3
Back Country	7 to 15	7 to 15 (15 contacts)	7 to 15
Middle Country	15 to 29	15 to 29 (15 contacts)	15 to 29 (20 contacts)
Front Country	30 or more (30 contacts)	30 or more	30 or more

\*There are no prescribed or proposed rural or urban social components in the planning area.

- East Alaska RMP-prescribed (alternative a) ROS social component or proposed RSC (alternative b and c)
- Maximum estimated ROS social component or RSC

3.3.2.3. *Issue #3 – Limit or Prohibit Uses*

**Issue statement:** *How would supplementary rules specific to the use of drones, fireworks, fires, ice carving, ice climbing, or artificial lights for non-navigational purposes inside and within 100 feet of the Castner Glacier ice cave affect recreational users and uses?*

Analysis of issue #3 considered how recreational users’ experiences would change through a quantitative description of changes that could be expected to the “evidence of use” social

component in the two areas where commercial operations are most common (roaded natural area and semi-primitive non-motorized area in the no action; RNZ and CCTZ in the action alternatives). Impacts to group size are also briefly considered, but are more fully analyzed under issue #4 (Section 3.3.2.4).

#### Direct and Indirect Effects of Alternative A (No Action) – Issue #3

The existing broad restrictions on use that were given in the East Alaska RMP would continue to be in place in the planning area. These are a prohibition on helicopter-supported commercial activities and the use of OHVs from October 15 through May 15 annually, or with 12 inches of snow cover or 6 inches of frost.

Use of drones, fireworks, fires, and non-navigational lights would continue in the planning area, but would be most prevalent in area from the Richardson Highway to the toe of the Castner Glacier (589 acres of the planning area). The group sizes and evidence of use social components of the ROS for the roaded natural and semi-primitive non-motorized ROS areas could start to trend further away from their existing prescribed middle and back country designations given in the RMP towards front country under the no action alternative.

For visitors that are seeking or accepting of these types of recreational experiences (13 to 25 people per group; sounds of people regularly heard), such as concert-goers, event planners, or commercial photographers using drones, this would have minimal impact on their visitor experience. For others, this would have a negative impact on their desired experience which could increase over time as popularity of the site and social media exposure grows. Several of these uses (fireworks, artificial lights, fires) are closely associated with large groups and events, and lack of limitations on these uses may encourage more of that type of visitation. User conflicts may arise between hikers looking for a more quiet and solitary experience, or traversing through the semi-primitive non-motorized area to access the primitive area beyond, and those that arrive in large groups and/or use disruptive technology.

#### Direct and Indirect Effects of Alternative B (Proposed Action) – Issue #3

Under alternative B, additional restrictions placed on use would help meet the desired evidence of use level (middle and back country) for the two RMZs closest to the Richardson Highway (RNZ and CCTZ). Visitor safety would be increased from the prohibition on ice climbing, suspension of anchors near the ice cave, and fireworks. In the short term, there would not be much change as it may take time to inform the visiting public. People would still undertake these activities, unaware that there are new land management policies in place for the area. Through policies posted on the BLM's Castner Glacier website, proposed signage in the area, and word-of-mouth from other users, recreators would become aware of the new policies and it is anticipated these uses should dramatically decrease or stop altogether. Monitoring by the BLM in the form of site visits and user surveys would also help policy awareness and enforcement (Section 2.4).

Users wanting to use drones, fireworks, fires, or artificial lights or conduct ice carving or climbing would view this restriction as a negative impact on their desired experience in the planning area. BLM enforcement actions would need to increase when users fail to follow the restrictions, causing increased BLM on-site presence and visible management of the planning area. Others would appreciate restriction on these activities, which could lead to user conflicts.

Direct and Indirect Effects of Alternative C – Issue #3

The direct and indirect effects for issue #3 from alternative C would be identical to those described for the proposed action, since both alternatives propose to establish the same use restrictions.

Comparison of Effects for Issue #3 Across Alternatives

Tables 12 and 13 below illustrate the prescribed or proposed evidence of use and group sizes versus the maximum expected evidence of use and group sizes for the two areas with the most commercial tour activity (roaded natural area and semi-primitive non-motorized area in the no action; RNZ and CCTZ in the action alternatives) under each alternative based on impacts from issue #3.

**Table 12. Comparison of Impacts by Alternative for Issue #3 – Evidence of Use in Common Visitation Areas**

Social Component: Evidence of Use	Alternative A (No Action)	Alternative B (Proposed Action) / Alternative C
<b>Primitive</b>	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.
<b>Back Country</b>	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.
<b>Middle Country</b>	Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.	Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.
<b>Front Country</b>	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.



East Alaska RMP-prescribed (alternative a) ROS social component or proposed RSC (alternative b and c)



Estimated evidence of use

3.3.2.4. *Issue #4 – Group Size Limits*

**Issue statement:** *How would establishing group size limits (10 people for any group in alternative B; 7 people for SRPs and 10 people for all other groups in alternative C) affect recreational users in the Castner Glacier planning area?*

Analysis of issue #4 considered how group size limits would impact the expected or average group size in the planning area, how many other users one might encounter, and how the visitor experience would be affected.

#### Direct and Indirect Effects of Alternative A (No Action) – Issue #4

No maximum group size has been established for the planning area, and this would continue with the no action alternative. With no established maximum group size, the two ROS areas closest to the Richardson Highway (roaded natural and semi-primitive non-motorized) exceed the social component of the ROS for group size at times. The East Alaska RMP-prescribed group size component for these two areas is back country; with reports of 25-person groups, this ROS component has been trending towards front country. As group events continue to gain popularity, the group size component of the ROS in these two areas would violate prescribed ROS more often.

Under the no action alternative *maximum-use scenario*, if 5 of the 25 potential SRPs (see Issue #2 – Commercial Use Limits) visit with a group of 20 and the other 20 SRPs visit with an average group size (6), it is possible that 220 commercial visitors would be at the site on the same day (5 SRP holders with 20 in a group; 20 SRP holders with 6 in a group). Larger group sizes would lead the two ROS areas closest to the Richardson Highway (roaded natural and semi-primitive non-motorized) to trend towards a front country classification and away from their prescribed back country group size classification.

Evidence of use would also be impacted through increased sights and sounds of people and would violate the prescribed ROS of middle country, back country, and primitive; the area from the Richardson Highway to the toe of the Castner Glacier (589 acres of the planning area) would be most impacted.

Under the no action alternative *existing-condition scenario*, the number of SRPs issued would remain at four. Estimating that 1 SRP holder might bring a tour group of 20 and the other 3 visit with an average group size (6), around 38 commercial visitors could be at the site on the same day (1 SRP holder with 20 in a group; 3 SRP holders with 6 in a group). This would help to maintain the social components of the ROS in the two areas as prescribed.

#### Direct and Indirect Effects of Alternative B (Proposed Action) – Issue #4

Since group sizes in the planning area can range from 4 to 25 or more, establishing a limit of 10 for any commercial or independent group would bring the group size RSC down from an actual front country ROS that violates the prescription in the East Alaska RMP in all areas to proposed RSCs of back country in the RNZ and CCTZ and primitive in the CGZ. Group size would be capped at 10 people, but average group size would be 4 to 6 people per group, based on anecdotal reports. With limitations on group size, larger events such as parties or concerts would be discouraged and groups would trend towards less than 10.

If all SRP holders brought tours of 10 people as allowed, under alternative B there could be 100 visitors at the site any one time (10 issued SRPs; 10 in a group; not including independent visitors). Using the same analysis as above, if 20 percent of the SRP holders visited with the maximum group size of 10 (2 tour groups of 10) and the rest visited with an average group size (8 tour groups of 6), there would be about 68 visitors on site at one time. The visitor experience would not be impacted through a violation of the group size RSC, since the average group size

would conform to the back country RSC of 4 to 6 people per group, but the evidence of use RSC would go up as sights and sounds of people would be increased with this number of visitors on one day. These impacts would be limited to the RNZ and CCTZ, or 12 percent of the planning area. Design features added as part of the RAMP would help lessen the impacts from busy visitation days by monitoring the area more frequently to ensure the RSCs are being met, and addressing issues as they arise with the commercial operators. See Section 2.4.

Placing limits on group size in the planning area would have the effect of displacing the larger group events that occasionally occur at Castner Glacier such as parties, raves, and small acoustic concerts. Because of this, visitors seeking this type of experience would recreate elsewhere which would lead to a shift in popularity, at least for large gatherings, away from the planning area.

#### Direct and Indirect Effects of Alternative C – Issue #4

Group size would be capped at 7 people for guided recreational groups and 10 people for independent groups, but average group size would likely be 4 to 6 people per group under alternative C. As in alternative B, limitations on group size would dissuade independent visitors from holding larger events in the planning area, and group size would trend towards less than 10.

If all SRP holders consistently bring tours of 7 people, under alternative C there would be a maximum of 105 visitors at the site at any one time (15 issued SRPs; 7 in a group; not including independent visitors). Using the same analysis as above, if 20 percent of the SRP holders visited with the maximum group size of 7 (3 tour groups of 7) and the rest visited with an average tour group size (12 tour groups of 6), there would be about 93 visitors on site on a busy visitation day.

The visitor experience would not be impacted through a violation of the group size RSC, since the average group size would conform to the back country RSC of 4 to 6 people per group. It is expected that the evidence of use RSC would increase more than in the proposed action and would be in violation of the back country and middle country RSCs on a maximum visitation day, because 15 SRP groups of 7 would be allowed. These impacts would be limited to the RNZ and CCTZ, or 12 percent of the planning area. However, design features added as part of the RAMP would help lessen the impacts from busy visitation days by monitoring the area more frequently to ensure the RSCs are being met and addressing issues as they arise with the commercial operators. See Section 2.4.

#### Comparison of Effects for Issue #4 Across Alternatives

Tables 12 through 14 below compare the existing social components of the ROS or proposed social RSCs for the two areas nearest to the Richardson Highway where a majority of the commercial use occurs. The comparison is for the three alternatives on a day where the maximum allowable commercial visitation is reached.



**Table 13. Comparison of Impacts by Alternative for Issue #4 – Maximum Group Size in Common Visitation Areas**

Social Component: Group Size	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
Primitive	Fewer than or equal to 3 people/group	Fewer than or equal to 3 people/group	Fewer than or equal to 3 people/group
Back Country	4-6 people per group	4-6 people per group	4-6 people per group
Middle Country	7-12 people/group	7-12 people/group	7-12 people/group
Front Country	13-25 people/group	13-25 people/group	13-25 people/group
Rural	26-50 people/group	26-50 people/group	26-50 people/group



East Alaska RMP-prescribed (alternative a) ROS social component or proposed RSC (alternative b and c)



Estimated maximum group size



**Table 14. Comparison of Impacts by Alternative for Issue #4 – Estimated Possible High Visitation Day (SRP Groups Only)**

Alternative	Max SRP Visitation
Alternative A (No Action)	220 commercial visitors
Alternative B (Proposed Action)	100 commercial visitors
Alternative C	105 commercial visitors

**Table 15. Comparison of Impacts by Alternative for Issue #4 – Evidence of Use in Common Visitation Areas on a Maximum Visitation Day**

Social Component: Evidence of Use	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
Primitive	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.

Social Component: Evidence of Use	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C
<b>Back Country</b>	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.
<b>Middle Country</b>	Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.	Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.	Small areas of alteration. Surface vegetation showing wear with some bare soils. Occasional sounds of people.
<b>Front Country</b>	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.
<b>Rural</b>	A few large areas of alteration. Surface vegetation absent with hardened soils. Sounds of people frequently heard.	A few large areas of alteration. Surface vegetation absent with hardened soils. Sounds of people frequently heard.	A few large areas of alteration. Surface vegetation absent with hardened soils. Sounds of people frequently heard.
<b>Urban</b>	Large areas of alteration present. Some erosion. Constantly hear people.	Large areas of alteration present. Some erosion. Constantly hear people.	Large areas of alteration present. Some erosion. Constantly hear people.

-  East Alaska RMP-prescribed (alternative a) ROS social component or proposed RSC (alternative b and c)
-  Estimated evidence of use

3.3.2.5. *Proposed Mitigation*

The BLM will monitor to ensure the desired RSCs are being met and that appropriate activities, experiences, and benefits are achieved. The Castner Glacier RAMP proposes a monitoring plan, more frequent monitoring trips, and a formal monitoring form for the Castner Glacier planning area to include some or all of the following, as funding allows:

- Bi-weekly monitoring trips to occur from November 15 through April 15.
- Monthly monitoring trips to occur from April 15 through November 15.
- Website and social media monitoring to occur on an ongoing basis with a specific focus during the winter use season from November 15 through April 15.

- Installing a summer trail counter beyond the end of the north primitive road and within the north non-motorized primitive route.
- Installing a summer trail counter along the south non-motorized trail.
- Consideration of winter counters upon the completion of the planned ADOT&PF parking area, where it connects to the south non-motorized trail.
- When the GFO is selected for rotation of Government Performance and Results Act (GPR) surveys the Castner Glacier planning area shall be a priority survey location.
- A standard form shall be used when performing monitoring trips within the Castner Glacier planning area.

The proposed monitoring plan may be implemented to lessen impacts to recreational users and address use conflicts as they arise with commercial SRP holders and independent (general) public users. Onsite monitoring or GPR surveys may be used to identify management shortfalls, lack of visitor satisfaction, any visitor services desired by users, or other issues as they arise. Desired visitor services that are identified through GPR surveys may be considered by the GFO if commensurate with the goals and objectives as identified in the RAMP and East Alaska RMP. If information collected through the monitoring process indicates diminishing RSCs in any RMZ, the BLM may consider further limitations and actions regarding commercial SRP holders or may initiate subsequent NEPA analysis to regulate use from independent (general) public users.

### **3.3.3. Cumulative Impacts**

Increased participation and interest in winter outdoor recreation like skiing, snowmachining, winter hiking, and outdoor winter events continues to bring visitors to the planning area as it offers an easily accessible location for these activities. Northern lights and glacier tourism are becoming more popular on social media, and photos of the glacier and ice cave can be shared with visitors all over the world, increasing interest in the area among international visitors. The Black Rapids Lodge lends a small increase in awareness of the Castner Glacier in the form of social media, music events held at their site, and their planned restoration of the historic Rapids Roadhouse. The future Alaska Energy Metals Nikolai Project would cause a general increased awareness of the recreation resources along the Richardson Highway and in the eastern Alaska Range in general, including the Castner Glacier planning area, through project publicity and outreach. The ADOT&PF Richardson Highway MP 206 to 233 improvements would provide easier access to the planning area trailheads for recreators, and would decrease the amount of illegal roadside parking. Safety would be improved with fewer vehicles parked along the narrow highway and fewer visitors walking along the roadway to access the Castner Glacier trails.

The abovementioned developments and parking improvements, in addition to alternative B (proposed action), could lead to an overall increase in group sizes (issue #4) which could impact visitor experience through a violation of the group size RSC and the evidence of use RSC would be exceeded as sights and sounds of people would be increased with increased numbers of visitors. It is not expected that RMZs and RSCs (issue #1), commercial use limits (issue #2), and restrictions on use (issue #3) would change with cumulative developments.

However, in contrast to the increase in recreation and awareness of the ice cave is the reality of glacial recession, arctic warming, and cave collapse. Glaciers are active landscapes with ice caves forming, collapsing, and reforming again. As the Castner Glacier recedes, any ice caves associated with the toe of the glacier would also recede and become more difficult to access, or disappear altogether, leading some to seek out other recreational sites.

### 3.4. Lands and Realty (Issues #5 and #6)

This section includes a description of existing land uses in the Castner Glacier planning area and the Delta Range SRMA. Existing land uses include easements, ROWs, and casual use requests for activities such as military trainings, science and research projects, and commercial filming. Other realty actions that occur in the area which are subject to separate NEPA processes include highway realignment (ADOT&PF 2022) and construction of infrastructure to support telephone/internet, electrical distribution, and pipeline activities. This section also describes how the proposed RAMP actions may affect the authorization of future land use requests by the BLM. Impacts are measured by examining how authorization of these land uses might be increased, decreased, or require modification based on the proposed RAMP RMZs and associated RSCs.

#### *Issue #5 – Authorization of Science and Research Activities*

**Issue statement:** *How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of science and research activities in the Castner Glacier planning area?*

#### *Issue #6 – Authorization of Other Land Use Actions*

**Issue statement:** *How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of other land use actions (casual use, ROWs, leases, military training, etc.) in the Castner Glacier planning area?*

#### 3.4.1. Affected Environment

The Lands and Realty program at the BLM GFO manages requests for land use authorizations along the Richardson Highway and within the Castner Glacier planning area. Requests for ROW and leases are processed by the Land and Realty program for actions that would disturb or build on BLM land, such as highways, transmission lines, or renewable energy generation. These authorizations are granted through a consultation process with the BLM to ensure that the actions conform to the land use prescribed in the area's RMP. Requests for casual land use are for more temporary actions that would not cause appreciable disturbance or impact management-related recreational use, VRM, or more traditional soil, water, and air resources. Casual use authorizations also need to conform to the RMP, but are granted based on an assurance of limited disturbance to the area in the form of damage to the land or vegetation as well as social disturbance and potential evidence left behind of the requested use.

Over the past decade the BLM has considered, authorized, or denied various proposals ranging from motorized overland military exercises to commercial photo shoots to glacial retreat studies in the area. The Delta Range SRMA offers several other glacial and winter landscapes for filming, scientific research, or military training. The Black Rapids Training Area is also nearby the planning area with 3,807 acres of mountainous terrain withdrawn under Public Land Order

2622 and 5187 by the Department of the Army for cold-weather survival and infantry tactical training purposes.

A portion of the ADOT&PF ROW for the Richardson Highway extends into the planning area, and ADOT&PF maintains the highway through an easement granted by the BLM. With the planned Richardson Highway MP 206 to 233 Reconstruction, ADOT&PF anticipates requesting additional ROW from BLM in the planning area (ADOT&PF 2022). In 2022 and 2023, there were five authorizations for actions within the planning area that fell under the BLM's casual use designation. The authorizations were for a range of activities including still photography for product advertising, commercial filming promoting Alaska tourism, a military training exercise, and glacial research. The GFO received two other inquiries in 2023 for science and research projects in the planning area regarding glacial recession, climate change, and photo point data monitoring which have not yet been authorized. Additionally, four permits have been issued for science and research activities over the past eight years within the broader Delta Range SRMA.

### 3.4.2. Environmental Impacts

#### 3.4.2.1. Issue #5 – Authorization of Science and Research Activities

**Issue statement:** *How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of science and research activities in the Castner Glacier planning area?*

An analysis of issue #5 considered how BLM's science and research authorizations could change by reviewing previously requested, issued, and denied land use authorizations; information gathered during interviews; and BLM staff observations.

#### Direct and Indirect Impacts of Alternative A (No Action) – Issue #5

With the no action alternative, the RMZs would not be established. Science and research activities would continue to be authorized on a case-by-case basis, through examination of whether the proposed activity would meet the requirements of a casual use determination such as short-term duration, limited ground disturbance, and if observers would be aware of the activity. Further authorizations could lead to no limit to the number of research projects that may be ongoing at one time.

#### Direct and Indirect Impacts of Alternative B (Proposed Action) – Issue #5

The proposed action would only allow three ongoing science and research activities to be authorized at one time. Since the site is becoming more visible as an easily-accessible area to study glacial processes, it is assumed that more requests for these types of use would be submitted to the GFO. Research groups requesting authorization for work in the planning area may need to modify their proposal to conform to the proposed physical and social RSCs within the planning area, or move their research to a different RMZ, or another location in the Delta Range SRMA.

A limit of three science and research activities at one time would be consistent with the proposed RNZs and associated the RSCs. The physical RSC of naturalness, described by changes in the landscape, would have to be maintained in the CCTZ and in the CGZ as primitive (no structures); therefore, any authorization of research equipment would have to be small and not introduce visual disturbance to the landscape. The RSCs for naturalness of the landscape (physical RSC) and evidence of use (social RSC) would be maintained by capping the number of

ongoing science and research activities. If the RCSs are not being met, fewer authorizations may need to be issued.

#### Direct and Indirect Impacts of Alternative C – Issue #5

The direct and indirect effects for issue #5 from alternative C would be identical to those described for the proposed action, since both alternatives propose to establish the same boundaries regarding the issuance of permits for science and research activities.

#### 3.4.2.2. *Issue #6 – Authorization of Other Land Use Actions*

**Issue statement:** *How would establishing RMZs (Roaded Natural Zone, Castner Cave and Trail Zone, and Castner Glacial Zone) and associated RSCs (ranging from primitive to rural) affect authorization of other land use actions (casual use, ROWs, leases, military training, etc.) in the Castner Glacier planning area?*

An analysis of issue #6 considered how BLM’s land use authorizations could change by reviewing previously requested, issued, and denied land use authorizations; information gathered during interviews; and BLM staff observations.

#### Direct and Indirect Impacts of Alternative A (No Action) – Issue #6

Since RMZs would not be established under the no action alternative, land use actions would continue to be authorized on a case-by-case basis, through examination of whether the proposed activity would meet the requirements of a casual use determination such as short-term duration, limited ground disturbance, and if observers would be aware of the activity. Several military activities and commercial filming projects could be authorized and ongoing at a time, and depending on which ROS area they take place in, authorizations could impact the existing social and physical components of the ROS. If equipment associated with authorized activities (e.g., commercial filming) is placed in or near popular sites such as the ice cave, or if more than one military group is operating in the primitive ROS area at a time, BLM staff may have to manage visitors’ complaints and may have to modify how authorizations are issued.

#### Direct and Indirect Impacts of Alternative B (Proposed Action) – Issue #6

With establishment of the RNZs, any future land use authorization requests would have to conform to the desired RSCs for each zone (Table 4). Limiting military exercises or commercial filming projects to one of each ongoing at a time as proposed would help the GFO to meet desired RSCs in the planning area, particularly the social RSCs evidence of use and contacts with other groups.

In the semi-primitive non-motorized area, the naturalness ROS setting would change from the existing back country setting to a primitive RSC in the CCTZ. To meet this proposed RSC and the proposed evidence of use social RSC (back country), fewer land use authorizations would be allowed in this zone. With a physical ROS naturalness designation of primitive, the desired condition is one of an undisturbed natural landscape; therefore, land use actions authorized by the GFO would not be allowed to construct permanent structures such as communication towers, renewable energy structures, or overhead lines that would disturb the landscape within the CCTZ or the CGZ, where the RSCs would also be primitive. Since the RNZ would have a middle country designation for the naturalness physical RSC, many of the land uses proposing changes

to the landscape would have to take place exclusively within this zone or outside of the planning area.

#### Direct and Indirect Impacts of Alternative C – Issue #6

The direct and indirect impacts for issue #6 from alternative C would be identical to those described for the proposed action, since both alternatives propose to establish the same restrictions on land use authorizations.

#### **3.4.3. Cumulative Impacts**

Similar to the effects on recreation in the planning area, some types of land use actions may be affected by a rise in winter outdoor recreation and increased tourism to Alaska, leading to more requests for commercial filming to advertise winter recreation and tourism in the planning area and the Delta Range SRMA. The planned ADOT&PF Richardson Highway improvements projects would also lead to increased awareness of and ease of access to the Richardson Highway corridor and a greater number of requests for commercial filming or photography on BLM lands in the area.

Taken together with the proposed action displacing some commercial filming activities through imposed limits, these impacts would be felt by other Delta Range SRMA areas as they would receive more requests for these authorizations. Military groups would use the Black Rapids Training Site, Canwell Glacier, or Gulkana Glacier considering the proposed limits in the planning area. Glacial recession and ice cave collapse, in addition to making the area less desirable as a recreation destination, could also reduce the frequency and nature of requests for land use authorizations such as commercial photography or glacial research in the planning area and disperse them to other areas within the Delta Range, simply due to changes in the distance to or look of the glacier.

Additionally, the BLM is considering issuing more ROW in the planning area to ADOT&PF to complete the highway improvements. The East Alaska RMP states "... isolated, unmanageable tracts resulting from highway realignment along the Richardson and Glenn Highways would be made available for disposal." Therefore, if BLM lands are isolated due to the Richardson Highway realignment, they could be sold, and the land could be used for other purposes. Land use authorizations such as research or filming projects would no longer be managed by BLM.

### **3.5. Socioeconomics (Issue #7)**

Implementation of the proposed action has the potential to affect not only the physical and recreational environment, but also the socioeconomic environment. Socioeconomic resources are the combination of economic and social dynamics and conditions of a population.

Socioeconomics considers income, demographics, education, employment, and occupational status. In this case, the socioeconomic analysis focuses on the tourism industry and local businesses in the Southeast Fairbanks Census Area and the Fairbanks North Star Borough to capture impacts to recreational service providers in the communities where they are based. Impact to the socioeconomic environment of the analysis area is measured by an estimation of revenue lost from SRP denial or restrictions placed on SRPs. Generated revenue is a rough estimation based on observed averages and patterns from existing SRP holders and serves as a comparison tool between alternatives.

**Issue #7 – Commercial Use Limits**

**Issue statement:** *How would commercial use limitations (i.e., limit on number of SRPs issued and group sizes) affect economic conditions and tour business viability in the Southeast Fairbanks Census Area and the Fairbanks North Star Borough?*

**3.5.1. Affected Environment**

The Castner Glacier planning area is within the Southeast Fairbanks Census Area, which has a population of 7,038 according to 2023 population estimates from the Alaska Department of Labor and Workforce Development (DOLWD) and a median household income in 2022 of \$75,378 (DOLWD 2023; U.S. Census Bureau 2022). The unemployment rate was estimated to be around 5.2 percent in 2023 (DOLWD 2024a). The Fairbanks North Star Borough, where many of the potential SRP holders are based, has an estimated population of 95,972, a median household income of \$81,655, and unemployment rate of 3.8 percent in 2023 (DOLWD 2023, 2024b; U.S. Census Bureau 2022). Alaska’s unemployment rate was around 4.2 percent in 2023, with an average rate of 4.5 percent in March 2024 (DOLWD 2024c). Fairbanks North Star Borough was slightly below and the Southeast Fairbanks Census Area was slightly above the state average unemployment rate. Table 15 shows a comparison of these data for the two geographic areas and Alaska.

**Table 15. Population, Household Income, and Unemployment Rate for the Analysis Area and Alaska**

Geographic Area	Population <sup>a</sup>	Median Household Income <sup>b</sup>	Unemployment Rate % <sup>c</sup>
Alaska	736,812	\$86,370	4.2
Southeast Fairbanks Census Area	7,038	\$75,378	5.2
Fairbanks North Star Borough	95,972	\$81,655	3.8

<sup>a</sup> Population estimates from DOLWD 2023

<sup>b</sup> Median household income from: U.S. Census Bureau 2022

<sup>c</sup> Unemployment rates from: DOLWD 2024a; 2024b; 2024c

Per capita income for the analysis area (Southeast Fairbanks Census Area and Fairbanks North Star Borough combined) was \$70,039 in 2022, which was slightly below the Alaska per capita income of \$71,449, and when adjusted for inflation, has increased since 2000 (BLM 2024d; Figure 9).

**Figure 9. Per Capita Income in the Analysis Area and Alaska**

	Southeast Fairbanks Census Area, AK	Fairbanks North Star Borough, AK	Combined Counties	Alaska
<b>Per Capita Income</b>				
Per Capita Income, 2000 (2023 \$\$)	\$42,477	\$52,426	\$51,737	\$56,633
Per Capita Income, 2022 (2023 \$\$)	\$62,836	\$70,570	\$70,039	\$71,449

Source: BLM 2024d

Land ownership is an important metric in determining the amount of impact that a pending federal land management decision may have on a population or area. Ownership in the analysis area is divided between the state of Alaska/city/borough (50.3 percent), BLM and other federal



agencies such as the Department of the Army (26.3 percent), and private ownership (23.4 percent; BLM 2024d). Compared to the state of Alaska, there is not a high proportion of federal land ownership in the analysis area (Figure 10).

**Figure 10. Land Ownership in the Analysis Area and in Alaska**

Land Ownership, Acres	Southeast Fairbanks Census Area, AK	Fairbanks North Star Borough, AK	Combined Counties	Alaska
Total Area	15,827,107	4,699,960	20,527,067	358,700,069
Private Lands	3,748,099	807,779	4,555,878	49,478,415
Federal Lands	4,726,501	676,426	5,402,927	215,068,625
BLM	2,163,972	21,283	2,185,255	68,753,362
Forest Service	0	0	0	21,727,476
Other Federal	2,562,529	655,143	3,217,672	124,539,276
Tribal Lands	7,173,519	3,214,949	10,388,468	89,914,563
State, City, County, Other	178,988	0	178,988	4,269,331
<b>Percent of Total</b>				
Private Lands	23.7%	17.2%	22.2%	13.8%
Federal Lands	29.9%	14.4%	26.3%	60.0%
BLM	13.7%	0.5%	10.6%	19.2%
Forest Service	0.0%	0.0%	0.0%	6.1%
Other Federal	16.2%	13.9%	15.7%	34.7%
Tribal Lands	45.3%	68.4%	50.6%	25.1%
State, City, County, Other	1.1%	0.0%	0.9%	1.2%

Source: BLM 2024d

According to the Fairbanks North Star Borough Comprehensive Economic Development Strategy, tourism is one of the key sectors that drive that borough's economy (Fairbanks North Star Borough 2022). Although Interior Alaska is not influenced as much by the summer tourism industry as other, coastal-based Alaska regions such as Southeast Alaska, tourism is still an important industry for the region. Travel and hospitality-related jobs, a metric that captures some of the employment based on the tourism industry (such as restaurants, hotels, tour providers, and recreation services) represented 6,020 of the 63,247 jobs in the two areas, employing about 10 percent of the workforce in 2022 (BLM 2024d; yellow highlight in Figure 11).

**Figure 11. Jobs by Industry in the Analysis Area and Alaska (2022)**

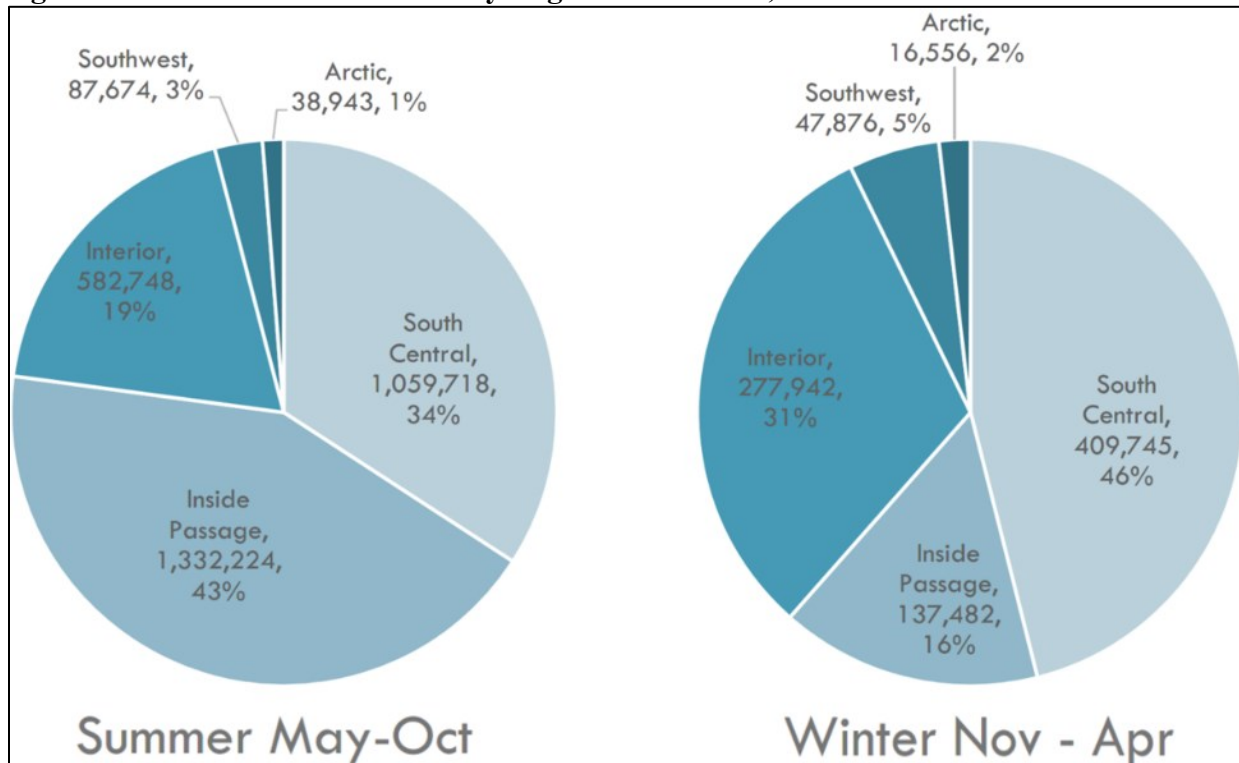
	Southeast Fairbanks Census Area, AK	Fairbanks North Star Borough, AK	Combined Counties	Alaska
Total number of jobs	3,729	59,518	63,247	457,687
Non-services related	~1,043	~5,894	~6,937	63,253
Farm	0	357	357	1,492
Forestry, fishing, & ag. services	~57	~119	~176	10,179
Mining (including fossil fuels)	745	~1,377	~2,122	13,389
Construction	169	3,210	3,379	23,551
Manufacturing	72	831	903	14,642
Services related	~2,015	32,578	~34,593	292,066
Utilities	~64	453	~517	2,643
Wholesale trade	~30	785	~815	7,362
Retail trade	277	5,606	5,883	43,074
Transportation and warehousing	152	2,976	3,128	29,850
Information	31	450	481	6,406
Finance and insurance	47	1,176	1,223	13,062
Real estate and rental and leasing	109	2,220	2,329	20,473
Professional and technical services	187	2,333	2,520	23,740
Management of companies	~8	238	~246	3,882
Administrative and waste services	~212	1,787	~1,999	17,048
Educational services	~135	588	~723	5,721
Health care and social assistance	~350	5,818	~6,168	52,932
Arts, entertainment, and recreation	28	1,210	1,238	10,251
Accommodation and food services	243	4,539	4,782	34,711
Other services, except public admin.	142	2,399	2,541	20,911
Government	895	20,871	21,766	102,368
Residual	-224	175	-49	0

All employment data are reported by *place of work*. Estimates for data that were not disclosed are indicated with tildes (~).

Source: BLM 2024d

Winter is quickly becoming a popular time to travel to Interior Alaska. In 2022, about 582,748 people visited Interior Alaska in the summer, representing about 19 percent of Alaska's summer visiting population (Figure 12; Alaska Travel Industry Association 2023). This number rose to 31 percent of the visiting population in the winter months. Winter recreation tourism can be very important to the economies of small rural communities (Gatti et al. 2022). One of the five-year objectives from their Comprehensive Economic Development Strategy is for the Fairbanks North Star Borough to become more of a year-round travel destination (Fairbanks North Star Borough 2022). With the increase in winter recreation and northern lights tourism, the Southeast Fairbanks Census Area and the Fairbanks North Star Borough are uniquely positioned to become a comprehensive year-round tourist destination more than any other region in Alaska.

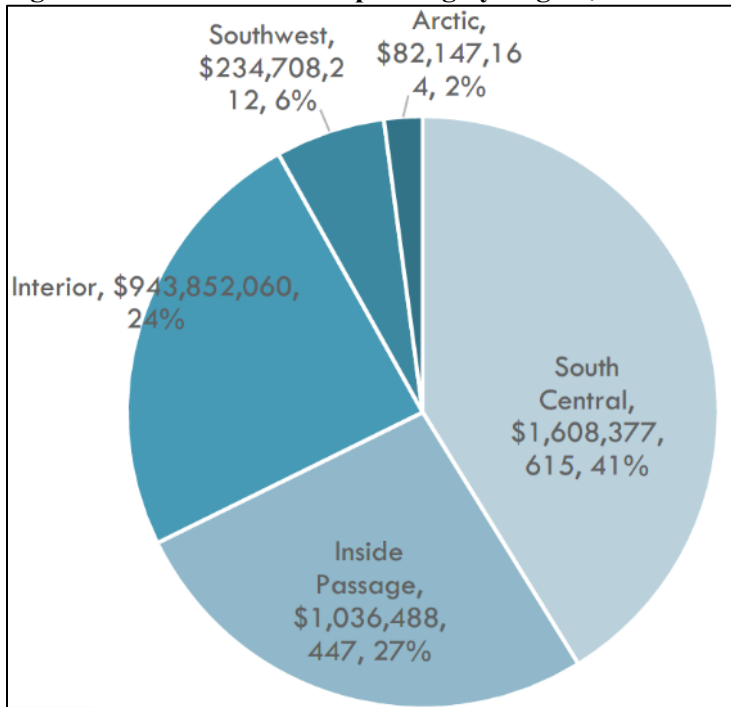
**Figure 12. Alaska Visitor Volume by Region and Season, 2022**



Source: Alaska Travel Industry Association 2023

There are four companies that hold SRPs to operate commercial tours throughout the Delta Range SRMA and in the Castner Glacier planning area. There is a wide range of tour pricing for tours to the ice cave among SRP holders and unpermitted guides because some companies include a trip to the Castner Glacier ice cave as a part of longer, multi-day trips. Averaging results for day trips only, a guided tour to the ice cave in the planning area costs approximately \$220 per person with transportation. The highest-volume tour operator in the area reports an average tour size of 3 people and approximately 150 tours in 2023, which translates to an estimated annual revenue from Castner Glacier tours alone of almost \$100,000 for one operator (BLM 2024b). For the other 3 tour businesses, assuming an average group size of 6 as reported from anecdotal reports (see Issue #4 – Group Size Limits), the average cost of \$220 per person, and average commercial trips as reported by existing SRP holders (47 trips annually; averaged over 3 years), the estimated annual revenue would bring in approximately \$186,120 annual revenue from tours in the planning area. For all the tour operators combined, this equates to around \$300,000 in annual revenue generated by the existing SRPs. This is approximately 0.03 percent of the \$943,852,060 generated by the tourism industry in Interior Alaska (Alaska Travel Industry Association 2023; Figure 13).

**Figure 13. Tourism Direct Spending by Region, 2022-2023**



Source: Alaska Travel Industry Association 2023

**3.5.2. Environmental Impacts**

*3.5.2.1. Issue #7 – Commercial Use Limits*

**Issue statement:** *How would commercial use limitations (i.e., limit on number of SRPs issued and group sizes) affect economic conditions and tour business viability in the Southeast Fairbanks Census Area and the Fairbanks North Star Borough?*

An analysis of issue #7 considered how Fairbanks area economic conditions and tour business viability could change with limiting commercial use by reviewing existing economic data and trends, BLM’s SRP income data, professional knowledge, current and prospective SRP holders’ interviews, and economic information gathered during the public meeting.

Direct and Indirect Impacts of Alternative A (No Action) – Issue #7

Under the no action alternative *maximum use scenario*, where the GFO would not cap the number of SRP holders operating in the area, and using the same assumptions as above in 3.3.2.2, there would be an estimated 25 SRPs issued for operations in the Delta Range SRMA based on current existing and interested SRP holders. Group sizes would trend upwards with the issuance of a greater number of SRPs that provide high-volume shuttle operations to the planning area rather than small-group guided tours. The GFO would collect permit fees from 25 operators, allowing BLM to perform more visitor use monitoring and improvements at the site to help insure the adherence to the prescribed ROS classes.

Assuming the maximum group size of 20 that has been granted via existing issued SRPs, if just 5 of the 25 potential SRPs visit regularly with a group of 20, and the other 20 SRPs visit regularly with an average group size (6) as reported from anecdotal reports (see Issue #4 – Group Size Limits), the average cost of \$220 per person, and average commercial trips as reported by

existing SRP holders (47 trips annually; averaged over 3 years), estimated annual revenue for each of the 5 tour businesses with larger groups would be approximately \$206,800 and each of the 20 businesses with average group sizes would bring in approximately \$62,040 annual revenue just from guiding in the planning area. Combined, this would translate to approximately \$2.2 million in revenue brought into Interior Alaska annually.

Because of this, under the no action alternative *maximum use scenario*, the economy of the Southeast Fairbanks Census Area and the Fairbanks North Star Borough in the analysis area would be supported by growth in the tourism sector. This would have a secondary impact on other tourism-related businesses and especially would promote growth within the areas' off-season economies, translating into gained restaurant revenue for independent business owners and bed tax collections for local government.

Under the no action alternative *existing-condition scenario*, no additional SRPs would be issued for operations in the planning area beyond the four active permits. In this scenario, the socioeconomic condition of both analysis areas would retain existing benefits from four tour companies operating in the planning area. Revenue gains in the tourism sector from the planning area would remain static (around \$300,000; see Section 3.5.1).

#### Direct and Indirect Impacts of Alternative B (Proposed Action) – Issue #7

Commercial SRPs would be limited to 10 total issued for operation within the Delta Range SRMA and the planning area, and group sizes would be capped at 10 people. The GFO would collect permit fees from 10 operators, allowing GFO staff to perform more visitor use monitoring and improvements at the site to help insure the adherence to the proposed RSCs in the RAMP. The proposed action would generate about 40 percent of the revenue from SRP fee collection as compared to the no action alternative *maximum-use scenario* and about 2.5 times the revenue from SRP fee collection as compared to the no action alternative in the *existing-condition scenario*.

Annually, each small group (6 people) SRP would make an estimated \$62,000 and the larger maximum group (10 people) SRPs would each make an estimated \$103,400. Using the same analysis as above, if 20 percent of the SRP holders visited with the maximum group size of 10 and the rest visited with a smaller group size, \$703,120 would enter into the economy of Interior Alaska annually. This would also lead to indirect and induced economic gains as the additional revenue circulates through the economy. The tourism industry of the region would be supported by issuance of 10 SRPs, but not to the degree estimated by the no action alternative *maximum-use scenario*. As compared to the no action alternative *existing-condition scenario*, the proposed action represents an increase of about \$400,000 annual tourism revenue for Interior Alaska. Small additional positive economic impacts would be realized in the region through secondary revenue gains in the tourism industry (restaurants, hotel/bed taxes) and jobs from granting the issuance of 10 SRPs over the currently allocated 4 SRPs, but not to the degree as would be gained by the no action alternative *maximum-use scenario* or alternative C.

If certain tour businesses are set up to offer large tour bus transportation to the planning area, a group size of 10 would not be compatible with expenses to operate a bus with seating for 30 or more passengers. This would lead to a narrowing of the type of business operations that would find it profitable to operate tours in the planning area. Additionally, the proposed action would lead to more monitoring efforts by the BLM and enforcement of rules, essentially reducing this

revenue stream from operators that are unable to obtain an SRP. As this has likely only been a small portion of income for those operating without authorization, the proposed action would not induce any individual business impacts.

Direct and Indirect Impacts of Alternative C – Issue #7

Commercial SRPs would be limited to 15 total issued with group sizes would be capped at 7 people. The GFO would collect permit fees from 15 operators, allowing GFO staff to perform more visitor use monitoring and improvements at the site to help insure the adherence to the proposed RSCs in the RAMP. Alternative C would generate about 60 percent of the revenue from SRP fee collection that would be generated with the no action alternative *maximum-use scenario*, or 3.75 times the revenue earned by SRP fee collection than the *existing-condition scenario*.

Annually, each smaller group (6 people) SRP would make an estimated \$62,000 and the larger maximum group (7 people) SRPs would each make an estimated \$72,380. Using the same analysis as above, if 20 percent of the SRP holders visited with the maximum group size of 7 and the rest visited with a smaller group size of 6, \$961,620 would enter into the economy of Interior Alaska annually. This would boost the region’s economy more than the no action alternative *existing-condition scenario* (\$300,000), but not as much as the revenue estimates for the *maximum-use scenario* (\$2.2 million). Alternative C represents an overall positive impact to the socioeconomic climate of the analysis area over existing-conditions. Indirect impacts via secondary revenue gains (restaurants, hotel/bed taxes) and jobs in the region would also be likely.

Similarly to the proposed action, the limit on group size given in this alternative would make it cost-prohibitive for any large-scale transporter or even shuttle bus operation to offer tours to the planning area when group sizes are capped at 7 people per tour. As this has likely only been a small portion of income for those operating without authorization, alternative C would not induce any individual business impacts.

Comparison of Effects of Issue #7 Across Alternatives

Table 16 presents a summary of socioeconomic impacts by alternative. It should be noted that the figures in Table 16 represent estimated direct revenue and does not capture any estimated secondary indirect revenue that might be gained as additional money circulates through the economy.

**Table 16. Summary of Impacts for Issue 7 by Alternative**

Alternative	Estimated Direct Annual Revenue
A (No Action)	\$2,200,000; 300,000 <sup>a</sup>
B (Proposed Action)	\$703,120
C	\$961,620

<sup>a</sup> *Maximum-use scenario; existing-condition scenario*

### **3.5.3. Cumulative Impacts**

The economy of Interior Alaska has been boosted by increases in Alaska tourism in recent years, and winter sightseeing and outdoor recreation activities in particular continue to grow in popularity. Any planned actions that lend awareness to recreation sites or events in Interior Alaska such as the ADOT&PF Richardson Highway Improvements Project and events held at the Black Rapids Lodge would boost visitation to and dollars spent within the region. The overall number of jobs and employment opportunities would increase in the tourism industry (particularly within the leisure and hospitality sector). Quality of life would be improved for Interior Alaska residents through increased recreational opportunities, revenue inputs, and economic secondary trickle-down effects. The health of the socioeconomic climate in the Southeast Fairbanks Census Area and the Fairbanks North Star Borough would be augmented by these trends, foreseeable future planned actions, and the proposed action.

## **CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION**

### **4.1. Public Involvement**

Internal and external scoping efforts for the project are summarized in Section 1.4 of this EA and in the Castner Glacier Recreation Area Management Plan Scoping Report (Appendix B). A brief summary of external public involvement and consultation efforts is presented in the following sections.

#### **4.1.1. Pre-Scoping Issue Identification**

The project team sent a pre-scoping questionnaire to a list of stakeholders and individual users that had at that point expressed interest in the development of the Castner Glacier RAMP. The following list presents the questions that were posed to gather feedback about user experience within the project area to further support and guide the development of issues to be further analyzed in the EA.

- Why do you recreate here?
- What percentage of your time here is winter versus summer recreation?
- What activities and experiences are you looking for when you visit?
- What activities do you currently participate in at the Castner Glacier Recreation Area?
- Have you used commercial services (guides) to access Castner Glacier?
- What barriers (if any) limit or influence how you use this area?
- What issues have negatively influenced your use of this area? (Examples could include ice vandalism, dog feces, crowding, litter, etc.)
- How many people do you expect to encounter at the cave?
- What visitor guidance or information would be helpful when visiting? (Examples could include rules and regulations, guidance on leave no trace, interpretive signs, etc.)
- What expectations do you have for on-site BLM management of the area? (Examples could include interaction with BLM staff, enforcement of commercial permit regulations, regular patrols, maintenance of trail or route to cave, etc.)
- If you were in charge, what would you change?
- What else would you like to share?

The questionnaire was sent via email on January 5, 2024, to 14 contacts outside of the BLM. Five responses were received.

#### **4.1.2. External Public Scoping Period and Outreach**

A project website was launched on the BLM's ePlanning website on January 18, 2024, and will be updated during the project until the RAMP is finalized. The contents of the website include project team contact information, a brief project description, and project-related milestones, documents, and maps. A 30-day public scoping comment period was open from February 13 to



March 14, 2024, and a public meeting was held via Zoom on February 14, 2024. See Section 1.4 and Appendix B for more information about the public scoping period.

## **4.2. Consultation and Coordination**

The BLM requested feedback and input from agencies, State and local governments, tribal entities, and other stakeholders during the development of the Castner Glacier RAMP and EA.

### **4.2.1. Consultation Under Section 106 of the National Historic Preservation Act**

A programmatic agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers signed in 2012 allows the BLM to use a state-specific program alternative to the standard Section 106 (of the National Historic Preservation Act) process (BLM 2012). The *Protocol for Managing Cultural Resources on Lands Administered by the Bureau of Land Management in Alaska* implements the programmatic agreement in Alaska by describing the interaction and cooperation between the BLM and the Alaska State Historic Preservation Officer (SHPO; BLM 2014b). In accordance with this programmatic agreement and related implementation protocol, SHPO consultation need only occur if the project is anticipated to result in adverse effects to historic or cultural resources. BLM GFO archaeologists will conduct a cultural resources survey of the project area as soon as conditions allow in 2024 in accordance with this protocol. The archaeological department at the BLM GFO does not anticipate that cultural resources will be found within the project area; however, if cultural resources are discovered during the upcoming cultural resources survey, SHPO consultation will occur. The survey report will be finalized prior to release of the final EA.

Ahtna, Incorporated, headquartered in Glennallen, is one of the 13 Alaska Native Regional Corporations designated by the Alaska Native Claims Settlement Act. The Ahtna region is located in the southcentral interior of Alaska and includes the Copper River Basin. Seven of the eight Ahtna village corporations (including Cantwell, Mentasta, Cheesh'na, Gakona, Gulkana, Tazlina, Kluti-Kaah, and Chitina) chose to merge with Ahtna, Inc. in 1980. Although Ahtna assumed management of the lands of the seven village corporations, each individual village corporation identified and elected representatives to maintain a shareholder committee to act as Successor Village Organizations (SVOs). Ahtna, Inc. has been meeting with these groups to conduct business and address issues with each village SVO since that 1980 merger. In this light, the BLM GFO mailed a letter to Ahtna, Inc. inviting consultation on February 8, 2024. No response has been received.

## CHAPTER 5. PREPARERS AND REFERENCES

### 5.1. List of Preparers

**Table 17. List of Preparers**

<b>Name</b>	<b>Title</b>	<b>Area of Responsibility</b>
John Jangala	Archaeologist	Cultural and Historic Resources
LeeAnn McDonald	Wildlife Biologist	Subsistence/Wildlife
Caroline Ketron	Anthropologist	Tribal & Subsistence Coordinator
Sean Williams	Outdoor Recreation Planner	Recreation/SRP
Rhonda Williams	Realty Specialist	Lands and Realty
Leah Komp	GIS Specialist	GIS
Bryan Marquadt	Public Outreach Coordinator	Public Involvement
Scott Claggett	Public Affairs Specialist	Public Involvement
Joe Crane	BLM Ranger	Law Enforcement
Alysia Hancock	Assistant Field Manager	Recreation, Lands, GIS
Denton Hamby	Outdoor Recreation Planner	Recreation/VRM
Zach Million	State Office Recreation Lead	Recreation/Travel Management
Jorjena Barringer	District NEPA Planner	NEPA/Planning
Cory Larson	Outdoor Recreation Planner	Project Manager/Travel Management
Marnie Graham	GFO Manager	Public Involvement
Robin Reich	Environmental Planner	EA preparation and review
Carrie Connaker	Environmental Analyst	EA preparation
Kennedy Kruchoski	Environmental Analyst	EA preparation

## 5.2. References

Alaska Business. 2024. Fairbanks Sees Record Winter Visitation. Tourism News, June 12, 2024. Accessed at <https://www.akbizmag.com/news/> on June 13, 2024.

Alaska Department of Transportation and Public Facilities (ADOT&PF). 2022. Richardson Highway Milepost 206 – 233: Planning & Environmental Linkages (PEL) Study Report. Project No. NFHWY00508/0A23. October 2022. 107 p.

Alaska Department of Labor and Workforce Development (DOLWD). 2024a. Not Seasonally Adjusted Monthly and Annual Unemployment Rates for Southeast Fairbanks Census Area, 1990 to 2024. Accessed at <https://live.laborstats.alaska.gov/data-pages/labor-force-area-data?s=29&a=0> on May 1, 2024.

DOLWD. 2024b. Not Seasonally Adjusted Monthly and Annual Unemployment Rates for Fairbanks North Star Borough, 1990 to 2024. Accessed at <https://live.laborstats.alaska.gov/data-pages/labor-force-area-data?s=12&a=0> on May 1, 2024.

DOLWD. 2024c. Not Seasonally Adjusted Monthly and Annual Unemployment Rates for Alaska, 2013 to 2024. Accessed at <https://live.laborstats.alaska.gov/data-pages/labor-force-area-data?s=29&a=0> on May 1, 2024.

DOLWD. 2023. Alaska Population Estimates: Population of Alaska by Economic Region, Borough, and Census Area, 2020 to 2023. Accessed at <https://live.laborstats.alaska.gov/data-pages/alaska-population-estimates> on April 19, 2024.

Alaska Department of Natural Resources. 2023. Alaska’s Statewide Comprehensive Outdoor Recreation Plan 2023-2027. 194 p.

Alaska Travel Industry Association. 2023. Alaska 2022-2023 Tourism Impact Model. Conducted by Destination Analysts. 34 p.

Bureau of Land Management (BLM). 2024a. Email from Cory Larson, BLM Glenallen Field Office, regarding Recreation Management Information System raw data regarding visitation at the Castner Glacier. January 8, 2024.

BLM. 2024b. BLM raw data: existing use by SRP holders based on annual reported data, 2021 to 2023.

BLM. 2024c. Castner Glacier Request for Input. Pre-scoping Outreach Summarized Responses. January 30, 2024.

BLM. 2024d. BLM Socioeconomic Profile: Southeast Fairbanks Census Area, Fairbanks North Star Borough, and Alaska. Report generated by Headwaters Economics at <https://headwaterseconomics.org/tools/blm-profiles/> on June 5, 2024.

BLM. 2021. Action Photo Tours SRP Categorical Exclusion Decision Record. DOI-BLM-AK-A020-2021-0019-CX.

BLM. 2020a. Black Rapids Lodge SRP Categorical Exclusion Decision Record. DOI-BLM-AK-A020-2020-0008-CX.

BLM. 2020b. UAF Outdoor Adventures SRP Categorical Exclusion Decision Record. DOI-BLM-AK-A020-2019-0027-CX.

- BLM. 2019. Steven Miley Photography SRP Categorical Exclusion Decision Record. DOI-BLM-AK-A020-2019-0014-CX.
- BLM. 2014a. Planning for Recreation and Visitor Services. BLM Handbook H-8320-1.
- BLM. 2014b. Protocol for Managing Cultural Resources on Lands Administered by the Bureau of Land Management in Alaska. February 5, 2014. 16 p.
- BLM. 2012. Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which the BLM Will Meet its Responsibilities Under the National Historic Preservation Act. February 9, 2012. 20 p.
- BLM. 2007. East Alaska Resource Management Plan: Record of Decision and Approved Plan. July 2007.
- DOWL, LLC. 2024. Cultural Resource Report: Richardson Highway Milepost 214-218 Reconstruction. Project No. NFHWY00655/Federal Project No. 0714028. Prepared by DOWL, LLC for ADOT&PF. March 2024.
- Fairbanks North Star Borough. 2022. Comprehensive Economic Development Strategy, 2022 – 2027. Adopted September 8, 2022. 100 p.
- Gatti, E.T.J., Brownlee, M.T.J, and Bricker, K.S. 2022. Winter recreationists' perspectives on seasonal differences in the outdoor recreation setting. *Journal of Outdoor Recreation and Tourism*. Vol. 37. <https://doi.org/10.1016/j.jort.2021.100366>
- Jangala, J. 2024. Email correspondence to Cory Larson regarding cultural and historic resources in the Castner Glacier planning area. January 16, 2024.
- Lodge at Black Rapids. 2024. Historic Roadhouse Restoration Project. Accessed at <https://www.lodgeatblackrapids.com/historic-roadhouse-restoration-project> on April 27, 2024.
- Meuter, F. n.d. Alaska Alpine Club – Club History. Accessed at <https://www.alaskaalpineclub.com/clubhistory#:~:text=The%20Thayer%20hut%2C%20named%20in,become%20incorporated%20to%20do%20so> on April 11, 2024.
- National Park Service. 1944. Recreational Resources of the Alaska Highway and Other Roads in Alaska. U.S. Government Printing Office. December 1944. 77 p.
- Nielsen, L.E., and A.S. Post. 1953. The Castner Glacier Region, Alaska. *Journal of Glaciology*, Volume 2, Issue 14. pp. 277 – 280.
- Stantec. 2024. Nikolai Mineral Resource Estimate Technical Report. Alaska Energy Metals Eureka Property. Project No. 182923706.
- U.S. Census Bureau. 2022. American Community Survey 5-Year Estimates: Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars): Alaska, Fairbanks North Star Borough, and Southeast Fairbanks Census Area. Table S1901. Accessed at [https://data.census.gov/table/ACSST5Y2022.S1901?q=Income \(Households, Families, Individuals\)&g=010XX00US\\_050XX00US02090,02240](https://data.census.gov/table/ACSST5Y2022.S1901?q=Income%20(Households,%20Families,%20Individuals)&g=010XX00US_050XX00US02090,02240) on May 3, 2024.
- U.S. Fish and Wildlife Service. 2007. National Bald Eagle Management Guidelines. Accessed at <https://www.fws.gov/media/national-bald-eagle-management-guidelines> on January 18, 2024.

Welling, J.T., Árnason, T., and Ólafsdóttir, R. 2015. Glacier tourism: a scoping review. *Tourism Geographies*, Volume 17, No. 5. pp. 635-662. DOI:10.1080/14616688.2015.1084529