



# Glacier Bay National Park

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## **APPENDIX B: EXTENT NECESSARY DETERMINATION FOR COMMERCIAL SERVICES IN THE GLACIER BAY WILDERNESS**

### **INTRODUCTION**

The purpose of this appendix is to apply law and policy to analyze the appropriate role of specific guided commercial services in Glacier Bay National Park designated Wilderness. This analysis, known as an extent necessary determination (determination), specifies:

- where commercial service providers have an important role in enabling wilderness-dependent experiences, and
- conversely, where self-guided opportunities preserve the characteristic qualities of the wilderness visitor experience that emphasize solitude, challenge, self-reliance, and opportunities for discovery and exploration in untracked and remote places.

The 1964 Wilderness Act, section 4(c), prohibits commercial services in designated Wilderness, except commercial services under section 4(d)(6) that:

- are proper for realizing the recreational or wilderness purposes of the area
- are compatible with the designated Wilderness (including unit purposes, law, and policy)
- necessitate commercial support (but only to the degree required)

This appendix is a determination to analyze Wilderness Act 4(d)(6) appropriate guided opportunities for the public use and enjoyment of Glacier Bay designated Wilderness. Following this introduction and key background, the determination is presented using a four-part format prescribed by policy and law.

In its application, this appendix will provide analyses that inform management decisions about commercial services consistent with backcountry and wilderness management plan objectives and prescribed zoning, while recognizing the following limitations and caveats:

- As conditions change and new information becomes available, the National Park Service reserves the right to reevaluate any aspect of these analyses, and on that basis, to adjust commercial services.
- A determination of need does not imply that a commercial activity will be authorized for all locations.

- This document does not fully address the effects (e.g., social, physical) of existing and proposed commercial uses, and decisions regarding the appropriate types and levels of commercial use in particular locations will be accomplished in compliance, or is already covered under existing compliance, with the National Environmental Policy Act.
- Guided activities will only be authorized to the extent consistent with the Wilderness Act's direction to preserve wilderness character.

## **BACKGROUND ESSENTIAL TO THE ANALYSIS**

*The Wilderness Act of 1964* (16 USC 1131-1136; PL 88-577) secured for our nation an enduring resource of wilderness. Wilderness areas included in the national wilderness preservation system are to be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness and to ensure that the wilderness character of these areas is preserved.

To achieve these goals, the Wilderness Act (the act) includes a series of prohibitions related to particular activities in its prohibition of certain uses section (section 4 [c]). The act has absolute prohibitions on commercial enterprise and permanent roads, and also general prohibitions, with qualified exceptions on temporary roads, use of motor vehicles, motorized equipment and motorboats, landing of aircraft, mechanical transport, and structures and installations. With regard to commercial services in wilderness, section 4(d)(5) states that "Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas." The "purposes" referred to in section 4(d)(5) are those enumerated in section 4(b), which states that ". . . wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." These purposes are rarely, if ever, discrete; that is, a recreational activity would commonly involve scenic or educational pursuits or even both.

In addition to the Wilderness Act, the National Park Service's management of wilderness areas is guided by NPS *Management Policies 2006* (section 6.4.4) and Director's Order 41: *Wilderness Stewardship*, section 7.3. The management policies state that commercial services, such as guiding, ". . . contribute to public education and visitor enjoyment of wilderness values or provide opportunities for primitive and unconfined types of recreation may be authorized if they meet the 'necessary and appropriate' tests of the National Park Service Concessions Management Improvement Act of 1998 and section 4(d)(5) of the Wilderness Act. . . , and if they are consistent with the wilderness management objectives contained in the park's wilderness management plan, including the application of the minimum requirement concept." The application of the "minimum requirement" concept to commercial services is reemphasized in Director's Order 41, which also provides that allocations between commercial and noncommercial uses should be subject to public comment through a public planning process.

*Necessary and Appropriate Criteria for Commercial Services* help parks determine which commercial visitor services will enhance the visitor experience without negatively

impacting the park's resources or its ability to carry out its mission. They allow a park to identify which services may be considered for a commercial use authorization (CUA) or a concession contract. The determination that a service is necessary and appropriate may change over time. An operation, once considered necessary for visitor enjoyment, can become redundant because of the availability of similar out-of-park services. Likewise, an operation once considered appropriate might have unintended impacts on park resources and/or achieving desired conditions. Evaluating commercial services through the lens of necessary and appropriate criteria is the first step in the extent necessary determination process, which is an additional filter for evaluating commercial services per the Wilderness Act of 1964.

### **Appropriate Criteria**

Appropriate criteria help to answer the question, “Can the park authorize this service without compromising the reason it is a unit of the national park system?” These criteria provide insight into the critical components of the park and visitor service, while also describing the potential negative impacts of commercial services the park must prevent. All commercial services—whether a commercial use authorization or concession contract—must meet *all* appropriate criteria to operate in the park. Conversely, a park unit is not required to add a commercial visitor service if that service meets the appropriate criteria.

#### Appropriate criteria

- are consistent with the park purpose and significance
- are consistent with laws, regulations, and policies
- do not compromise public health and safety
- do not cause unacceptable impacts on park resources or values
- meet the desired conditions of the backcountry and wilderness management plan and other relevant park planning documents, and do not create unacceptable impacts on the fundamental resources and values of the park that are unable to be mitigated.
- do not unduly conflict with other park uses and activities
- do not exclude the public from participating in limited recreational opportunities

### **Necessary Criteria**

Necessary criteria help to answer the question, “Why is this service important for the park?” These criteria describe how a commercial service could enhance the visitor experience and further the goals and mission of the park. Necessary criteria are unique to NPS concession contracts: while commercial use authorizations do not need to meet any necessary criteria, concession contracts must meet *at least one* necessary criterion to operate in the park.

Necessary criteria:

- contribute to visitor understanding and appreciation of a park's purpose and significance
- enhance visitor experiences consistent with park purpose, significance, and the desired conditions of the park's fundamental resources and values
- assist the National Park Service in managing visitor use and educating park visitors
- provide an essential service or facility not available within a reasonable distance from the park

### **Relationship to the 1984 General Management Plan**

The 1984 General Management Plan states that for backcountry use by individual visitors, “commercially guided trips would be needed for only about 20 percent of total use” and that “the use of commercial guides [would be] encouraged for less accessible areas” (page 70). The backcountry wilderness management plan, through the extent necessary determination process, does not change this allocation but rather refines and defines by use type and identifies the extent to which each of the commercial activities are necessary to achieve the purposes of Glacier Bay Wilderness.

### **Relationship to the Backcountry and Wilderness Management Plan**

The extent necessary determination was prepared in conjunction with the backcountry and wilderness management plan (the plan) using an interdisciplinary approach that included wilderness managers, commercial services staff, and resource and visitor use specialists. The scope of this determination aligns with the scope of the backcountry and wilderness management plan, meaning it focuses only on backcountry and designated Wilderness lands and waters within Glacier Bay National Park and does not include Glacier Bay Preserve or Alsek River rafting activities. Through the process of preparing this determination, the National Park Service considered both the potential short-term and long-term effects of commercial services activities within the park's wilderness.

The determination is an integral component of the backcountry and wilderness management plan, as commercial services provide various opportunities for visitors to the park to navigate to and explore wilderness and backcountry areas of the park. The extent necessary determination for commercial services in the Glacier Bay Wilderness is a process that used key elements of wilderness character, desired conditions for these elements, and analyzed impacts on determine the overall amount of use that is appropriate in wilderness. Finally, this analysis determined the proportion of this use that may be supported by commercial visitor services, while ensuring the preservation of wilderness character.

As with other aspects of visitor use management planning, the strategies for the backcountry and wilderness management plan for Glacier Bay National Park preserve wilderness character, as required by the Wilderness Act, while offering a reasonable range of choices about the future of the wilderness and will be analyzed in a subsequent document as required by the National Environmental Policy Act.

## **Relationship to the Marine Management Plan**

The marine management plan outlines strategies and provides broad guidance for the management of specific marine areas in the park. The plan defines desired conditions, zoning, and adaptive management strategies that provide for the protection of natural and cultural resources and values to support high-quality visitor experiences aligned with park purposes and values. The plan sets a vision for all motorized and nonmotorized vessels (e.g., cruise ships, tour vessels, charter vessels, private vessels, administrative use vessels) that may enter or travel through the park. In addition, the National Park Service is updating some elements of the vessel quota and operating requirements framework from 2003. The marine management plan is accompanied by an environmental assessment (EA) that analyzes four alternatives for the management of most marine areas at the park. The EA includes an analysis of impacts resulting from the range of alternatives on key park resources.

## **PURPOSES FOR WHICH THE GLACIER BAY WILDERNESS WAS ESTABLISHED**

### **Presidential Proclamation 1733**

Glacier Bay National Monument (now included in the national park) was established in 1925 by presidential proclamation. The purpose of the monument was to preserve an area significant for:

- "... a number of tidewater glaciers of the first rank in a magnificent setting of lofty peaks... and more accessible to ordinary travel than other similar regions of Alaska."
- "... a great variety of forest covering consisting of mature areas, bodies of youthful trees which have become established since the retreat of the ice which should be preserved in absolutely natural condition. . . "
- "... a unique opportunity for the scientific study of glacier behavior and of resulting movements and developments of flora and fauna. . . "
- "... historic interest having been visited by explorers and scientists since the early voyages of Vancouver in 1794, who have left valuable records of such visits and explorations."

### **Alaska National Interest Lands Conservation Act (ANILCA)**

The Glacier Bay Wilderness was established for recreational and other purposes by the passage of the Alaska National Interest Lands Conservation Act of 1980. The Alaska National Interest Lands Conservation Act provides special provisions, such as motorized access, which is not allowed in wilderness areas elsewhere in the wilderness preservation system; however, the overarching mandate of the 1964 Wilderness Act—to preserve wilderness character—remains. Section 101 of ANILCA describes the primary purposes for Alaska conservation areas, and section 202 describes the expansion and redesignation of Glacier Bay National Monument. ANILCA section 203 provides for lands, waters, and interests therein withdrawn or reserved for the former Glacier Bay National Monument to be incorporated within and made a part of Glacier Bay National Park subject to valid existing rights:

Section 101:

- (a) *“In order to preserve for the benefit, use, education, and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values, and units described in the following titles are hereby established.*
- (b) *It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems; to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing, fishing, and sport hunting, within large arctic and subarctic wildlands and on free flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.”*

Section 202:

*“Glacier Bay National Monument, by the addition of an area containing approximately five hundred and twenty-three thousand acres of Federal land. Approximately fifty-seven thousand acres of additional public land is hereby established as Glacier Bay National Preserve, both as generically depicted on map numbered GLBA-90,004, and dated October 1978; furthermore, the monument is hereby redesignated as “Glacier Bay National Park.” The monument addition and preserve shall be managed for the following purposes, among others: To protect a segment of the Alsek River, fish and wildlife habitats and migration routes, and a portion of the Fairweather Range including the northwest slope of Mount Fairweather. Lands, waters, and interests therein within the boundary of the park and preserve which were within the boundary of any national forest are hereby excluded from such national forest and the boundary of such national forest is hereby revised accordingly.”*

In addition to terrestrial areas, ANILCA also designated some of the marine waters of the park as wilderness. An internal NPS planning process also identified eligible wilderness in the waters of the East Arm of Glacier Bay and Alsek Lake. In accordance with NPS *Management Policies 2006*, these eligible areas are to be managed in a manner that will not “diminish the wilderness eligibility of an area possessing wilderness characteristics,” and “management decisions will be made in expectation of eventual wilderness designation” (6.3.1). Title 11 of ANILCA provides for public use of motor vessels in some of these waters but does not guarantee motorized access for commercial or other administrative uses; the National Park Service has discretion in regulating commercial and administrative activities to ensure their use complies with the Wilderness Act. Furthermore, ANILCA provisions for participation in

recreational activities within the park does not guarantee that the activity may also be offered through a commercial operator.

## **EXTENT NECESSARY DETERMINATION FOR COMMERCIAL SERVICES IN WILDERNESS**

### **Part I: Activities That Are Proper for Realizing the Recreational or Other Purposes of Wilderness**

For a commercial service to meet the extent necessary test to occur in designated Wilderness, the service or activity must be determined as proper for realizing designated Wilderness purposes based on the Wilderness Act of 1964. Any activity that occurs in designated Wilderness must first be of a type that does not violate the prohibitions of section 4(c) on the use of motor vehicles, motorized equipment or motorboats, the landing of aircraft, other forms of mechanical transport (except in Alaska as modified by ANILCA), and no structure or installation of structures. National Park Service *Management Policies 2006* 6.4.3 states that recreational uses in wilderness will be of a nature that

- enables the areas to retain their primeval character and influence;
- protects and preserves natural conditions;
- leaves the imprint of man's work substantially unnoticeable;
- provides outstanding opportunities for solitude or primitive and unconfined types of recreation; and
- preserves wilderness in an unimpaired condition.

Section 4(d)(6) of the Wilderness Act authorizes commercial services that are proper for realizing wilderness purposes. A determination on whether an activity is proper or appropriate for realizing a wilderness purpose is best informed by considering the following statements:

- Is the activity consistent with laws, policies, and regulations?
- Is the activity consistent with the purpose and significance of the park?
- Does the activity impact park resources or values?
- Does the activity fulfill one of the purposes of wilderness (recreational, scenic, scientific, educational, conservation, or historic)?
- Is the activity compatible with desired conditions for wilderness character?

In addition, the backcountry and wilderness management plan has established goals, desired conditions, and objectives for the future management of Glacier Bay designated Wilderness. The plan seeks to provide opportunities for and encourage public use and enjoyment of wilderness in accordance with the Wilderness Act and other laws and policies. This

determination identifies those activities as proper for realizing the recreational or other purposes of wilderness should contribute to achieving and maintaining desired conditions.

For the zone descriptions and associated desired conditions of Glacier Bay designated Wilderness, please refer to “Chapter 2: General Management Direction.” Desired conditions within designated Wilderness parallel those stated in the Wilderness Act as it defines the qualities of wilderness character. Refer to *Keeping it Wild 2: An Updated Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System* (Landres et al. 2015) for definitions of wilderness character qualities.

The following activities are analyzed in this determination and will complement stand-alone extent necessary determinations for other commercial activities in Glacier Bay National Park designated Wilderness (including tour vessel, charter vessel, day use kayak, kayak overnight, and Alsek rafting and boating):

- A. Guided mountaineering (year-round)
- B. Guided on-snow travel
- C. Guided watercraft (human-powered only)
- D. Guided day-hiking
- E. Guided overnight use (camping, hiking/backpacking)
- F. Guided air transport landings
- G. Guided sportfishing (freshwater)
- H. Guided sportfishing (marine)

Two additional activities are analyzed in part I of the determination but dismissed from further analysis, recognizing that these are managed under other authorities:

- commercial and guided filming
- commercial and guided photography

Part I begins with a description of the activity and current public use (not specific to commercial services) and then analyzes whether the activity is proper for realizing wilderness purposes.

#### **A. Mountaineering (Year-Round)**

Mountaineering consists of summiting a mountain, often by climbing, using specialized equipment such as ropes, harnesses, and carabiners to assist the climb. Mountaineering within the Fairweather Range typically occurs in April and May, when conditions are most ideal for summiting, also creating a greater likelihood of overlapping parties seeking to summit simultaneously. In addition to the Fairweather Range, mountaineering occurs in other locations throughout the park, including Rendu Glacier and the Chilkat Range. Popularity of mountaineering within the park has decreased due to plant succession, glacial retreat, emerging landscapes, and changing recreational uses.

Specific to commercial mountaineering, post-ANILCA planning to implement Glacier Bay designated Wilderness identified a unique opportunity to provide one of the few noncommercial climbing opportunities in North America within designated Wilderness. As a result, it determined Mount Fairweather would be “closed to commercial mountaineering.” In 2002, following requests from commercial operators to provide mountaineer services, the superintendent allowed minimal guided mountaineering for the 2003 season to grant park management staff time to gather information related to visitor demand for this activity and potential impacts on the ethnographic resources of the Fairweather Range. Starting in 2003, two guided mountaineering trips in the Fairweather Range were authorized each year until 2012. Commercially guided climbing was authorized “in order to evaluate the need and appropriateness of the service in preparation for a new backcountry management planning process” (NPS 2002). Since 2012, commercially guided climbing has been authorized on a case-by-case basis in the Fairweather Range.

Mountaineering trips are often supplemented with aircraft use for transportation into and out of the park, and commercial guides will hire one of the air taxi operators that currently hold a permit. Park staff noted that previous guided excursions entered through the northeast side of the park, mountaineered, rafted down to the marine water, and then kayaked to Bartlett Cove. However, this type of trip has not occurred in a long time.

While mountaineering is a proper use for achieving the purpose of the Glacier Bay Wilderness, the extent to which it is necessary is evaluated in parts 3 and 4 of this appendix.

## **B. On-Snow Travel**

This activity is inclusive of recreational activities, such as human-powered snow sports and including by ski or snowboard, snowshoeing and hiking on snow, and considering potential other emerging recreational uses as they arise. The towing of persons on skis, sleds, or other sliding devices by motorized vehicles is prohibited except in the ANILCA additions, including the Glacier Bay Preserve.

Specific to commercially guided on-snow travel, areas east of the Fairweather Range historically have not authorized this activity to facilitate certain visitor experiences emphasizing self-reliance. Per current CUA stipulations, a maximum of three guided on--snow travel trips and three guided ski touring trips are authorized per company per year.

The activity of on-snow travel is deemed proper for realizing the public purpose of the Glacier Bay Wilderness. The extent to which it is commercially necessary specific to backcountry and wilderness management plan zoning is evaluated in parts 3 and 4 of this appendix.

## **C. Watercraft (Human-Powered Only)**

Human-powered watercraft is inclusive of activities in which visitors use a vessel, in conjunction with oars, paddles, poles, pedals, or cranks, to navigate through water. Human-powered watercraft activities may depart from land, entering designated Wilderness waters by water through the Beardslee Cut out of Bartlett Cove (as tide conditions allow, which is growing more limited due to isostatic rebound) or off a marine vessel. Glacier Bay National Park marine designated Wilderness is the only place in Alaska in the national park system

that offers this rare opportunity for human-powered travel in marine wilderness waters with seamless connections to freshwater (estuaries, rivers, streams, outwashes) and shorelines also in designated Wilderness. This opportunity makes for an incomparable and immersive wilderness experience. On the Outer Coast and other remote wilderness areas, where freshwater streams are under NPS jurisdiction, packrafting is growing in popularity as a human-powered activity in which visitors backpack to a water source carrying an inflatable raft and then paddle up or downstream or use the raft to ford across. The activity often combines hiking, overnight use, and paddling.

Specific to commercial operations, guided kayak services have historically been offered within Glacier Bay National Park, both as an overnight extended trip option, and as a day use opportunity based in the park frontcountry. In recent years, park staff has also noted emerging recreational uses, such as stand-up paddle boarding. A stand-up paddleboard allows users to stand or kneel on a large board and paddle from one location to another. While the activity currently does not support overnight use due to lack of storage, it has increased in popularity for day use.

Kayaking and rafting are long-standing uses of the Glacier Bay Wilderness and serve as the main form of nonmotorized access for independent travelers. Other emerging human-powered watercraft activities, such as paddle boarding and packrafting, also enable marine wilderness and freshwater exploration. Thus, these activities are considered proper in helping achieve the recreational purposes of wilderness.

#### **D. Day Hiking**

No established trails exist in most of the Glacier Bay Wilderness, so most hiking occurs either on wilderness shorelines surrounding wilderness waters, or, for most of the park, along the edge of designated Wilderness (the boundary is mean high tide). People also seek to hike in areas devoid of vegetation that inhibits free movement and allows access up to vantage points, especially around tidewaters and glacial environments, scenic viewpoints, and wildlife viewing hot spots. The following areas of the park are most popular for day use hiking: Gloomy Knob, Lamplugh Glacier, Reid Inlet, McBride Inlet, Fern Harbor forelands, and Dundas Bay. People access areas for hiking through a variety of means. Hiking only accessible by water or in remote areas features human-powered watercraft, private boat, charter boat, tour vessel, day boat, and small plane.

Wilderness hiking also originates from Bartlett Cove, primarily on trails (Bartlett River Trail, Bartlett Lake Trail) or from beaches, where walking is relatively easy (Point Gustavus route). Originating from outside the frontcountry (and on non-NPS land), wilderness hiking tends to focus on areas accessible by Gustavus roads, primarily on the Towers Trail (17B easement) but also on primitive social and animal trails or where backcountry navigational skills are required (from the Dude Creek Critical Habitat Area, from the Falls Creek Hydroelectric Project Corridor, and proximate to the Salmon River).

Specific to commercial services, day hiking occurs with a guide during trips when a motorized vessel anchors, and its passengers hike on land. Commercial operators are permitted to guide their clients within the Bartlett Cove Frontcountry area. Near Bartlett Cove, guided day hiking is authorized on the Forest Trail, Tlingit Trail, and Campground

Trail and will be authorized on future planned trails (Coopers Notch Trail and Inner Lagoon Trail). Guided day hiking is not authorized past the designated Wilderness boundary (Bartlett River Trail, Bartlett Lake Trail, Towers Trail, Point Gustavus route, and Excursion Ridge).

While day hiking is a proper activity within Glacier Bay to help visitors experience the recreational purposes of wilderness and provide opportunities for solitude, the extent to which it is necessary in designated Wilderness proximate to the frontcountry is evaluated in parts 3 and 4 of this appendix.

#### **E. Overnight Use (Camping, Hiking/Backpacking)**

Overnight use may apply to many of the activities listed previously and consists of carrying necessary supplies with the intent of establishing temporary overnight camps on wilderness lands. Overnight use does not involve the use of improved campground facilities. Although most of the activities included in this section may be offered as day use-only activities (excluding mountaineering), they may also be combined with overnight camping.

Specific to commercial services, overnight use may occur in tandem with the following activities:

- A. Mountaineering (year-round)
- B. On-snow travel
- C. Watercraft (human-powered only)
- D. Day hiking
- E. Airplane/air transport landing (as transportation support of authorized overnight uses, and where passengers leave the air taxi as described in CUA stipulations)
- F. Sportfishing (freshwater)
- G. Sportfishing (marine)

Overnight use is a necessary and appropriate activity within Glacier Bay National Park due to the vastness of the park and the type of activities visitors participate in during their trips. Overnight use allows visitors to experience wilderness and backcountry within the park through backpacking trips, kayaking, mountaineering, on-snow travel, and other activities. These experiences are unique and consistent with purposes of wilderness because they allow visitors to witness the educational, scientific, and recreational purposes of wilderness.

This determination will consider the extent to which overnight use is necessary within the Glacier Bay Wilderness, and the evaluation will apply to all commercial operators that provide this activity in conjunction with other recreational activities.

#### **F. Air Transport Landings**

Airplane landings in designated Wilderness are an appropriate activity within Glacier Bay National Park due to the vastness of the park and range of proper wilderness activities it

enables visitors to participate in during their trips, including many described in this appendix.

ANILCA authorizes fixed-wing aircraft landings and take offs in Alaskan designated Wilderness areas, except as prohibited under section (4)c of the Wilderness Act (helicopter and rotary-wing aircraft landings, take offs, and dropping off or picking up material and supplies). Under park-specific restrictions, floatplane landings and transiting in Glacier Bay (including designated Wilderness) is managed seasonally to offer a range of visitor experiences, including recreational opportunities in nonmotorized settings. Also, while the National Park Service does not manage airspace, the Federal Aviation Authority guidance for “Noise-Sensitive Areas” (Circular 91-36D Visual Flight Rules) applies, and section 1110(a) of ANILCA specifically authorizes the secretary of the interior to issue “reasonable regulations” to protect the “natural and other values” of the affected area. This section also authorizes the secretary to close an area otherwise open to these types of motorized vehicles for such “special access” if, after notice and a hearing in the vicinity of the affected area, the secretary finds that such use would be “detrimental to the resource values of the unit or area.”

Specific to commercial services, an air taxi is a plane in which most of the passengers on the flight must either be dropped off or picked up from a day trip or overnight stay and passengers do not remain within the airplane while on the ground. These planes may be either wheeled or floatplanes (seaplanes). Under CFR 13.1180, seaplanes are not considered a motor vessel within Glacier Bay National Park. Currently, seaplanes may dock at the Bartlett Cove Public Use Dock only within designated areas. Under 36 CFR 13.1180, seaplanes are prohibited during varying seasons in locations throughout the park. Please refer to the Code of Federal Regulations for more information or current CUA air taxi stipulations.

Because the activity of airplane landings provides visitor access to the park in designated Wilderness under ANILCA (unlike wilderness areas in the rest of the United States), it is deemed proper for realizing the public purpose of the Glacier Bay Wilderness. This determination will consider the extent to which air taxi use is necessary within the Glacier Bay Wilderness, including in conjunction with other commercial activities.

### **G. Sportfishing (Freshwater)**

Freshwater fishing in Glacier Bay designated Wilderness meets the recreational purposes of wilderness and offers an intimate experience that can deeply connect people with the aquatic environment, surrounding scenery, and intact ecosystems. This opportunity is available extensively throughout the region and Alaska and consists of primarily hike-in sportfishing opportunities along streams. Motorboats and kayaks also access freshwater streams for fishing.

While many streams in designated Wilderness only attract very dispersed and periodic use, concentrated sportfishing on spawning streams (by all user types, guided and public users) can pose concerns about impacts due to the following:

- easy access by boat (from marine waters) or trail (Bartlett River) to many freshwater systems

- the potential for highly localized activity, including on small and newly emerging glacially influenced creeks with small populations of species that can be easily targeted
- a greater potential during fish spawning runs for bear-human conflicts
- wildlife displacement or habituation
- motorboat noise and wakes, which may occur from boat use by commercial or noncommercial users

This activity may also help fulfill the educational purpose of wilderness through guide interpretation to educate visitors on Leave-No-Trace principles, federal and state regulations, and fish history and ecology. Further, specific to fish stocks and streams, the following protections are in place to protect the natural quality of wilderness character:

- National Park Service law and policy identifies that the agency must leave park resources and values unimpaired and defines when harvesting plants and animals is allowed.
- A master memorandum of understanding exists between the National Park Service and the Alaska Department of Fish and Game with a collaborative sustainable fisheries management framework.
- Protective federal and nonconflicting State of Alaska laws, including superintendent authority, address threats to park resources or values.

Specific to bear-human conflicts, the following protections are in place to protect the natural quality of wilderness character:

- Bear management plan (2013)
- Bear-specific content in concessioner orientations and operating conditions
- Compendium regulations on proper fish handling to reduce habituation and wildlife displacement

A range of limiting conditions currently reduce concerns around concentrated freshwater sportfishing activity in Glacier Bay National Park designated Wilderness. These conditions include park remoteness, the expense of a visit, limited prime season services (transportation, guiding, and rentals), required equipment (boat for marine access), and NPS-regulated marine vessel quotas to protect park wildlife and other resources while providing a range of recreational opportunities for park visitors. Lastly, the park uses a variety of measures to disperse users, set limits on group sizes, manage specific delivery modes to reduce concentrated use, prohibit vessel access within a certain distance of salmon streams, and discourage site damage on sensitive stream banks and tidal estuaries.

Freshwater fishing is a proper activity for realizing the recreational purpose of wilderness at a limited scale (such as within vessel quotas and allowable catch limitations) in which the dispersion of users and mitigations minimize natural disturbances or impairment of resources. Currently, only specific historic operators (prior to 1979) are allowed to provide

this service. The extent to freshwater fishing is necessary in designated Wilderness is evaluated in parts 3 and 4 of this appendix.

## H. Sportfishing (Marine)

Glacier Bay National Park is the only place in Alaska and the national park system with marine designated Wilderness, making it a rare opportunity regionally and nationally. In this context, guided marine or saltwater sportfishing meets the recreational purposes of wilderness. Sportfishing consists of primarily motorized vessel-supported angling in designated Wilderness marine waters, including catch-and-release angling and angling for the harvest and consumption of targeted species (within legal fishery catch limits). Moreover, unlike freshwater sportfishing in which Glacier Bay opportunities are more comparable to other opportunities in the region and state, marine wilderness outside the park does not exist, and, therefore, guided fishing in marine wilderness is not available outside of the park. Glacier Bay is a marine sportfishing destination of national acclaim for its

- attractive species for angling and eating, including halibut and a variety of salmon
- exceptional fish sizes and quantities, in stark contrast to fisheries elsewhere, in part due to Glacier Bay-specific measures to protect marine abundance (commercial fisheries buyout, vessel quotas, and capacity management).
- immersive, uncrowded boating experiences consistent with park general management plan directions that “balance forms of access and use to obtain a feeling of the ruggedness and wildness of this dynamic landscape and the solitude” (NPS 1984) as set forth in park vessel quotas and operating requirements.
- a scenic setting combined with stringent coastal and marine environment protections that showcase how pristine marine ecosystems look and function

Concentrated marine sportfishing within Glacier Bay National Park (by all user types, guided and public users) can pose concerns about impacts on the natural and solitude qualities of wilderness due to

- easy access by boat
- limited marine wilderness concentrating the use of marine sportfishing
- potential for wildlife displacement or habituation
- motorboat noise and wakes, which may occur from boat use by commercial or noncommercial users

As a marine angling destination attractive to guided and private users, Glacier Bay waters have several existing limitations that reduce the likelihood of unacceptable impacts on park resources and values (including to natural and solitude qualities within the park’s approximately 53,000 acres of marine designated Wilderness):

- Use is highly dispersed, with marine angling opportunities extensively available in nonwilderness and nonpark areas nearby.

- The activity has limited participation in wilderness waters due to seasonal park regulations that limit the use of motorized vessels in certain park waters to provide a diversity of visitor experiences.
- National Park Service-regulated marine vessel quotas protect park wildlife and other resources while providing a range of recreational opportunities to park visitors.

This activity may also help fulfill the educational purpose of wilderness through guide interpretation to educate visitors on Leave No-Trace principles, federal and state regulations, and fish history and ecology. Further, specific to fish populations, the following protections are in place to protect the natural quality of wilderness character:

- National Park Service law and policy identifies that the agency must leave park resources and values unimpaired and defines when harvesting plants and animals is allowed.
- The International Pacific Halibut Commission (IPHC) sustainable fisheries management protections under the international Halibut Treaty of 1923 is supported by IPHC population sampling and monitoring within Glacier Bay National Park waters.
- A master memorandum of understanding exists between the National Park Service and the Alaska Department of Fish and Game with a collaborative sustainable fisheries management framework.
- Protective federal and nonconflicting State of Alaska laws, including superintendent authority, address threats to park resources or values.

Specific to commercial services, guided marine sportfishing within designated Wilderness has typically been required to limit group sizes to match the scale of noncommercial users and to disperse visitors and reduce concentrated fish harvest.

Marine fishing is deemed proper for realizing the recreational purpose of wilderness, with mitigations to minimize natural disturbances or impairment of resources, and at a modest scale (i.e., within charter vessel class passenger limits, vessel quotas, allowable catch limitations).

#### *Activities Dismissed from Further Analysis*

Two additional activities are analyzed in part I of the determination but dismissed from further analysis, recognizing that these activities are managed under other authorities:

#### **Commercial and Guided Filming**

While the Wilderness Act defines filming as a commercial service within wilderness, a recent finding from *Price v. Barr* (January 2021) required the National Park Service to update its guidance on commercial filming permits. Currently, special use permits are required for commercial filming opportunities within national park units, and park management should evaluate requests on a case-by-case basis. However, when permits are granted, operating

guidelines will be included to preserve wilderness character and prohibit motorized equipment, as necessary.

### **Commercial and Guided Photography**

Guided photography is currently not a commercially authorized use within the Glacier Bay Wilderness; however, the activity currently occurs within the Bartlett Cove developed area along the following trails: Forest Trail, Tlingit Trail, Campground Trail, and to the wilderness boundary on the Bartlett River Trail and Point Gustavus route.

The activity may include supplemental educational opportunities, such as workshops in nature or carrying art easels, to teach photography and painting. Commercially guided photography as a stand-alone activity is currently not authorized within the Glacier Bay Wilderness because it is not necessary for realizing the purposes of wilderness. However, this activity, when paired with others such as hiking, may enhance the educational and scenic purpose of wilderness. Therefore, the activity may be offered in conjunction with other commercially guided activities, and operators must follow all regulations and guidelines.

### **Part II: Aspects of Wilderness Activities that May Necessitate Commercial Support**

Part II of the analysis sets up the framework for considering the extent to which these forms of commercial service support are necessary, which depends on a number of factors. The framework evaluates six broad categories that are listed below. This analysis considers what the park seeks in terms of self-reliant experiences as opposed to novice or introductory experiences, and the range of social and environmental conditions that can be provided while preserving wilderness character. This determination represents a comparative and qualitative analysis of the relevant wilderness factors and determines whether commercial services are necessary and if so, the number of commercial services that are necessary. At the same time, this broad analysis does not represent the totality of services that may be considered when considering commercial services and operating conditions in designated Wilderness.

Glacier Bay's wilderness presents an inherently challenging environment for traveling to and throughout. To be conducted safely and in a manner that preserves wilderness character, wilderness activities often require specialized skills, knowledge, or equipment. Particularly in Glacier Bay, such activities may require technical skills, safety practices associated with exposure and environmental factors, and special equipment for which knowledge of the dynamic landscape and marine conditions can make trip and itinerary choices safer and more rewarding. Visitors to wilderness vary in their ability to conduct these more specialized or technical wilderness activities. Therefore, when parks choose to provide opportunities for these types of visitor activities, some level of commercial support may be necessary.

#### **Specialized Skills or Knowledge**

For some wilderness visitors the need for, or lack of, specialized skills or knowledge can be a barrier to engaging in that activity. A commercial service may support a visitor activity by providing or teaching the skills or knowledge that are needed to engage in a proper wilderness activity. This support may take the form of guiding, in which the outfitter/guide

provides the necessary skills or knowledge to the individual or group participating in the activity. A commercial service may also take an instructional form, in which the outfitter/guide teaches an individual or group the necessary skills or knowledge so that they may independently participate in the activity in the future. In the latter case, the level of instruction may range from basic or introductory wilderness skills and knowledge to advanced technical skills and knowledge. Guides and instructors are also able to provide local knowledge that can make a wilderness trip safer and more rewarding for visitors who are unfamiliar with a wilderness area.

### **Specialized Equipment or Services**

Wilderness activities may require specialized equipment or services that cannot be provided by all wilderness visitors who wish to engage in a certain activity. Regarding specialized equipment, the expense, care, or space required for that equipment may be too great for some wilderness visitors to provide without support from a commercial service provider. Visitors may wish to try out an activity before making the financial commitment to purchase equipment. Some visitor trips may require services, such as the transporting of equipment or supplies that cannot be provided without commercial support. For each activity that has been determined to be proper for the recreational or other purposes of wilderness, this analysis will discuss the specialized equipment or services that may necessitate commercial support.

### **Special Safety Concerns**

Wilderness activities may involve special safety concerns that cannot be managed by all wilderness visitors without commercial support. The National Park Service does not attempt to eliminate the risks inherent in wilderness travel or those associated with participation in wilderness activities. However, for some visitors, a commercial provider may be a necessary means of managing those inherent risks or may be a means to acquire the requisite knowledge to manage those risks independently in the future. For each activity that has been determined to be proper for the recreational or other purposes of wilderness, the analysis will discuss the special safety concerns that may necessitate commercial support.

### **Special Resource Concerns**

Wilderness activities may involve the potential for impacts on wilderness resources. A commercial service provider may be a means to ensure that activities are conducted in appropriate locations and in a manner that mitigates or minimizes resource impacts. For each activity that has been determined to be proper for the recreational or other purposes of wilderness, the analysis will discuss the special resource concerns that may necessitate commercial support. Also, specific to Glacier Bay National Park, explicit protection is also needed for sensitive historic, cultural, and ethnographic resources specifically recognizing the centuries-old and rich cultural traditions of indigenous people and other residents to lands now managed as wilderness, including living and evolving Tlingit cultural connections to their Homeland.

## Other Contributions that Support Wilderness Purposes

Commercial services most often support wilderness visitors in their recreational activities, but they may also independently or cooperatively support scenic, scientific, educational, historic, or conservation objectives.

### Introductory Experiences

Commercial service providers can give assistance to visitors who lack the experience or confidence to attempt a wilderness adventure on their own. These types of trips can introduce a diverse public to a variety of ways to experience their public lands. Commercial service support can build confidence in visitors and lead to more self-reliant wilderness trips in the future. Introducing novice visitors to their publicly owned wilderness can provide rewarding experiences, build support for long-term wilderness preservation, and improve wilderness education.

## Part III: Commercial Services That Are Necessary for Each Proper Activity

This section uses the categories provided in part II to analyze the aspects of activities identified as proper in part I that may necessitate commercial support to achieve wilderness purposes. This analysis framework focuses on outstanding opportunities for solitude or a primitive and unconfined type of recreation—recognizing that many forms of recreation enjoyed by the public do not require a wilderness setting and are more appropriate in other venues (like the frontcountry or on a day boat), where risks can be minimized, and visitor comfort, convenience, and social settings (including a greater tolerance for crowding) are emphasized. Further, unlike many wilderness areas, Glacier Bay National Park offers people of all ages and abilities opportunities to experience wilderness from the outside looking in (surrounded by and deeply experiencing a wilderness landscape at a safe distance from the deck of a cruise, a tour, or a smaller vessel or from Bartlett Cove shorelines).

A conclusion regarding the necessity for commercial services is made for each activity within the wilderness management zones in Glacier Bay National Park. The use of commercial services in wilderness will only be permitted when they allow visitors to use and enjoy wilderness in a manner that is consistent with the preservation of wilderness and its associated desired conditions. The amount and extent of commercial services that will be allowed in each management zone is addressed in part IV.

**Table B-1a. Reasons That Commercial Support Is Necessary for Mountaineering and On-Snow Travel**

Aspect of Wilderness Activity	A. Guided Mountaineering (Year-Round)
	B. Guided On-Snow Travel
Specialized skills or Knowledge	Route finding, wayfinding, use of equipment for protection, orienteering, knowledge of environmental and weather hazards, understanding of rock and ice conditions, Leave No Trace practices, ski or other on-snow travel skills, winter survival, avalanche awareness, and leadership.
Specialized equipment or services	Ropes, climbing equipment and aids, ice axes, crampons, skis, snowshoes, and survival equipment (e.g., avalanche beacons, shovels).

Aspect of Wilderness Activity	A. Guided Mountaineering (Year-Round)
	B. Guided On-Snow Travel
Special safety concerns	Minimize risk through education, training, and ensuring safe and Leave No Trace practices. Knowledge of safe routes and mountain conditions, winter survival, winter route finding, and avalanche awareness.
Special resource concerns	Mountaineering access and social trails, knowledge of what is allowed and what is prohibited, including laws to protect cultural resources (no cairns on mountain tops, restricted access to sacred sites including cave karst systems). Proper disposal of human waste and knowledge of sensitive plant species.
Other contributions	Mountaineering, particularly along the Fairweather Range, is a primitive form of recreation and may be considered an intrinsic value of wilderness to be immersed in a natural setting. Guide acknowledgement of and respect for Tlingit Homeland, its cultural and ethnographic resources, and authentic tribe-approved cultural interpretation.
Introductory experiences	This service supports an introductory experience for a less common but proper wilderness activity.
Conclusion	Mountaineering and on-snow travel activities are proper for realizing the public purposes of wilderness. The high-level skills, specialized equipment, safety issues, and knowledge required for this activity listed in this table are barriers that may impede the ability of some visitors to realize the values inherent in a wilderness experience. Commercial support for these activities may include introductory experiences for novice visitors and further foster stewardship.

**Table B-1b. Reasons That Commercial Support Is Necessary for Human-Powered Watercraft and Day Hiking**

Aspect of Wilderness Activity	C. Guided Watercraft (Human-Powered Only)
	D. Guided Day Hiking
Specialized skills or knowledge	Wayfinding, kayak, orienteering, the use of tide charts and maps for marine navigation, appropriate food storage in wilderness, wilderness first aid, sanitation and waste disposal, leadership, and Leave No Trace practices.
Specialized equipment or services	Proper use of kayak and safety equipment. Access to rubber boots and raingear and other equipment to protect from inclement weather and sea conditions.
Special safety concerns	Marine environment, challenging open water crossings, wildlife encounters, orienteering/wayfinding, wilderness first aid, cold water emergency rescue, weather.
Special resource concerns	Avoid bird nesting areas, marine mammal haul-outs, and other sensitive areas. Knowledge of sensitive natural and cultural resources, including of tribal protocol and protective laws pertaining to cultural features and sites.
Other contributions	Introductory experiences and guided trips can lead to a better visitor understanding of wilderness character, purposes, and values, and assist the public in being capable and confident to appropriately experience their public lands and wilderness lands and waters. Guide acknowledgement of and respect for Tlingit Homeland, its cultural and ethnographic resources, and authentic tribe-approved cultural interpretation.
Introductory experiences	Provide people with the necessary skills to engage in self-reliant recreation.
Conclusion	Day hiking and human-powered watercraft activities are proper for realizing the public purposes of wilderness. The skills, equipment, and safety issues listed previously are barriers that can impede the ability of some visitors to realize the values inherent in a wilderness experience. These factors necessitate some level of commercial support for

Aspect of Wilderness Activity	C. Guided Watercraft (Human-Powered Only) D. Guided Day Hiking
	these recreational activities. The availability of commercial support may also enable introductory wilderness experience opportunities.

**Table B-1c. Reasons That Commercial Support Is Necessary for Overnight Use**

Aspect of Wilderness Activity	E. Guided Overnight Use
Specialized skills or knowledge	Route finding, wayfinding, use of equipment for protection, orienteering, knowledge of environmental and weather hazards, Leave No Trace practices, bear knowledge, and safety practices.
Specialized equipment or services	Communication devices capable of establishing two-way communication, park backcountry orientation, understanding of bear habitat, and measures to preserve the natural environment.
Special safety concerns	Minimize risk through education, training, and ensuring safe and Leave No Trace.
Special resource concerns	Allows for appropriate wilderness equipment to be utilized (e.g., food storage containers, tents) and proper disposal of human waste. Knowledge of sensitive natural and cultural resources, including of tribal protocol and protective laws pertaining to cultural features (village sites, grave sites, sacred features like caves, karsts, and cairns).
Other contributions	Allows visitors to carry supplies to reach various zones of wilderness and/or extend their stays beyond one day to immerse themselves more thoroughly in a wilderness experience. Allows visitors to experience wilderness from the land and to access tidewater glaciers. Guide acknowledgement of and respect for Tlingit Homeland, its cultural and ethnographic resources, and authentic tribe-approved cultural interpretation.
Introductory experiences	This service supports an introductory experience for a proper wilderness activity.
Conclusion	Overnight use is an activity that is proper for realizing the public purposes of wilderness and possess attributes that necessitate commercial support for other proper activities in Glacier Bay Wilderness, including kayaking, hiking, mountaineering, on-snow travel, and fishing.

**Table B-1d. Reasons That Commercial Support Is Necessary for Air Taxi Landings**

Aspect of Wilderness Activity	F. Guided Airplane/Air Transport Landings
Specialized skills or knowledge	Pilot skills and experience, aeronautical decision-making, understanding of weather conditions, knowledge of Federal Aviation Administration (FAA) requirements.
Specialized equipment or services	Specialized equipment includes the plane itself, certifications may be necessary, spill kit onboard, and communication devices onboard.
Special safety concerns	Follow US Department of Transportation hazmat guidelines for proper handling, transportation, and storage of hazardous materials.
Special resource concerns	Proper methods for transporting hazardous materials such as stove fuel or bear spray; air quality; alpine species sensitive to overflight noise (mountain goat kidding areas between May 1 and June 15 and winter habitat between November 15 and April 30), preservation of wilderness character; and cultural resources near landing areas.

Aspect of Wilderness Activity	F. Guided Airplane/Air Transport Landings
Other contributions	Air transport landings help facilitate other activities that achieve the recreational purpose of wilderness and provide access to remote areas of the park.
Introductory experiences	This service supports an introductory experience for a less common but proper wilderness activity.
Conclusion	Air transport landing is proper for realizing the purposes of wilderness. such as recreational, scenic, educational, and scientific. Air taxi landing facilitates activities that occur in remote areas of the park, such as the Fairweather Range or interior areas that may be difficult to access or take long periods of time. The high-level skills, specialized equipment, safety issues, and resource concerns identified in this table demonstrate the necessity for commercial service operators to help provide wilderness experiences to Glacier Bay visitors.

**Table B-1e. Reasons That Commercial Support Is Necessary for Freshwater Fishing**

Aspect of Wilderness Activity	G. Guided Sportfishing (Freshwater)
Specialized skills or knowledge	Wayfinding and the use of tide chart maps for marine navigation and knowledge of park regulations (including for nonmotorized marine waters). Wilderness character stewardship and fishing conservation ethics recognizing that fishing is one of a few extractive uses that are allowed in wilderness. Knowledge of fish species (ability to identify).
Specialized equipment or services	Fishing equipment, a vessel to access hike-in points for freshwater streams (marine shorelines, Bartlett River Trailhead), or to access upstream fishing locations.
Special safety concerns	Marine waters with dangerous conditions and changing tides, human-wildlife conflict, environmental and weather conditions.
Special resource concerns	Guides and visitors must be aware of any species that may be threatened or endangered throughout the park and rules to reduce bear habituation. Dispersed use, restricted use, and closures may occur to mitigate effects to species and to reduce any impacts on wildlife displacement. Knowledge of sensitive natural and cultural resources, including of tribal protocol and protective laws pertaining to cultural features and sites.
Other contributions	Fishing is a primitive form of recreation that can lead to increased self-reliance. Guided services can provide education on the appropriate methods and regulations for fishing and encourage fishing conservation ethics and leave-no-trace principles. Guide acknowledgement of and respect for Tlingit Homeland, its cultural and ethnographic resources, and authentic tribe-approved cultural interpretation.
Introductory experiences	This service supports an introductory experience for a proper wilderness activity.
Conclusion	Freshwater fishing is an activity that is proper for realizing the public purposes of wilderness and possesses some attributes that necessitate commercial support in Glacier Bay Wilderness (travel by floatplane or motorboat to reach remote freshwater streams to participate requires specialized skills and knowledge, uses specialized equipment, and involves safety and environmental concerns). Guided services can provide education on the appropriate methods and regulations for fishing and encourage fishing conservation ethics and Leave No Trace principles.

**Table B-1f. Reasons That Commercial Support Is Necessary for Marine Fishing**

Aspect of Wilderness Activity	H. Guided Sportfishing (Marine)
Specialized skills or knowledge	Wayfinding and the use of tide chart maps for marine navigation. Knowledge of park regulations (including for nonmotorized waters). Wilderness character stewardship and fishing conservation ethics recognizing that fishing is one of a few extractive uses that are allowed in wilderness.
Specialized equipment or services	Communication device capable of establishing two-way communication, fishing equipment, measures to preserve the natural environment, a vessel for navigating the water.
Special safety concerns	Fast and cold waters with dangerous conditions, human-wildlife conflict, changing tides, environmental and weather conditions.
Special resource concerns	Guides and visitors must be aware of any species that may be threatened or endangered throughout the park to mitigate wildlife displacement or habituation. Dispersed use, restricted use, and closures may occur to mitigate effects to species. Knowledge of sensitive natural and cultural resources, including of tribal protocol and protective laws pertaining to cultural features and sites. Impacts on wilderness character from vessel noise and operation should be reduced and mitigated.
Other contributions	Fishing is a primitive form of recreation that can lead to increased self-reliance. Guided services can provide education on the appropriate methods and regulations for fishing and encourage fishing conservation ethics and Leave No Trace principles. Guide acknowledgement of and respect for Tlingit Homeland, its cultural and ethnographic resources, and authentic tribe-approved cultural interpretation.
Introductory experiences	This service supports an introductory experience for a proper wilderness activity.
Conclusion	Marine fishing is an activity that is proper for realizing the public purposes of wilderness and possesses some attributes that necessitate commercial support in Glacier Bay Wilderness. The activity requires specialized skills and knowledge, uses specialized equipment, involves safety and environmental concerns, and natural resource concerns. Glacier Bay National Park is one of the few areas with designated marine Wilderness; consequently, the activity is not offered in areas outside of the park and is unique. Guided services can provide education on the appropriate methods and regulations for fishing and encourage fishing conservation ethics and Leave No Trace principles.

**Part IV: Extent of Commercial Services Determined Necessary for Each Proper Activity in Wilderness**

This section evaluates each proper activity in conjunction with the desired conditions and visitor capacities to determine the extent of commercial services that are proper throughout each zone. A visitor capacity analysis (on file at the park) identified the visitor capacity for specific areas of the park and was used to inform the commercial allocation associate for each proper activity. A conclusion is reached about the amount of overall level of use that may be commercially supported. Other mechanisms available for the management of commercially supported activities are discussed where relevant.

Current use levels for each activity do not necessitate daily monitoring. Park staff monitors commercial visitor services on an annual basis by reviewing CUA and concession contract

activity reports. This monitoring of commercial use will continue annually to determine if any adjustments are necessary through an adaptive management strategy. All commercially guided activities will operate in a manner that is consistent with preserving wilderness character and policy.

The quality of visitor experience in the Glacier Bay Wilderness is deeply enhanced by standing on shore, kayaking the waters of the bay, traversing a glacier, or camping among the wild remote lands of Alaska. These opportunities allow visitors to intimately experience the sounds and scenery of the park. While many visitors to the park view wilderness from the deck of a boat, when one has the experience of comparing the immensity of a brown bear paw print to one's own hand or feel a connection to the indigenous people who have survived off the wilderness land for centuries, the experience can be profound.

To be consistent with the desired conditions set forth for natural and cultural resources, visitor use and experience, and the preservation of wilderness character, all groups within the Glacier Bay Wilderness will not camp on shore within sight and sound of other groups. Due to the popularity of recreational activities and particular locations in the glacial environment, topography, and weather, guided groups may encounter others. Encounter rates serve as an indicator that allow park management to better understand if desired conditions for visitor experience and wilderness character are being achieved. For more information, please see "Chapter 4: Wilderness Character Monitoring."

Table B-2 presents a high-level summary of activities that may be commercially guided within each management zone identified in chapter 2. The narrative rationale for each activity and applicable measures and standards are outlined under each respective activity.

Table B-2. Zoning and Commercial Services

Management Zone (see chapters 2 and 3 for detailed descriptions)	A. Guided Mountaineering (Year-Round)	B. Guided On-Snow Travel	C. Guided Watercraft (Human-Powered Only)	D. Guided Day Hiking	E. Guided Overnight (Camping, Hiking/ Backpacking)	F. Guided Air Transport Landing	G. Guided Sportfishing (Freshwater)	H. Guided Sportfishing (Marine)
<b>Remote Wilderness –</b> <i>Aasgatú</i>	Yes	Yes	No	No	Yes	Yes	No	No
<b>Shoreline Access</b> Outer Coast - <i>Yán shooka</i> Glacier Bay - <i>Yán</i>	Transitional	Yes	Yes	Yes	Yes	Yes	Conditional	No
<b>Wilderness Waters –</b> <i>L'é Héen</i>	*	*	Yes	*	*	No	Conditional	Yes
<b>Glacier Access –</b> <i>Yinaadé S'it</i>	Transitional	Yes	Yes	Yes	Yes	Yes	Conditional	No
<b>Frontcountry Access –</b> <i>Yinaadé Aaní</i>	No	No	Yes	No	No	No	No	No

\*While no specific prohibition exists, the nature of the environment and the activity naturally preclude these activities.

## A. Guided Mountaineering (Year-Round)

The activity of mountaineering is proper for realizing the public purposes of wilderness, and the park determined that commercial support was appropriate. This decision aligns with the management direction provided in the general management plan, which indicates that commercial services should facilitate visitor access in the least accessible areas of the park.

Guided mountaineering trips may occur within the Fairweather Range and along the Chilkat Range, which lies along the eastern border of the park and borders wilderness managed by the US Forest Service and Bureau of Land Management. The geographic scope and proximity of the Chilkat Range to gateway communities, such as Juneau, Gustavus, and Haines, allow guides and clients to more easily access this area of the park compared to the Fairweather Range. Both mountain ranges, in addition to other areas of the park, lie within the Remote Wilderness Zone of the backcountry and wilderness management plan (see chapter 2). This zone includes the most interior regions of the park and lands that are greater than 1 mile from the shoreline of Glacier Bay proper and more than 0.5 miles from shoreline of Icy Strait and the Outer Coast. In the Shoreline Access and Glacier Access Zones, guided mountaineering is allowed as a “transitional” activity because guided groups need to trek through lands within this zone to reach their mountaineering destinations. During this excursion, guided mountaineering groups may stay overnight within these zones before or after their trip as they transition from Glacier Bay proper to interior lands. The provision of commercially guided mountaineering trips is consistent with desired conditions to promote intact ecosystems and self-reliance with limited commercial services to facilitate some visitor experiences. However, management of commercially guided mountaineering differs across these ranges for several reasons.

Mount Fairweather is typically climbed during a narrow one- to two-month window in April and May, while the Chilkat Range is generally suitable for mountaineering during a longer period. Second, the Fairweather Range (*Yéik Yi Aani*, Land of the Spirits)—and Mount Fairweather (*Tsalxaan* – Ground Squirrel/Marmot Land) in particular—hold specific cultural significance to the Huna Tlingit, particularly the T’akdeintaan Clan. The Fairweather Range is the place of origin of many tales from the Raven Cycle, which shape Tlingit cultural convention, and as its Tlingit place name suggests, the entire area is a deeply sacred place. Mount Fairweather and its foothills are associated with shamanic initiation and were used for this purpose into the 20th century. The area is suitable as a Traditional Cultural Property.

To ensure the protection of sensitive cultural resources through consultation with the Hoonah Indian Association, all mountaineering trips will be prohibited from entering Karst or other cave features within the park unless a specific permit is requested by the user and granted by the National Park Service. In addition, to preserve wilderness character and the natural and cultural resources within the park, no fixed anchors may be bolted unless for the reasons described in section 4(c) of the Wilderness Act. Also, prescribed education of the cultural significance will be done by all operators as a mitigating factor to address these sensitivities. To ensure natural and cultural resource preservation, park staff will regularly inform commercial operators of the requirements for food storage and human waste disposal within the backcountry and wilderness.

Through this analysis and the evaluation of current mountaineering use between commercial and private users, a commercial allocation for mountaineering within the Fairweather Range has been identified as 6 groups per year. No more than three guided mountaineering trips per year may be offered by each company. Within the Chilkat Range, commercial allocation for mountaineering is established as 12 groups per year. All group sizes are limited to 12 people, including the guide. Based on current conditions, and because these areas are primarily accessed via commercial service operators, the commercial allocation is established at 50% of total use. Simultaneous commercial trips will be prohibited within the same area (first-come, first-served) to preserve the wilderness experience of the area.

## **B. Guided On-Snow Travel**

The activity of on-snow travel is proper for realizing the public purposes of wilderness and park staff determined that commercial support was necessary, to an extent, to provide visitor access to tidewater glaciers, which is in the park's enabling legislation. In addition, commercially guided on-snow travel, when paired with overnight use, may allow visitors to experience more remote and wild areas of the park that are less accessible to private visitors. These immersive experiences in wilderness present visitors with opportunities to feel extreme solitude in some of the most remote areas in the entire national park system. To ensure preservation of wilderness character while providing these opportunities, park staff will regularly inform commercial operators of best practices for food storage and human waste disposal.

Commercially guided on-snow travel is prohibited in the Frontcountry Access Zone, where commercial services are limited, and the Wilderness Waters Zone to protect wilderness character. Commercially guided on-snow travel is aligned with the desired conditions for the Remote Wilderness, Shoreline Access, and Glacier Access Zones and is permitted in these zones. Although the desired conditions for the Remote Wilderness Zone include limited commercial services, on-snow travel is often required for activities such as mountaineering. Where permitted, group size is limited to 12 people (including guides and clients) and must not remain longer than three consecutive nights in the same location. For this activity, location is defined as all points within a 2-mile radius of the campsite. A commercial allocation for the Remote Wilderness Zone is identified at 18 groups per year to be consistent with guided mountaineering in this zone, with no more than three annual trips provided by each company.

In the Shoreline Access Zone, where commercial services are likely to occur, but visitor self-reliance is encouraged, only one commercially guided group at a time will be allowed within sight and sound of each other to provide guided on-snow travel. In the Glacier Access Zone, which accommodates higher use to allow visitors to experience shorelines, no more than two vessels providing commercially guided services will be allowed within sight and sound of each other to provide guided on-snow travel. Current measures and standards for encounter rates in this zone are no more than five groups per day. Based on current conditions and because these areas are primarily accessed via commercial service operators, the commercial allocation is 50% of total use on an annual basis.

### **C. Guided Watercraft (Human-Powered Only)**

The range of activities offered via human-powered watercraft is proper for realizing the purposes of wilderness, as it allows visitors to experience nonmotorized waters and unique aspects of wilderness. Park staff determined that commercial support is appropriate in certain zones to facilitate visitor experience and the achievement of desired conditions. Because this activity includes various potential vessels (e.g., kayak, stand-up paddleboard, packrafts), the park will review emerging uses and consider the need for commercial services on a case-by-case basis.

The activity is prohibited in the Remote Wilderness Zone, which consists predominantly of wilderness lands and provides limited commercial services to promote high levels of self-reliance among visitors. Commercial guiding for this activity is deemed necessary in the Shoreline Access, Wilderness Waters, Glacier Access, and Frontcountry Access Zones because these areas include wilderness and nonwilderness waters that can accommodate nonmotorized vessel use. The guided activity may only be offered where commercial services contracts authorize it (such as for kayak concessioners) or as an incidental mode of transportation under a commercial use authorization.

Within the Frontcountry Access Zone, commercially guided day trips must depart and return from the Bartlett Cove developed area, may not exceed 12 hours in length, and do not include overnight camping. Additionally, group size may not exceed 12 people, including guides. A commercial allocation in this zone will be established at no more than 4 groups at one time with an encounter rate of no more than 10 groups in one day.

For the remaining zones (Shoreline Access, Wilderness Waters, and Glacier Access), human-powered watercraft may only be offered where commercial services contracts authorize it (such as for kayak concessioners). Because these zones are primarily accessed via vessels providing commercial services, no more than two commercial vessels at a time will be allowed within sight and sound of each other. However, if, because of topography, weather, or logistics, each group cannot remain out of sight of each other, they will remain at least one-quarter mile apart. Group size may not exceed 12, including guides, within these zones. Overnight use may be provided to complement the human-powered watercraft activity throughout the park. Please refer to the overnight use section for the commercial allocation for these activities.

### **D. Guided Day-Hiking (Day Use Only)**

The activity of hiking is proper for realizing the purposes of wilderness, and the park determined that commercial support is appropriate in certain zones of the park to help achieve the desired conditions for visitor experience. Given the management direction that commercial visitor services would be provided for areas of the park that are remote and, therefore, difficult to access, guided hiking will not be permitted in the Frontcountry Access Zone. In addition, to manage for the preservation of wilderness character, guided day use hiking will not be permitted in the Remote Wilderness Zone. Guided hiking is not feasible within the Wilderness Waters Zone.

Commercially guided hiking may be provided on lands within 1 mile of Glacier Bay proper, within 0.5 mile of the Outer Coast, and along access to tidewater glaciers. These locations of the park typically receive the most concentrated visitor use and allow visitors to access tidewater glaciers, which is consistent with park legislation and the provision of commercial services helps the park achieve desired conditions for these zones.

Guided day hiking, outside of the Frontcountry Access Zone, is predominantly offered in areas of the park that may only be accessed via tour and charter vessel operators, classes of vessels that have the potential to carry upward of 20,000 visitors annually (NPS 2019c). These vessels are authorized to provide guided day hiking activities for a group size of up to 12 visitors. When these activities occur, groups must be out of sight and sound of each other and other wilderness groups to preserve wilderness character. However, if, because of topography, weather, or logistics each group cannot remain out of sight of each other, they will remain at least one-quarter mile apart.

Through this analysis and the evaluation of current day use hiking between commercially guided and private users, a commercial allocation for day use hiking has been identified for the Shoreline Access and Glacier Access Zones. In the Shoreline Access Zone, where commercial services are likely to occur that encourage self-reliance, only one commercial group at a time will be allowed in an area for guided day use hiking. In the Glacier Access Zone, which accommodates higher use to allow visitors to experience shorelines, no more than four commercial groups at a time will be allowed within sight and sound of each other for guided day use hiking. Within this zone, the measures and standards for encounter rates are no more than five groups per day.

#### **E. Guided Overnight (Camping, Hiking/Backpacking)**

Overnight use is proper for realizing the purposes of wilderness, and park management determined that commercial support is necessary in some zones of the park to help achieve the desired conditions for visitor experience. This activity may be offered in conjunction with other recreational activities, including, but not limited to, hiking, mountaineering, kayaking, and on-snow travel. If commercial operators provide any activity in conjunction with overnight use, they are subject to the requirements for that activity, as well as those for overnight use.

Except where authorized as a primary activity in concessions contracts (such as kayak concessioners), commercially guided overnight use will be prohibited in the Frontcountry Access and Wilderness Waters Zones. Similar to day use hiking, the Frontcountry Access Zone is proximate to frontcountry areas of the park that provide developed camping opportunities and overnight accommodations, while prohibiting camping outside established areas and within specified proximities; therefore, the activity is available within a reasonable distance. The desired conditions for the Wilderness Waters Zone indicate that visitors will have an opportunity to experience solitude, challenge, and self-reliance; therefore, use in this zone will be reserved for private and independent visitors to Glacier Bay National Park and activities of comparable scale and intensity as authorized in concessions (such as kayak concessioners). This authorized use does not imply that a commercial activity will be authorized for all other locations or at all times. Annual operating agreements in this zone

will determine opportunities and limitations in coordination with ongoing wilderness character and encounter monitoring and may require an annual orientation to cover key stewardship topics (e.g., designated Wilderness, resource protection, state and federal take and reporting requirements).

To facilitate activities such as mountaineering in the Remote Wilderness Zone, which includes interior lands and remote areas of the park, guided overnight use is proper for achieving the public purpose of wilderness. Group size must not exceed 12 persons, including guides and clients. The commercial allocation for guided overnight trips is three groups per company per year. Because these areas are primarily accessed via commercial service operators, the commercial allocation is 50% of total use.

Commercially guided overnight use is permitted in the Shoreline Access and Glacier Access Zones, where commercial services are likely to occur and facilitates visitor access to tidewater glaciers and experience wilderness. Group size must not exceed 12 persons, including guides and clients and cannot remain longer than three consecutive nights at the same campsite, unless specifically authorized by the superintendent. Further, except as authorized in concessions contracts and operating requirements, commercially guided groups may only camp in the Glacier Access Zone during the first and last nights of their multiday trip. Groups engaging in activities within the interior lands, such as mountaineering, should not use the beach areas as base camp. The commercial allocation for guided overnight trips is three groups per company per year. Charter vessels, primarily hired to transport visitors, may not provide overnight transportation for more than 12 people per night per the vessel quota operating requirements.

To ensure the protection of sensitive cultural resources, all overnight trips will be prohibited from entering Karst or other cave features within the park unless a specific permit is requested and granted by the National Park Service in consultation with the Hoonah Indian Association. Prescribed education will address legal protections for sensitive cultural sites (e.g., gravesites, cairns, village sites) as a mitigating factor and make available authentic tribe-approved cultural interpretation resources and Tlingit Homeland acknowledgement statements to share with guests.

#### **F. Guided Air Transport Landing**

The activity of air transport landing is proper for realizing the public purposes of wilderness, and the park determined that commercial support was necessary in certain zones of the park. Commercially guided air transport landing allows visitors to experience more remote and wild areas of the park that are less accessible to visitors, allowing for immersive experiences in wilderness to present visitors with opportunities for solitude. This decision aligns with the management direction provided in the general management plan, which indicates that commercial services should facilitate visitor access to the least accessible areas of the park.

Commercial air transport landings are allowable in the Remote Wilderness, Shoreline Access, and Glacier Access Zones. In the Remote Wilderness Zone, guided air transport landings are often used for mountaineering and/or on-snow travel groups to facilitate access to remote areas of the park. In the Glacier Access Zone, guided air transport landings allow

visitors to access the tidewater glaciers by ordinary means, as identified in the park's enabling legislation.

Similar to other commercial activities, group size must not exceed 12 persons, including guides and clients. All pilots are required to inform park staff where they land in the park by providing the latitude and longitude. Once an air taxi lands, pilots must follow requirements as identified in the Code of Federal Regulations. Air taxis are prohibited in wilderness waters during seasonal closures, which includes Adams Inlet, Rendu Inlet, Hugh Miller complex, and waters within the Beardslee Island group except for the Beardslee entrance. In addition, guided air transport landings are not permitted in the Frontcountry Access Zone because they have access to nonwilderness areas in Bartlett Cove and may use the dock. Per the Code of Federal Regulations, docking, tying down, or securing the aircraft to the dock for longer than 3 hours in a 24-hour period is prohibited.

Commercial allocation for guided air transport landing must be consistent with the activities for which pilots are transporting visitors. In the Remote Wilderness Zone, commercially guided air transport landings allow visitors to engage in the activities of mountaineering and on-snow travel; therefore, air transport landings are subject to the same commercial allocation of 18 groups per year when services also provide mountaineering and on-snow travel (6 in Fairweather Range, 12 in Chilkat Range). If air transport landings are dropping off passengers engaging in nonguided activities, they are subject to the allocation for such activities in the zone. In the Glacier Access Zone, commercial air transport landings will be evaluated on a case-by-case basis to prevent regularly scheduled air service to Glacier Bay National Park and Preserve, which is currently not authorized. Simultaneous commercially guided air transport landings within sight of each other will be prohibited to reduce potential for visitor conflict and preserve wilderness experiences.

#### **G. Guided Sportfishing (Freshwater)**

Self-guided freshwater fishing opportunities in the Glacier Bay Wilderness are generally attainable without commercial guide participation, including for visitors representing a wide range of skill and ability levels. While commercial service providers may help transport visitors access freshwater streams, the activity of freshwater sport fishing does not necessitate commercial guides due to the ease of freshwater stream access. Another reason is the ability of guides to provide commercial services needed pre-trip (e.g., provide specialized skills and knowledge and specialized equipment, alleviate safety and environmental concerns). In addition, freshwater fishing opportunities are available to visitors throughout southeast Alaska and in areas surrounding the park, such as Salmon River, Mud River, and Chicken Creek.

For these reasons, guided freshwater sport fishing is not allowed in any zone except by historic operators. Specific historic operators (prior to 1979) are authorized to conduct guided freshwater fishing in designated Wilderness on the river system that flows into Dundas Bay for all five species of salmon and Dolly Varden, steelhead, and cutthroat trout under section 1307(a) of ANILCA (16 USC 1397[a]). Also, for clarification, this analysis does not pertain to guided fishing along the Outer Coast north and west of Lituya Bay or in the Glacier Bay Preserve (which is outside the scope of the planning effort).

At the same time, commercial contracts on a case-by-case basis may authorize guided freshwater sportfishing as a provisional and incidental (not primary) service in designated Wilderness that supports proper introductory wilderness experiences. No authorization may occur at the following locations:

- the Bartlett River (trail and water access above mean high tide) to enable frontcountry visitors who may not have access to other wilderness experiences a greater sense of solitude, remoteness, and self-reliance
- the Remote Wilderness Zone, to enable visitor experiences, where the likelihood of encountering other visitors is low, and to maintain self-reliance as a key component of the visitor experience

This provision does not imply that a commercial activity will be authorized for all other locations or at all times. Annual operating agreements will determine opportunities and limitations in coordination with ongoing wilderness character and encounter monitoring and may require an annual orientation to cover key stewardship topics (e.g., designated Wilderness, resource protection, state and federal take and reporting requirements). Finally, where applicable, this activity is subject to nonmotorized water park restrictions to provide a diversity of visitor experiences seasonally and Glacier Bay proper allocations determined by vessel quota operating requirements.

#### **H. Guided Marine Sportfishing**

Historically, throughout the management of national parks, fishing has been a primitive recreational activity that encourages visitors to experience solitude, primitive and unconfined recreation, and natural qualities of wilderness character. Guided marine sportfishing is proper for realizing the public purposes of wilderness, and guided services may help achieve the desired conditions for visitor experience.

Guided marine sportfishing is prohibited in the Shoreline Access and Glacier Access Zones because the primary purpose of commercial services in these locations is to provide visitor access to tidewater glaciers, which is a goal of Glacier Bay National Park as described in the enabling legislation. Off-vessel activities that facilitate this access include hiking and kayaking; guided fishing may potentially monopolize the public's ability to participate in these activities and could result in visitor conflict. In the Frontcountry Access Zone, commercial services should be limited as identified in the desired conditions (see chapter 2). Commercially guided marine fishing will continue to be allowed in the Wilderness Waters Zone with necessary restrictions in place. The activity has limited participation in wilderness waters due to seasonal park restrictions to provide a diversity of visitor experiences. Charter vessels may continue to provide guided marine sportfishing services; however, because these services occur within Glacier Bay proper, the allocation will be determined by vessel quota operating requirements.

## **APPENDIX C: IMPACT TOPICS CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS**

### **ECONOMIC IMPACTS**

The changes in recreational opportunities proposed in Alternative B—guided mountaineering and a new trail—would not have a noticeable effect on the park’s overall economic output. While the extent necessary determination allocates up to six commercially guided mountaineering trips a year in the Fairweather Range, between 2003 and 2015, about one guided trip per year occurred there, with an average of five people per trip (one to two of whom are presumed to be guides, given typical client-guide ratios). Use—at least for the foreseeable future—would likely mirror previous activity patterns, but even if all six trips took place, they would still contribute a negligible amount to the parks overall economic output (NPS 2021; AMGCSI n.d.). The proposed trail may result in longer trips for some park visitors (potentially resulting in more spending) or some travelers foregoing commercial services in favor of a self-directed recreational opportunity (potentially resulting in less spending). Altogether, the financial impact would be too small to be perceived in the local economy.

### **ARCHEOLOGICAL RESOURCES**

Archeological resources are not carried forward as an impact topic in this environmental assessment since the specific locations and design for the trail and installation of communications infrastructure are not yet known. Once this information is available, the park will conduct section 106 reviews per the National Historic Preservation Act and its implementing regulations (36 CFR Part 800), as appropriate. As part of the 106 process, existing data, surveys, and planning documents would be reviewed, new inventories and surveys conducted, and archeological sites buffered or avoided along proposed trail alignments and communications infrastructure. If eligible archeological resources cannot be avoided, additional impact analysis would be necessary, and all possible/necessary mitigation measures would be explored. The project proposing adverse effects would be evaluated and proceed as a separate undertaking. The Excursion Ridge trail area of potential effect has not been surveyed. Surveys would be completed during the development of area specific designs and before trail construction begins. If any sites are identified during this survey, the trail would be rerouted, or other appropriate mitigation measures would be taken (appendix D).

The allowance of commercially guided mountaineering and increase in the number of annual guided trips in the Fairweather Range could lead to inadvertent disturbance of archeological sites. However, the relative change in the number of annual visitors would be small due to the limited number of guided trips allocated in the extent necessary determination analysis (appendix B). The National Park Service would implement mitigation measures, such as area closures and cave and karst systems, and all operators will conduct prescribed education of the cultural significance to address sensitivities and mitigate impacts. To ensure natural and cultural resource preservation, park staff will regularly inform commercial operators of the

requirements for food storage and human waste disposal within the backcountry and wilderness. Therefore, impacts on archeological resources are unlikely.

## **HISTORIC STRUCTURES**

Historic structures are dismissed as an impact topic in this EA because no historic structures are at risk of being adversely impacted with the implementation of this plan. Evaluation and reevaluation of historic structures associated with Tlingit populations and Tlingit Homeland will take place outside of this backcountry and wilderness management plan as a part of its own process. Following the evaluation of these structures, changes may occur to the classification and park management actions for these historic structures. If any compliance or consultation needs are identified as an outcome of that evaluation, they will be addressed in their own process.

## **CEMETERIES**

Cemeteries are dismissed as an impact topic in this EA because no cemeteries are at risk of being adversely impacted. If burial sites are located during the archeological survey prior to the Excursion Ridge trail development, the trail would be rerouted around those sites, and no disturbance would occur (appendix D).

## **SOILS**

Trail construction and use under the action alternative would result in soil compaction, erosion, and disturbance along the trail corridor. Due to cycles of glacier advancement and recession in the area, the soil composition within the Falls Creek area where the Excursion Ridge trail is proposed is known to be saturated and often unstable. The new ground disturbance and removal of mature vegetation in an area known for its instability could increase the potential for slide events. Slide events already occur in the area periodically. The use of best management practices and direction on trail alignment, design, and construction from both agencywide guidance, such as the *NPS Park Planning Technical Reference Trail System Planning* (NPS 2019c), and park-specific guidance, such as *Glacier Bay National Park Soil and Slope Guidance for Trail Routing* (Shields 2022c), would minimize impacts on soil stability. Implementation of the articulated mitigation measures within these guidance documents, such as avoiding silt-rich or clay-rich soils and contouring trail alignments, would minimize the potential for slumping, erosion, and soil loss during trail construction. Site-specific soil investigations would confirm soil-bearing capacity and drainage characteristics for any new facilities, and alternative alignments would be selected if conditions were determined to be inappropriate for trail construction.

Potential installation and maintenance of VHF radio and AIS stations would result in a tiny amount of soil compaction and erosion in the 100-square-foot ground footprint of each site. Station sites that are accessed on foot could show signs of trailing, but this would be temporary. Station maintenance would not occur frequently enough to maintain noticeable trailing. Any impacts on geologic resources and soils from actions are expected to be minimal

by implementing mitigation measures and other best management practices. Therefore, this topic was not carried forward for detailed analysis.

## **SPECIAL STATUS SPECIES**

As confirmed by park staff and the US Fish and Wildlife Service Information for Planning and Consultation (IPaC) database, no federally listed species are expected to occur within the action area and no critical habitats are within the action area. As feasible locations are defined for VHF radio and AIS stations, the National Park Service would consult with US Fish and Wildlife Service and the National Marine Fisheries Service regarding potential impacts on federally listed threatened and endangered species and breeding migratory birds, or if accidental take of any migratory bird were possible. If new species are listed prior to implementation, the National Park Service would consult with the US Fish and Wildlife Service on potential effects on those species. Therefore, this topic was not carried forward for further analysis.

## **WILDLIFE**

Native wildlife in the project area includes many species of birds, mammals, fish, and invertebrates. During construction of the trail and installation and maintenance of VHF radio and AIS receiver stations, noise and activity may alter wildlife use of the area if animals avoid the disturbed area. In particular, temporary noise from activity and the use of mechanized equipment during construction and maintenance activities may have adverse impacts on wildlife through impeding wildlife communication, feeding, resting, courtship and mating, predation and predator avoidance, and effective use of habitat (Shannon et al. 2016). To minimize impacts on nesting birds, vegetation clearing for construction of the trail would be done outside the bird nesting season (April 15 to July 15 or longer, depending on species); however, the loss of trees, shrubs, and herbaceous vegetation would reduce and fragment available nesting habitat. The permanent removal of up to 6.1 acres of varying forest vegetation for trail construction would reduce available habitat for species.

Following construction of the trail, use of the area by hikers would likely increase, and wildlife would be subject to long-term intermittent disturbance and displacement associated with increased human presence and activities. Within the productive subalpine and alpine zones, visibility and sound transfer farther, potentially disturbing sensitive wildlife across a greater area. However, Sitka spruce and hemlock forests are widespread in the park, covering more than 300,000 acres of the park's vegetated land. Common landcover classes found within the subalpine and alpine habitat, such as mesic herbaceous, wet herbaceous, Ericaceous dwarf shrub, and dwarf shrub-herbaceous, together cover more than 140,000 acres of the park's vegetated lands (Boggs et al. 2007). Although approximately 10 miles of trail would be constructed, this would not result in noticeable habitat fragmentation for most species.

Park staff has anecdotally received reports that visitors have brought pets onto Excursion Ridge where they are not permitted. To minimize impacts, the National Park Service would continue to enforce existing regulations and educate visitors about the impacts of dogs on wildlife.

Proposed mitigation measures for the actions discussed above would reduce the potential for adverse impacts on wildlife populations. No other actions in this plan would have a measurable adverse impact on wildlife species. Therefore, the impact topic of wildlife was not carried forward for further analysis.

## **APPENDIX D: ACTIONS AND STRATEGIES CONSIDERED BUT DISMISSED**

### **ACTIONS CONSIDERED BUT DISMISSED FROM INCLUSION IN THIS PLAN**

**Strategic stream crossings to facilitate beach hiking.** Maintained stream crossings would require significant construction and maintenance. That level of maintenance would be a difficult commitment except for the crossings on the Point Gustavus route, which would have primitive, natural aids to crossing as described in the frontcountry management plan.

**Beach biking routes.** Designating beach biking routes could impact the wilderness quality of unconfined recreation and would not contribute to the desired condition of maintaining a sense of self-reliance and challenge.

**Designating water routes.** Designating water routes could impact the wilderness quality of unconfined recreation and would not contribute to the desired condition of maintaining a sense of self-reliance and challenge.

**Cabins and shelters.** While ANILCA allows public use cabins and shelters in designated Wilderness, Glacier Bay National Park has no history of them. Recent social science indicates that visitors prefer no developed amenities in park wilderness (Furr et al. 2021). Data also show low use rates for many southeast public cabins and shelters (USFS 2020). Vessel use provides opportunities for visitors to stay overnight in many of the protected bays and inlets within Glacier Bay and along its outer coast. Because primary travel in Glacier Bay is via vessel within the bay, this provides opportunities for overnight stays either through private vessel or commercial or chartered vessels. Other considerations involved in not pursuing cabins and shelters in the backcountry include the dynamic marine setting, steep costs, and operational demands relative to public benefit, and the Glacier Bay-specific marine conditions where emergency assistance is typically offered by passing boats, US Coast Guard helicopters, or park vessels. Further explanation is provided in chapter 2 of the revised backcountry and wilderness management plan in the nonhistoric structures and shelters section. The National Park Service will reevaluate if or when there is a substantial glacial retreat in areas that would require significant overland travel or other means necessary to access glaciers and glacial features.

**Banning campfires along shoreline.** Banning campfires in wilderness would constrain opportunities for primitive and unconfined recreation. The park would provide education on the ecological importance of interstadial wood, the impacts of burning it, and other regulations regarding campfires as part of camping orientation.

### **ACTIONS CONSIDERED IN THE PLAN, BUT NOT RETAINED FOR DETAILED ENVIRONMENTAL ANALYSIS**

**Management progressions.** For many of the zones, the park identified a series of progressive management actions to address impacts to resources and the visitors experience. These actions would not be implemented unless conditions were approaching specific thresholds or there was other evidence that desired conditions were not being met. Because current conditions are acceptable and thresholds are not being approached, there is no time line on when or if these progressions would be implemented. Because these actions are

therefore not reasonably foreseeable, management progressions were not carried forward for detailed analysis in this plan. Should the park move forward with any of the actions in the progressions, additional analysis and compliance would occur prior to implementation.

**Portable or moveable totems to mark vessel drop-off and pick-up locations.** In the past, the drop-off/pick-up sites have been marked with stone cairns, a modern practice that is problematic because historically, the Huna Tlingit used similar cairns in their traditional Homeland. To replace these cairns, portable or moveable totems will be carved as a collaborative project with the Hoonah Indian Association to acknowledge Homeland values and serve as guidance for backcountry users that they are about to enter designated Wilderness. Because the exact location of the totem placement is unknown at this time and is likely to be site specific, environmental analysis was not completed as part of this planning effort. Site specific analysis and compliance will be completed prior to installation.

## APPENDIX E: BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

To ensure the protection of the park's fundamental resources and values, the following mitigation measures and best management practices would be implemented under all action alternatives. The National Park Service (NPS) has the authority to implement mitigation measures presented in this appendix under the Organic Act, The National Historic Preservation Act (NHPA), NPS *Management Policies 2006*, park-specific regulations at 36 CFR Part 13 Subpart N, and other federal and state applicable requirements. These measures are intended to provide a practical approach to everyday management of Glacier Bay National Park and Preserve's resources. These best practices and mitigation measures are intended to avoid or minimize potential adverse impacts from implementing the management actions proposed in this plan.

### WILDERNESS CHARACTER

Most lands within Glacier Bay National Park are designated Wilderness. All section 4(c) prohibited acts, including but not limited to installations, helicopter landings, and the use of motorized equipment, would be subject to a minimum requirements analysis, as described in the Wilderness Act. For areas managed as wilderness, specific restrictions may affect the approval of transportation means, field work timing and frequency, group size, base camp locations, installations or structures, and the use of motorized equipment. Activities would be limited to the minimum necessary to meet the objectives of the proposed action.

Helicopter flights would be limited to trips that address essential park objectives (including activities by the State of Alaska, partner agencies, and research institutions. that meet the larger objectives of wilderness preservation) with maximum efficiency per visit (coordinated with other co-located installation and maintenance activities), so the park can continue to minimize impacts on wilderness character. Helicopter use and landings would require advance approval from the superintendent and appropriate compliance review. If deemed the minimum tool necessary to accomplish the action, helicopter flights would be kept to the minimum number required to accomplish field activities. The project lead would be required to give advance notice to the park dispatch center and provide expected dates, times, and locations of helicopter activities. All helicopter activity would be logged (day, time, coordinates of landing site[s]) with data sent to the wilderness coordinator within 30 days of activity.

The park would develop an operational plan for helicopter use with park staff well in advance of trips to minimize impacts based on local knowledge of visitor and wildlife activities. This would allow joint planning of flight paths/routes in advance that minimize the impacts on wilderness character. Mitigations include but are not limited to:

- minimizing flight duration using the most efficient and direct route
- setting the minimum altitude to 1,000 feet above and away from terrain, while also avoiding coastline travel where helicopters may be seen and heard by the

concentration of park visitors and wilderness users on park beaches and within narrow fjords where sounds would be pronounced

- minimizing the amount of time on the ground
- employing environmental best practices (fuel handling, waste, minimizing installations and footprints)

Effort would be made to minimize the disturbance of wildlife (e.g., mountain goats, Steller sea lions, seals) by:

- choosing travel routes that minimize helicopter and fixed wing transit over known wildlife hotspots (e.g., open alpine goat habitat, rookeries, major haulouts)
- designating one person in flight to notify the pilot of wildlife observations
- maintaining a minimum of 1500 meters (1.5 km/0.93 miles) vertical and horizontal distance from mountain goat habitat. Pilots will not hover over, circle, harass, or pursue wildlife in any way.
- maintaining a minimum of 915 meters (0.9 km/0.57 miles) vertical and horizontal distance from major rookery and haulout terrestrial zones for Steller sea lions (NMFS 1993)
- avoiding known bald eagle nests and maintaining a minimum 400 meters (0.4 kilometers/0.25 miles) clearance from all active known eagle nests. All nests are considered active March 1–May 31, and occupied nests are considered active through August 31.
- reporting any observed wildlife disturbance to the National Park Service

The Wilderness Act prohibits permanent or temporary structures and installations of any kind unless certain conditions are met. ANILCA allows additional special provisions regarding cabins and installations. All equipment left in the field must be specifically authorized in advance. Mitigations related to installations include but are not limited to:

- Seek alternatives to installations, and minimize the number of project installations to the extent practicable.
- Use natural elements instead of plastic or metal to secure or build installations when possible.
- Camouflage installations as appropriate to minimize effects to the viewshed.
- Minimize the number and duration of field activities (i.e., trips for installation and maintenance).
- Minimize ground disturbance to the smallest practicable footprint.

- Document authorized installations consistent with protocol developed by the Alaska Regional Office. Report GPS coordinates and dates of all installations to the wilderness coordinator to be included in the park’s database.
- Remove installation once no longer needed.
- Use nonmotorized tools to the extent practicable; however, motorized tools may be used if considered the minimum tool required to accomplish mission objectives.

Installations would be labeled with an engraving (preferred), paint pen, or removable label. Installations should be as unobtrusive as possible and should not interfere with visitor enjoyment of the park.

The National Park Service would implement mitigation measures and best management practices identified in the “Acoustic Environment” section to reduce adverse impacts on wilderness character from noise.

Specific to the proposed actions within this plan that support visitor access in designated Wilderness (hiking routes, trails, dayboat drop-off markers), the National Park Service would apply mitigations and best management practices that protect wilderness character. Site amendments or installations (totem foundations, constructed trails, boardwalks, bridges) will apply the minimum extent framework and limit the use of motorized tools in compliance with the Wilderness Act as implemented by ANILCA. Additional best practices and mitigations, include:

- Provide no visitor wayfinding or signage (or very minimal).
- Use natural site elements (wood, stone) to enable visitors to cross streams and areas of tidal inundation, and protect sensitive resources from impacts caused by foot traffic.
- Minimally scale constructed elements to meet operational objectives while also considering life-cycle efficiencies (e.g., apply a trail class that minimizes annual and cyclic maintenance, incorporate drainage control features that prevent erosion and resource damage).
- Design to demonstrate ecosystem-scale awareness (e.g., wetland functions, wildlife, vegetation succession), and model environmental stewardship.
- Use removable and/or temporary installations where operationally feasible.

## **TRAIL DEVELOPMENT**

- For safety reasons, the area encompassing the new trail will be closed to the public during construction and improvement. Details on area closure times and durations will be posted for the public at the trailhead and other town locations and on the park website and social media outlets.
- NPS trail crews would coordinate and supervise any trail construction or maintenance. Specifically, the National Park Service would monitor and/or direct

water bar placement; drainage placement; brushing and clearing; revegetation; where to obtain fill and other materials for trails; how to apply fill materials such as soil, gravel, and rocks, and apply erosion; and sedimentation control techniques. Park staff would be responsible for ensuring that crews perform the necessary work in accordance with NPS instructions and standards.

- According to *NPS Management Policies 2006*, the National Park Service would construct the proposed trail with a sustainable design to minimize potential environmental impacts. Development would not compete with or dominate park features or interfere with natural processes, such as the seasonal migration of wildlife, forest regeneration, hydrologic activity, and geological processes. To the extent possible, the design and management of the proposed trail system would emphasize environmentally sensitive construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings.
- Trail design would follow existing guidance and reference documents, including the following relevant documents:
  - *NPS Park Planning Technical Reference Trail System Planning* (NPS 2019c)
  - *An Introduction to Terrain Dynamics for Trail Folks* (Shields 2022a)
  - *Trail Design and Layout* (Shields 2022b)
  - *Glacier Bay National Park Soil and Slope Guidance for Trail Routing* (Shields 2022c)
- All crew members and volunteers assisting in the trail work efforts would be educated about the importance of avoiding impacts on sensitive resources that have been flagged for avoidance, which may include natural and cultural resources.
- The National Park Service would implement measures to reduce adverse effects of construction on visitor safety and experiences. Measures may include, but are not limited to, noise abatement, visual screening, and directional signs that aid visitors in avoiding construction activities.
- The National Park Service would implement timely and accurate communication with visitors regarding construction activities via news releases, visitor contacts, web, or social media, as well as signage.
- Construction activities would be scheduled to minimize construction-related impacts on visitation and wildlife behavior (e.g., nesting seasons). Areas not under construction would remain accessible to visitors as much as is safely possible.
- To minimize new ground disturbance, staging areas would be located in previously disturbed areas. All staging areas would be returned to preconstruction conditions and/or revegetated following construction. Parking areas for construction vehicles would be limited to these staging areas, existing roads, and previously disturbed areas.

- A construction zone for installation of the proposed trail, as well as staging areas and work zones, would be identified and demarcated with construction tape or some similar material prior to any construction activities. The construction zone would be confined to the minimum area needed for implementing the project.

## CULTURAL RESOURCES

The National Park Service would conduct NHPA section 106 reviews prior to the implementation of proposed actions, where appropriate. This may include a site-specific inventory, buffers to mitigate impacts on cultural resources, and existing development area surveys prior to upgrades where sites have not previously been surveyed. Proposed projects with the potential for ground disturbance would undergo site-specific planning and compliance procedures. If cultural resources could not be avoided, an appropriate mitigation strategy (e.g., excavating, recording, and mapping cultural remains before disturbance to ensure that important archeological data is recovered and documented) would be developed in consultation with the Alaska State Historic Preservation Officer, associated Alaska Native tribal representatives, and other concerned parties, as necessary.

Unless specifically authorized, disturbance of historic or cultural features would not occur; artifacts would not be collected; management actions and activities would avoid and buffer cultural sites; and if archeological or historic resources are discovered, work would stop at the discovery site, the discovery would be protected as required, and the park superintendent or park archeologist would be notified as soon as possible. Information and photographs regarding the location (including GPS coordinates), size, and nature of the discovery should be provided, if possible. All projects with the potential for ground disturbance or any adverse effects would undergo site-specific planning and compliance procedures. Adverse impacts on archeological or ethnographic resources would be avoided to the extent possible in accordance with the secretary of the interior's *Standards and Guidelines for Archeology and Historic Preservation*.

To appropriately preserve and protect national register-listed or eligible historic structures and associated cultural landscape features, all stabilization, preservation, or restoration efforts would be undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995) and the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1996).

Park staff would continue to develop inventories for and oversee research regarding archeological, historic, and ethnographic resources to better understand and manage the resources, including the development of maritime cultural landscapes. Park staff would conduct any needed archeological or other resource-specific surveys and National Register of Historic Places evaluations and identify recommended treatments. The results of these efforts would be incorporated into comprehensive planning and resource assessments, as well as site-specific planning, mitigation, and environmental analysis.

Known archeological sites would be routinely monitored to assess and document the effects of natural processes, human activities, and visual impacts associated with proposed projects

on the resources. Archeological resources would be left undisturbed and preserved in a stable condition to prevent degradation and loss of research values unless intervention could be justified based on compelling research, interpretation, site protection, or park development needs. Recovered archeological materials and associated records would be treated in accordance with NPS *Management Policies 2006*, the NPS *Museum Handbook*, and 36 CFR 79.

Given the extent of proposed actions within this plan, the National Park Service will follow the mitigations and best management practices prior to implementation, including but not limited to:

- If, during trail construction, previously unknown archeological resources were discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented. If the resources could not be preserved in situ, an appropriate mitigation strategy would be developed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the 1990 Native American Graves Protection and Repatriation Act (25 USC 3001) would be followed. If non-Indian human remains were discovered, standard reporting procedures to notify appropriate authorities would be followed, as would all applicable federal, state, and local laws.
- To minimize visual and auditory intrusions on cultural resources from trail development, the National Park Service would use screening or sensitive designs that would be compatible with historic resources and cultural landscapes and would not intrude on ethnographic resources. If adverse impacts could not be avoided, impacts would be mitigated through a consultation process with all interested parties.

The National Park Service would consult with associated Alaska Native tribal representatives to develop and accomplish park programs in a way that respects the beliefs, traditions, and other cultural values of the tribes who have ancestral ties to park lands. The National Park Service recognizes the past and present connections of associated tribes with park lands and that potential resources, places, and traces of tribal use are important parts of the cultural environment to be preserved, protected, and interpreted as appropriate.

The park would encourage visitors through the park's interpretive programs to respect and leave undisturbed any inadvertently encountered archeological and historical resources.

The park would cooperate with partners, park neighbors, and other stakeholders to establish and enforce measures to prevent and reduce human impacts such as vandalism and looting, on cultural resources.

### **Archeological Resources**

Archeological resources within Glacier Bay National Park have been, and continue to be, largely managed according to federal laws and policies, including the National Historic Protection Act, the Archaeological Resource Protection Act, and the National Environmental Policy Act, with a host of others (e.g., the Native American Graves Protection and

Repatriation Act, American Indian Religious Freedom Act.) These laws will continue to be the basis for the management and protection of archeological resources. Many of the best management practices listed above will be implemented in consideration to archaeological resources, particularly survey, monitoring, and recordation.

### **Ethnographic Resources/Traditional Cultural Properties**

The recording of ethnographic resources and traditional cultural properties, as well as historic structures, archeological sites, non-altered geographic features, and commemorative sites (non-cemeteries) that are part of traditional cultural properties, will take place outside of the backcountry and wilderness management plan (plan). Before any action is implemented, site-specific inventories of ethnographic resources and traditional cultural properties will occur. If any ethnographic or traditional cultural property resources are identified, the area will be avoided and the action modified. Site-level management recommendations, actions, and priorities of actions will be completed following the recording and, in some cases, redefining of the resource.

Mitigations of adverse impacts of commercial climbing within the Fairweather Range may include the educational description of the sacredness of Mt. Fairweather within this document, education and orientation of the sacredness of Mt. Fairweather to mountaineers, and prohibiting mountaineers from entering Karst or other cave features within the park unless a specific permit is requested by the user and granted by the National Park Service. Should monitoring efforts indicate that desired conditions for resource protection are not being met, park staff may reduce the number of commercially guided trips that are permitted each year.

### **Historic Structures**

The evaluation and reevaluation of historic structures for association with Tlingit Homeland, as well as criterion A and D will take place outside of this plan. Following this evaluation, changes may occur to the classification and park management actions for these historic structures. Currently, there are 39 recorded historic structures in Glacier Bay National Park and Preserve, thirteen of these structures occur within the backcountry. Narrowing this down, seven of these thirteen structures are identified for management under benign neglect (Cultural Resources Inventory System – Historic Structures, accessed December 5, 2022). Additionally, nine of these structures (69.2%) are associated in a meaningful way with Homeland.

### **Cemeteries**

Independent of this plan, park management will develop a cemetery management plan that meets the local obligations in the American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act. Management actions for individual cemeteries will be developed that consider the unique location and significance of these cemeteries.

## **VISITOR USE AND EXPERIENCE**

Mitigation measures for all land- and water-based visitors may include, but are not limited to, the following:

- Implement timely and accurate communication with visitors regarding permitted activities and potential impacts on visitor experience, programs, services, and sites via news releases, visitor contacts, web and social media, signage (outside designated Wilderness), informational materials, and the NPS mobile application.
- Continue to offer and provide relevant information to visitors about the backcountry. This messaging could be expanded to include appropriate trail etiquette and Leave No Trace principles for park visitors, information about sensitive marine ecosystems for vessel operators, and information on human-wildlife interactions (i.e., safe food storage).
- Continue to instruct backcountry campers and commercial service operators in Leave No Trace best practices specifically relevant to this ecosystem and environment (e.g., use of bear resistant canisters to prevent wildlife habituation, use of intertidal zone for human waste disposal, campfires and cooking and eating to minimize wildlife habituation and ground disturbance).
- Partner with other companies, groups, entities, and access providers to connect visitors with relevant information before they arrive at the park such as safety and orientation information (e.g., maps, Leave No Trace principles).
- Schedule construction, maintenance, and recurring vegetation management outside the core visitor season of Memorial Day to Labor Day whenever practicable.
- Revisit operating plans with concessioners annually to ensure desired conditions are maintained. Monitoring could result in changes to the timing, group size, and authorized areas for commercial tour operators. If changes were necessary, the park would consider the financial impact of any proposed change.

Search and rescue operations in Glacier Bay National Park can be complex and often require substantial time to mobilize due to scarcity of NPS search and rescue resources and the remoteness of many backcountry areas of the park. Continue to partner, including with the US Coast Guard, for marine search and rescue operations in the park, while enhancing park and regional capacity to respond.

The park strives for efficient customer service and transparent permitting and continues to monitor the success of visitor serving operations.

## **VEGETATION**

To minimize immediate and long-term impacts on vegetation, the National Park Service would conduct surveys prior to vegetation disturbance (e.g., trail planning and construction) to ensure species of concern are not present. If present, park staff would explore alternatives

to minimize disturbance, including but not limited to identifying protection zones, modifying the trail route, and transplanting any species of concern to another area with similar habitat. When appropriate, these measures would be implemented prior to and during construction.

Removal of trees greater than 18 inches in diameter would be avoided to the extent possible.

Following construction of the trail, disturbed areas would be allowed to recover naturally or revegetated with native plant species.

The project will comply with the Alaska Region Invasive Plant Management Plan Environmental Assessment and finding of no significant impact (NPS 2010):

- Equipment used in ground-disturbing operations will be cleaned of soil, mud, and debris and inspected by park personnel before it enters the park.
- Fill materials, including gravel, crushed rock, topsoil, and stockpiled project materials, will be acquired from sources identified as free of invasive plants.
- Ground-disturbing projects will be monitored for invasive species for five years after project completion. See the “Restoration” section (2.5.5) for post-project revegetation measures to minimize colonization success.

During all construction activities, best practices for invasive plants management would be employed, including the following:

- Minimize new soil disturbance and select previously disturbed areas for associated construction staging and stockpiling.
- Fence or clearly mark and enforce disturbance zones during construction to prevent disturbances to vegetation outside construction limits.
- Clean clothing and equipment carefully whenever moving between locations in the park to prevent the introduction/spread of the seeds/propagules of nonnative invasive organisms—both terrestrial and aquatic.
- Ensure that project personnel make daily checks of clothing, footwear, and equipment to ensure no exotic plant seeds and no off-site soil is transported to the work site.
- Pressure wash equipment off-site thoroughly to ensure that all equipment and machinery are clean and weed-free before being brought into the park and secondarily the project area.
- Obtain all fill, rock, topsoil, or other earth materials from certified weed-free sites.

In addition, the National Park Service will report any invasive species discovered to <https://www.adfg.alaska.gov/index.cfm?adfg=invasive.report>.

Finally, managers will consider dynamic vegetation contexts during design, construction, and maintenance (e.g., isostatic rebound, succession). Vegetation-related activities in cultural landscapes will be managed according to treatment and preservation maintenance plans that

define objectives (e.g., historic asset protection, historic viewshed preservation, forest health and age diversity, windthrow and hazard tree risk, fire-wise considerations).

## SOILS

Mitigation actions would occur before, during, and after trail construction to minimize immediate and long-term impacts on soils. Mitigation measures could include, but are not limited to the following:

- Trail design would follow existing guidance and reference documents, including the following relevant documents:
  - *NPS Park Planning Technical Reference Trail System Planning* (NPS 2019c)
  - *An Introduction to Terrain Dynamics for Trail Folks* (Shields 2022a)
  - *Trail Design and Layout* (Shields 2022b)
  - *Glacier Bay National Park Soil and Slope Guidance for Trail Routing* (Shields 2022c)
- During trail construction, best practices for maintaining slope stability will be followed, as noted in *An Introduction to Terrain Dynamics for Trail Folks* (Shields 2022a):
  - Blend backslope cuts into the natural slope at as low an angle as practical to ensure the cut itself is steeper than the slope angle and thus steeper than the slope's angle of repose.
  - Tie all slope-retaining structures to the retained slope itself to ensure that the structure performs as an integral part of the slope.
  - Size structure footings based on the footing soil's bearing capacity and the slope steepness.
  - Contour your trail alignments and use the microterrain to include grade reversals designed into that alignment.
  - Avoid steep thin soils underlain by steep bedrock, particularly if the bedrock plane is similar to, or steeper than, the soil surface plane.
  - Avoid any silt-rich or clay-rich soils lacking a significant rock/gravel content, as practical, particularly if they are prone to persistent high moisture content.
  - Avoid flat ground, knowing that slopes under 5% almost invariably require elevating the tread to achieve reliable tread-section drainage and to preclude tread entrenchment.
- Design backslopes and trail tread slope to adequately handle foreseeable water volumes within that specific area.

- Maintain backslopes to allow for unrestricted drainage to an established drainage structure or by outsloping the trail tread to achieve sheet flow over the trail. This may include yearly periodic grading, shaping, and clearing to maintain a smoothly uniform drainage system that is free from obstruction, ponding, or areas of settlement.
- Use local, native material for backslopes and downslopes wherever possible.
- Maintain effective delineation of the downslope to keep hikers on the actual trail and to prevent the perception that one is to walk where the downslope begins. Reshaping downslope sections and fill slopes may be periodically necessary to clarify the proper trail tread location.
- Use retaining walls to keep materials in place that might otherwise quickly erode (e.g., downslope areas with sandy soils).
- Install and maintain trail drainage systems as necessary to prevent water from pooling/running on the trail tread.

## **FISH AND WILDLIFE**

Mitigation actions would occur before, during, and after trail construction to minimize immediate and long-term impacts on fish and wildlife. These actions would vary by specific project, depending on the extent of construction, its location, and the types of species and habitat affected. The National Park Service is already taking some actions to reduce wildlife-visitor conflicts within the park.

Mitigation measures to reduce impacts on wildlife could include, but are not limited to, the following:

- Conduct surveys prior to vegetation disturbance (e.g., for trail planning and construction) to ensure species of concern are not present. Work would be conducted outside nesting periods (April 15 to July 15 or longer, depending on the species) to the extent practicable if the project site harbors protected species that could be adversely impacted by construction.
- Consider trail alignment and design to reduce potential impacts on wildlife movement and ground nests. Placement and design of any elevated boardwalks would consider and minimize impacts on wildlife movement.
- Monitor the natural soundscape, and implement mitigation measures and best management practices identified in the “Acoustic Environment” section to reduce adverse impacts on wildlife from acoustic disturbances.
- Continue to engage in activities outlined in the 2013 *Glacier Bay Bear Management Plan*. The plan outlines several activities that the park will engage in to reduce bear-human conflicts, including controlling human food and attractants, enforcing food and trash storage violations, educating visitors, training staff, and using deterrents such as bear pepper spray.

- Continue to educate visitors about where they may encounter nesting birds, how to identify nests, how to identify nesting bird behavior, and how to respond appropriately (such as moving elsewhere) to minimize disturbing nesting birds. Spatial or temporal closures would continue to be implemented in places where foot traffic or other human presence is detrimental or disturbing to pinnipeds, nesting birds, or if bear kills or other factors create a human safety risk (36 CFR 13.50). If park staff observes changes in nesting success and survivorship because of trampling or disturbance, park staff would implement strategies to reduce human impacts on bird populations such as increasing public education, restricting off-trail travel, or implementing temporary spatial or temporal closures.
- Continue to educate visitors on best wildlife viewing practices to minimize terrestrial wildlife disturbance. If concentration of wildlife activity occurs (e.g., high bear activity near a salmon stream or whale carcass), spatial or temporal closures may be implemented to limit approach distances of vessels to the shoreline or prevent foot traffic from off-vessel shoreline activities to minimize disturbance of terrestrial wildlife at critical feeding locations.
- Continue to educate visitors on where pets are and aren't allowed in the park and the effects of domestic animals, such as dogs, on wildlife.

Mitigations for both fixed-wing and helicopter flights to minimize effects to wildlife are captured in the “Wilderness Character” section above.

For visitors participating in recreational freshwater angling, the following mitigations would be followed:

- Provide details on the best available conservation fishing practices to visitors and charter fishing concessioners to share with visitors, including a focus on catch and release fishing.
- Collaborate with the Alaska Department of Fish and Game to clearly communicate allowed recreational gear types, seasons, any closures, and licensing requirements with the public (and that no federal subsistence fisheries are authorized).
- Communicate State of Alaska fish consumption guidelines associated with toxins such as mercury.

Specific to recreational harvesting of freshwater fishes, the park would monitor for both immediate and long-term impacts on fish populations and their associated habitats. Monitoring would include collecting data to estimate abundance, spatial distributions, and biometrics in park waters to inform park management decisions and ongoing efforts to preserve pristine water quality and the health of food webs. Knowledge of natural distributions, densities, age class distributions, and the behavior of harvested and non-harvested species that may be impacted from harvesting will be applied to prevent unacceptable impacts on park resources or natural processes.

The park would consult and collaborate with state and federal fisheries management agencies to help conserve harvested species, The National Park Service would explore new research opportunities and continue collaborations with partners, park neighbors, and other stakeholders. Collaborations may include projects focused on data consolidation, fisheries, species and habitat monitoring, and science specific to stream succession and freshwater contaminants.

Federal subsistence fisheries are not allowed in Glacier Bay. Fishing in Glacier Bay by park visitors is a recreational activity. Recognizing this, the park will prioritize the experiential nature of this activity over harvest goals.

Develop science briefings to instill visitor respect for and knowledge of the aquatic environment, the food web, and keystone fish species such as Pacific salmon.

The park would educate visitors on the proper disposal of fish waste to minimize wildlife habituation issues.

## **WETLANDS**

Mitigation measures would be applied to protect wetland resources prior to and during the installation of trail or other site development projects. Wetlands or wetland edges would be delineated by qualified NPS staff or certified wetland specialists and marked to inform the site-specific placement of the new trail. Except where public access to a wetland provides a visitor experience to appreciate these habitats and ecosystem functions, all pathway construction facilities would be sited to avoid wetlands. Where public access to wetlands is provided, paths or boardwalks would be designed in compliance with Executive Order 11990, "Protection of Wetlands," the Clean Water Act, Director's Order 77-1: *Wetland Protection*, and the *NPS Procedural Manual #77-1: Wetland Protection* (NPS 2016). Additional mitigation measures would include the following, as appropriate:

- Employ standard avoidance, minimization, and mitigation strategies.
- Where possible, avoid wetlands during construction using elevated boardwalks with support posts if determined to be the minimum tool necessary under the Wilderness Act. Exercise increased caution to protect these resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands. Take measures to keep construction materials from escaping work areas, especially near streams or natural drainages.
- Design footbridges to span the channel and the associated wetland habitat (i.e., no pilings, fill, or other support structures in the wetland/stream habitat) if identified as the minimum tool necessary under the Wilderness Act. If footbridges could not be designed to avoid wetlands, then complete additional compliance (e.g., a wetland statement of findings) to assess impacts on wetlands and ensure no net loss of wetland area.

## ACOUSTIC ENVIRONMENT

The National Park Service would encourage pilots to fly at altitudes higher than the minimum permitted by regulation and on flight paths that would reduce aircraft noise. In developing an operations plan for helicopter use associated with park operations, the National Park Service would recommend a preferred route over water with ocean approaches for each site, if safe and possible.

The National Park Service would implement standard noise abatement measures during construction, maintenance, and administrative activities. Standard noise abatement measures may include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive users; the use of best available noise control techniques wherever feasible; the use of quieter impact tools when feasible; the use of hand when feasible; the placement of stationary noise sources as far from sensitive uses as possible; and the use of noise-muffling, shielding, or fencing.

The National Park Service would advise visitors and park staff about the impact of loud vehicles, motors, and other unnecessary noise disturbances (e.g., radios) within the park.

Additional mitigation measures to protect soundscapes would include the following, as appropriate:

- Create interpretive materials that instill a culture of awareness of and respect for the value of natural soundscapes.
- Enforce existing noise ordinances, such as 36 CFR 2.12, which is a federal regulation related to audio disturbances and prohibits noise that “. . . exceeds a noise level of 60 decibels measured on the A-weighted scale at 50 feet. . .”, and 36 CFR 3.15, which sets maximum noise levels for the operation of vessels.
- Work with boat operators to reduce the use of generators.
- Manage commercial vessels’ (under contract or commercial use authorizations) use of generators through their operating agreements.
- Advise visitors and park staff about the growing impact of loud vehicles, motors, and other unnecessary noise disturbances (e.g., radios).

# APPENDIX F: ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT SECTION 810 ANALYSIS SUMMARY EVALUATION AND FINDINGS

## INTRODUCTION

This section was prepared to comply with Title VIII, section 810 of the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. This section summarizes an evaluation of the potential restrictions to subsistence activities that could result from the implementation of the preferred planning vision in the draft plan in Glacier Bay National Park. The EA describes the range of alternatives for consideration.

## THE EVALUATION PROCESS

Section 810(a) of ANILCA states:

*“In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . the head of the Federal agency . . . over such lands . . . shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency:*

- 1. Gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to Section 805;*
- 2. Gives notice of, and holds, a hearing in the vicinity of the area involved; and*
- 3. Determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity would involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps would be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.”*

Presidential proclamations in 1925 and 1939 established and expanded Glacier Bay National Monument. In 1980, Title II of ANILCA created new units and additions to existing units of the national park system in Alaska. More specifically, ANILCA section 203 provides for lands, waters, and interests therein withdrawn or reserved for the former Glacier Bay National Monument to be incorporated within and made a part of Glacier Bay National Park subject to valid existing rights for the following purposes:

*“To preserve for the benefit, use, education, and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values.”*

ANILCA section 202(1), added of an area containing approximately 523,000 acres, including the south bank of the Alsek River at Dry Bay, Alaska for the following purposes:

*“To protect a segment of the Alsek River, fish and wildlife habitats and migration routes and a portion of the Fairweather Range including the northwest slope of Mount Fairweather. Lands, waters, and interests therein within the boundary of the park and preserve which were within the boundary of any national forest are hereby excluded from such national forest and the boundary of such national forest is hereby revised accordingly.”*

Federal law and regulations prohibit ANILCA Title VIII subsistence uses on federal public lands in the park only. However, ANILCA (sections 1313) and Title 36 CFR 13.41 authorize subsistence uses on federal lands in the preserve.

ANILCA 816 (a) states:

*“All national parks and park monuments in Alaska shall be closed to the taking of wildlife except for subsistence uses to the extent specifically permitted by this Act. Subsistence uses and sport fishing shall be authorized in such areas by the Secretary and carried out in accordance with the requirements of this title and other applicable laws of the United States and the State of Alaska.”*

With regards to the preserve, section 1313 of ANILCA states:

*“A National Preserve in Alaska shall be administered and managed as a unit of the National Park System in the same manner as a national park except as otherwise provided in this Act and except that the taking of fish and wildlife for sport purposes and subsistence uses, and trapping shall be allowed in a national preserve under applicable State and Federal law and regulation. Consistent with the provisions of Section 816, within national preserves the Secretary may designate zones where and periods when no hunting, fishing, trapping, or entry may be permitted for reasons of public safety, administration, floral and faunal protection, or public use and enjoyment. Except in emergencies, any regulations prescribing such restrictions relating to hunting, fishing, or trapping shall be put into effect only after consultation with the appropriate State agency having responsibility over hunting, fishing, and trapping activities.”*

ANILCA sections 1314 (c) states:

*The taking of fish and wildlife in all conservation system units; and in national conservation areas, national recreation areas, and national forests, shall be carried out in accordance with the provisions of this Act and other applicable State and Federal law. Those areas designated as national parks or national park system monuments in the State shall be closed to the taking of fish and wildlife, except that:*

- 1. notwithstanding any other provision of this Act, the Secretary shall administer those units of the National Park System and those additions to existing units, established by this Act and which permit subsistence uses, to provide an opportunity for the continuance of such uses by local rural residents; and*
- 2. fishing shall be permitted by the Secretary in accordance with the provisions of this Act and other applicable State and Federal law.”*

The potential for significant restrictions must be evaluated for the proposed action's effect upon “. . . subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives which would reduce or eliminate the use . . .” (ANILCA section 810[a]).

## **PROPOSED ACTION ON FEDERAL LANDS**

The National Park Service is charged with managing approximately 2.6 million acres of designated Wilderness lands and waters within Glacier Bay National Park. The draft plan proposes to enhance preservation and protection of the park's fundamental resources and values, as identified in its 2010 foundation station; address new NPS planning and wilderness management requirements; and support the park in incorporating wilderness character into management decisions. The EA analyzes actions within the draft plan that are subject to NEPA compliance.

Alternatives that meet the purpose and need for taking action are detailed in chapter 2 of the EA. The National Park Service identified Alternative B as the preferred alternative. Customary and traditional subsistence use on NPS park lands would continue where authorized by federal law under all alternatives.

Under Alternative B – Preferred Alternative, the National Park Service proposes the following programmatic and site-specific actions:

### **Required Backcountry Camping Permits Year-Round**

A backcountry camping permit would be required on a year-round basis instead of only between May 1 and September 30 for all commercial and noncommercial camping in the wilderness and backcountry.

- This permit would apply within all of Glacier Bay National Park, not just lands accessed via the Glacier Bay Zone as is currently the case.

- This permit system would be free of charge and not involve a lottery or quota.

### **Group Size**

- The group size for Glacier Bay National Park would remain at 12 or fewer people but apply to both overnight and day visitors. The group size would also apply year-round instead of only between March 1 and October 31.
- Group size exceptions may be granted for educational purposes, research, safety, traditional Tlingit Homeland activities, or administrative groups.

### **Trail Development**

- The development of approximately 10 miles of new trail that access the park's designated Wilderness if development of a trail is feasible.
- Additional trail design would be required before construction.
- The EA assumes the trail will be a maintained trail, where sections of the trail could be built and maintained to different trail class standards to ensure maintainability and limit resource damage.

### **Commercial Mountaineering**

- Commercially guided mountaineering and associated activities would be allowed in the Fairweather Range.
- This change would officially codify a recreational use that has been occurring on a temporary basis and allow the park to continue to regulate use to protect resources.
- The provision of this use aligns with objectives of the general management plan to encourage commercial services for the least-accessible areas of the park while reversing the 1984 decision that specific areas be closed to commercial mountaineering (figure 4).

### **Communications Upgrades**

- Upgrades to existing and deploying new communications infrastructure would occur within the next one to three years.
- New automatic identification system (AIS transponder sites may be installed at up to eight sites in the park with the goal of full coverage of park waters).

## AFFECTED ENVIRONMENT

Subsistence uses, as defined by ANILCA section 810, means the following:

*“The customary and traditional use by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.”*

Subsistence activities include hunting, fishing, trapping, and collecting berries, edible plants, wood, or other materials.

Other important subsistence use areas within the region include Icy Strait, Excursion Inlet, Cross Sound, Port Frederick, and Tongass National Forest. Most of the rural communities of southeastern Alaska rely on renewable natural resources for at least a portion of their subsistence needs. About one-third of the region’s rural communities take at least half of their meat and fish by hunting and fishing (Holleman and Kruse 1992).

Residents of such communities as Gustavus (population of 655), Hoonah (931), Elfin Cove (24), Pelican (98), Excursion Inlet (40), Sitka (8,458), and Yakutat (657) engage in subsistence uses near the boundaries of the park (ADOL 2020). Community subsistence resource activities include hunting, fishing, and gathering gull eggs, shellfish, firewood, wild plants, and berries. Historical resource utilization patterns, such as gull egg gathering, fish camps or communal marine mammal and deer hunts, are linked to traditional social and subsistence use patterns. Sharing of resource occurs between communities, as well as within communities throughout the region.

ANILCA and NPS regulations authorize subsistence use of resources in all Alaska national parks, monuments, and preserves, except pre-ANILCA reserved federal conservation units, including Glacier Bay National Park. ANILCA provides a preference for local rural residents over other consumptive users should a shortage of subsistence resources occur, and harvest allocation becomes necessary (ANILCA 804).

The main subsistence species, by edible weight, are salmon, deer, non-salmon fish, marine invertebrates, bears (black and brown), moose, and seals. Local people use a variety of salmon (chum, coho, pink, and sockeye), while halibut, herring, smelt, cod, greenling, lingcod, char, and Dolly Varden are also used for subsistence purposes (Alaska DFG 2012).

ANILCA and NPS regulations authorize subsistence use of resources in the preserve and prohibit subsistence uses in the park (codified in 36 CFR 13). Legislation enacted in 2000 (Public Law 106-455) and a legislative environmental impact statement authorize the limited harvest of glaucous-winged gull eggs by the Huna Tlingit in the park under a management plan cooperatively developed by the National Park Service and the Hoonah Indian Association, the federally recognized tribe of the Huna Tlingit. Glacier Bay is the traditional Homeland of the Huna Tlingit, who traditionally harvested eggs prior to park establishment. The practice was curtailed in the 1960s as the Migratory Bird Treaty Act and federal

regulations prohibited it. Current US Fish and Wildlife Service regulations allow residents of Hoonah and Yakutat to gather glaucous-winged gull eggs on national forest lands in Icy Strait and Cross Sound, including Middle Pass Rock near the Inian Islands, Table Rock in Cross Sound, and other traditional locations on Yakobi Island between May 15 and June 30. The land and waters of the park remain closed to all federal subsistence harvesting.

## **SUBSISTENCE USES AND NEEDS EVALUATION**

To determine the potential impact on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources that could be impacted. The evaluation criteria are:

- the potential to reduce important subsistence fish and wildlife populations by (1) reductions in numbers, (2) redistribution of subsistence resources, or (3) habitat losses;
- the effect the action might have on subsistence fishing or hunting access; and
- the potential to increase fishing or hunting competition for subsistence resources.

### **The Potential to Reduce Populations**

- The implementation of the draft plan, including the EA preferred alternative, is not expected to adversely affect or significantly restrict the distribution or migration patterns of subsistence resources on federal public lands within the region. Therefore, no change in the availability of subsistence resources is anticipated as a result of the implementation of the preferred alternative.

### **Restriction of Access**

- The preferred alternative is not expected to significantly restrict Title VIII traditional subsistence use patterns on federal public lands within the region. No restrictions or changes in subsistence access are proposed in the preferred alternative. The park is closed to ANILCA Title VIII subsistence uses.

### **Increase in Competition**

- The preferred alternative is not expected to significantly increase competition for subsistence resources on federal public lands within the region. Provisions of ANILCA and NPS regulations mandate that if and when it is necessary to restrict the taking of fish or wildlife, subsistence users will have priority over other user groups (ANILCA 804).

## **AVAILABILITY OF OTHER LANDS**

Choosing a different alternative would not decrease the impacts on park resources for subsistence. The preferred alternative is consistent with the mandates of ANILCA, including Title VIII and the NPS Organic Act.

## **ALTERNATIVE CONSIDERED**

The EA describes and analyzes the alternatives considered in chapter 2. The range of alternatives is consistent with NPS mandates, ANILCA, and the purposes for which the park and preserve were established. No other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes were identified.

## **FINDINGS**

This analysis concludes that the preferred alternative would not result in a significant restriction of subsistence uses.

## APPENDIX G – SELECT LAWS, REGULATIONS, POLICIES, AND GUIDANCE

As an agency, the National Park Service has a long legacy of protecting Glacier Bay and its resources, unimpaired for the enjoyment, education, and inspiration of this and future generations. Associated with the Marine Management Plan, the National Park Service reaffirms its enduring commitment to implement the laws, regulations, policies, and guidance that will conserve park waters as a national treasure for future generations. Select laws, regulations, policies, and guidance by topic area include:\*

### ACOUSTIC ENVIRONMENT

NPS Director's Order 47  
Noise Control Act  
Alaska National Interest Lands Conservation Act

### AIR QUALITY

Clean Air Act  
NPS Organic Act  
Alaska National Interest Lands Conservation Act

### AQUATIC AND MARINE RESOURCES

Anadromous Fish Conservation Act  
Clean Water Act  
Endangered Species Act  
Fish and Wildlife Coordination Act  
Magnuson-Stevens Fishery Conservation and Management Act  
Marine Mammal Protection Act  
Marine Protection, Research, and Sanctuaries Act  
North Pacific Halibut Act  
Pacific Salmon Treaty  
Alaska National Interest Lands Conservation Act  
*Alaska v. United States* (545 U.S. 75, 125 S. Ct. at 2153)  
Non-Conflicting State of Alaska Fishing Regulations  
Executive Order 13158 – Marine Protected Areas

### CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES

Archeological Resources Protection Act  
Director's Order 28  
National Historic Preservation Act  
NPS Organic Act  
Alaska National Interest Lands Conservation Act

### ENERGY REQUIREMENTS AND CONSERVATION

Energy Policy Act  
Energy Independence and Security Act  
Executive Orders 13031, 13123, 13149  
Alaska National Interest Lands Conservation Act

### NATIVE ALASKAN TRIBAL SOVEREIGNTY, SELF-DETERMINATION, CONSULTATION, AND COORDINATION

1995 NPS Hoonah Indian Association Memorandum of Understanding (MOU)  
2002 NPS Yakutat Tlingit Tribe MOU  
Executive Orders 13007 and 13175  
Indigenous Traditional Ecological Knowledge and Federal Decision-Making Memorandum  
DOI Secretarial Orders 3206, 3175, 3342, 3403 (including co-stewardship Policy Memorandum 22-03)  
NPS Director's Orders 66 and 71B  
Hoonah Indian Association Reserved Rights in Berg Bay  
Huna Tlingit Traditional Gull Egg Use Act, 2014 (Public Law 113-142)  
Alaska National Interest Lands Conservation Act  
DOI Policy on Alaska Native Land Claims Act Corporation  
Consultation for actions substantially affecting their land, water areas, resources, and programs

### NATIVE SPECIES AND EXOTICS MANAGEMENT

Alaska Region Invasive Plant Management Plan  
National Invasive Species Act  
Alaska National Interest Lands Conservation Act  
Executive Order 13751

### PARK OPERATIONS

NPS Organic Act  
Alaska National Interest Lands Conservation Act  
Park General Management Plan

### PARK PURPOSES

Park Foundation Document  
Organic Act (1916)  
Presidential Proclamations 1733 (1925), 2330 (1939), 3089 (1955)  
*Alaska v. United States* (545 U.S. 75, 125 S. Ct. at 2153)  
Alaska National Interest Lands Conservation Act (1980), including Senate Committee Report 96-413, p.137).  
Park General Management Plan (1984)  
Federal Register, List of National System Marine Protected Areas (Document Number E9-9335)

### PUBLIC HEALTH AND SAFETY

Pollution Prevention Act  
Resource Conservation and Recovery Act  
Alaska National Interest Lands Conservation Act  
Pollution Prevention Act  
Occupational Safety and Health Act  
Resource Conservation and Recovery Act

### SOCIOECONOMIC RESOURCES

Alaska National Interest Lands Conservation Act  
NPS Director's Orders 2 and 12

### THREATENED AND ENDANGERED SPECIES AND ECOLOGICALLY CRITICAL AREAS

Endangered Species Act  
National Environmental Policy Act  
NPS Endangered Species Reference Manual 77-8  
NPS Organic Act  
Alaska National Interest Lands Conservation Act

### VISITOR USE AND EXPERIENCE

NPS Organic Act  
The National Parks and Recreation Act of 1978 (54 USC§ 100502)  
Alaska National Interest Lands Conservation Act  
Park Foundation Document  
Park General Management Plan  
Park Frontcountry Management Plan  
Park Backcountry and Wilderness Management Plan (In Preparation)

### WATER QUALITY, HYDROLOGY

Clean Water Act  
Executive Order 12088  
Erosion and Sedimentation Control Act  
Alaska National Interest Lands Conservation Act

### WETLANDS

Clean Water Act  
Executive Orders 12088, 11990  
NPS Director's Order 77-2  
Alaska National Interest Lands Conservation Act

### WILDERNESS

Wilderness Act  
Alaska National Interest Lands Conservation Act  
NPS Director's Order 41  
NPS Reference Manual 41: Wilderness Stewardship

### WILDLIFE AND HABITAT MANAGEMENT

NPS Organic Act  
Alaska National Interest Lands Conservation Act  
NPS/ADF&G Master MOU (1982)  
Migratory Bird Conservation Act and Migratory Bird Treaty Act  
Park Bear Management Plan

\*This list was prepared in 2023 and is included for planning reference only. The National Park Service makes no claims, promises or guarantees about its accuracy, adequacy, or completeness. Further, it also assumes the comprehensive application of the NPS Management Policies (2006), the National Environmental Policy Act, and park-specific plans and requirements.

## **APPENDIX H: CULTURAL RESOURCE STUDIES**

### **ARCHAEOLOGICAL INVENTORY AND MONITORING IN GLACIER BAY NATIONAL PARK AND PRESERVE, WITH A NEW FOCUS ON CULTURALLY MODIFIED TREES (2013)**

This inventory identified new archeological sites, updated the status and condition of previously recorded sites, and created new records for sites that had not been adequately recorded. The inventory identified 323 culturally modified trees and recorded stone cairns, as well as other structures such as camping platforms, canoe troughs, and storage pits within the park. Overall, the research presented in this study increased the number of recorded archeological sites in the park by 64%. The report also identified certain elements of concern, such as the need to record culturally modified trees before they die and decay, trespassing, vandalism, unauthorized ground disturbance, and the construction and pilfering of artifacts.

### **THE HOONAH TLINGIT CULTURAL LANDSCAPE IN GLACIER BAY NATIONAL PARK AND PRESERVE: AN ARCHAEOLOGICAL AND GEOLOGICAL STUDY (2013)**

This report recorded the results of a 1995 interdisciplinary survey jointly conducted by the Smithsonian Institution, the National Park Service, and the University of Alaska Fairbanks under the auspices of the Systemwide Archeological Inventory Program in 1995 that examined Tlingit archeology, history, and settlement patterns. The researchers collaborated with the community of Hoonah to capture and understand the cultural landscape that lives on in memory, ancestral generations, oral tradition, and traditional place names. While the report did not suggest management actions, the study brought together material evidence, indigenous knowledge, and cultural practices to discuss settlement and adaptive patterns of ancestral Tlingit within Glacier Bay National Park and Preserve and to inform management decisions.

### **TLINGIT HOMELAND**

Early park planning documents address Tlingit Homeland concerns peripherally, if at all. The 1984 General Management Plan did identify the need to collect archeological and ethnographic information for use by researchers and interpreters and spoke to the need to strengthen relationships in “neighboring communities with a significant population of native Americans.” The plan did not, however, provide specific direction for managing the park as Tlingit Homeland. Early wilderness management proposals and documents also fail to mention any cultural resource concerns or management strategies and do not acknowledge that Glacier Bay encompasses Tlingit Homeland. Management direction for protecting Tlingit Homeland values focuses on continued efforts to document ethnographic resources, including resources previously classified as historic structures; facilitate and encourage ongoing, meaningful connection with ancestral places; and commemorate village or other sacred sites in appropriate ways. Homeland concepts, including land acknowledgments, would be embedded in all literature, orientation materials, and materials prepared by commercial service operators.

With adoption of the 1984 General Management Plan and for the next several decades thereafter, former cabins, camps, and affiliated structures were classified as historic structures, regardless of who had built them. At the time, this was standard practice in cultural resource management at the park. Given the generally dilapidated, collapsed, and decayed conditions of these historic structures, a policy of benign neglect was implemented in the 1984 General Management Plan. With the 1992 National Register Bulletin #38, cultural resource professionals began to appreciate the category of “Ethnographic Resource” or “Traditional Cultural Property,” and another decade afterward the concept of “Cultural Landscape” began to take shape in park planning. This backcountry management plan recognizes the progression of cultural resource management in the park, as it proposes a significant step in a new direction by recommending documenting the cabins, camps, rock art, cairns, cemeteries, and non-altered sacred and commemorative sites as elements of Tlingit cultural landscapes to be managed as an integrated resource, updating existing cultural landscape inventories such as Dundas Bay and seeing formal nomination of others, such as the Bartlett Cove Cultural Landscape/Traditional Cultural Property, and bringing a deeper understanding of Tlingit lifeways and ethnohistory into park planning.

## APPENDIX I – PLANNING TEAM AND CONSULTATION LIST

*Glacier Bay National Park and Preserve would like to express sincere thanks towards all who contributed their time and expertise in the preparation of this plan. Below left are the names of the main contributors inside the National Park Service. Below right are interests and entities outside the agency, contacted to request consultation during the planning process, and/or during the 30-day public and agency review:*

### NPS PLANNING CONTRIBUTIONS

#### PARK PLANNING TEAM

Philip Hooge, Superintendent  
Tom Schaff, Deputy Superintendent  
Wendy Bredow, Chief Ranger  
Melanie Berg and Joni Seay, Commercial Services Team  
Laura Buchheit, Matthew Cahill, and Ingrid Nixon, Interpretation Team  
Lisa Etherington and Sean Eagan, Chief of Resource Management  
Jacob Ohlson, Chief of Maintenance  
Elizabeth Withers, Administrative Officer  
Sara Doyle, Outdoor Recreation Planner  
Mary Beth Moss, Cultural Anthropologist / Tribal Liaison  
Wes Bacon-Schulte, Archeologist  
Christine Gabriele, Senior Resource Management Scientist  
Martin Hutten, Terrestrial Ecologist  
Tania Lewis, Terrestrial Wildlife Biologist  
Margaret Hazen and Joseph Whelan, Supervisory Park Rangers  
Scott Gende, Senior Science Advisor

#### NPS EXPERTISE

Rachel Collins, Denver Service Center Project Manager  
Kelly Horvath, Maureen Finnerty, Robin Lewis, and Aleksandra Pitt, Denver Service Center Visitor Use Project Specialists  
Danielle Lehle and Alexa Miles, Denver Service Center Natural Resource Specialists  
Hillary Conley, Denver Service Center Cultural Resource Specialist  
Laura Babcock, Denver Service Center Geospatial Resources Specialist  
Kelly Daigle, Environmental Quality Division Project Manager  
Roger Semler, Division of Wilderness Stewardship Chief  
Adrienne Lindholm, Alaska Region Wilderness Program Manager  
Sarah Conlin, Alaska Region Planning Portfolio Manager  
Elizabeth Bella, Alaska Region Environmental Planning and Compliance Team Lead  
Leah Schofield and Joan Kluwe, Alaska Region Environmental Coordinators  
Brenna McGown and Sharon Kim, Alaska Region Outdoor Recreation Planners  
Bella Furr, Park Environmental Protection Specialist

#### GUIDING POLICY

*The **Backcountry and Wilderness Management Plan** is part of an NPS planning portfolio with individual plans, studies, and inventories that together guide park decision making.*

*The **Environmental Assessment** was developed consistent with National Environmental Policy Act (NEPA) of 1969, and Council on Environmental Quality (CEQ) implementing regulations: Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making (NPS 2011) and its accompanying handbook (NPS 2015a).*

### TRIBES AND EXTERNAL CONSULTATION LIST

#### TRIBAL CONSULTATION

Hoonah Indian Association  
Yakutat Tlingit Tribe

#### ALASKA NATIVE INTERESTS

Cook Inlet Region Inc. (Gustavus landowner)  
Huna Totem Corporation  
Alaska Native Voices  
Sealaska Corporation

#### GATEWAY COMMUNITY INTERESTS

City of Gustavus  
Gustavus Visitors Association  
City of Hoonah  
Travel Juneau

#### ADVOCACY INTERESTS

National Parks Conservation Association  
Friends of Glacier Bay  
Alaska Travel Industry Association  
The Wilderness Society

#### COMMERCIAL PARTNERS

Aramark, Incorporated (Glacier Bay Lodge contract)  
Allen Marine Tours (Dayboat sub-contract)  
Park contract holders (various)

#### AGENCIES

Alaska State Historic Preservation Office (SHPO)  
US Fish and Wildlife Service  
Alaska Department of Fish and Game  
Alaska Department of Natural Resources,  
ANILCA Program  
National Marine Fisheries Service

#### ELECTED OFFICIALS

Lisa Murkowski, United States Senator  
Dan Sullivan, United States Senator  
Mary Peltola, United States Representative  
Jesse Kiehl, Alaska State Representative  
Sara Hannan, Alaska State Representative  
Andi Story, Alaska State Representative

*Gunalchéesh to Dzéiwsh, James Crippen, McGill University and Yukon Native Language Centre; K'ashGé, Daphne Wright; Kèyishí (Keiyishi), Bessie Cooley; Yeilt'ooch' Tláa, Collyne Bunn; and Xeetli.Éesh, Lyle James for assistance with Tlingit language and orthography.*

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