

National Park Service  
U.S. Department of the Interior

Glacier Bay National Park and Preserve  
Alaska



# Frontcountry Management Plan

A RENEWED VISION FOR BARTLETT COVE  
ENVIRONMENTAL ASSESSMENT  
FINDING OF NO SIGNIFICANT IMPACT

June 2019







FIGURE 1. GLACIER BAY NATIONAL PARK



FIGURE 2. FRONTCOUNTRY CONTEXT

(above) Glacier Bay National Park covers 3.2 million acres of rugged mountains, dynamic glaciers, temperate rainforest, wild coastlines and deep sheltered fjords. It is a Biosphere Reserve and part of a 25-million acre World Heritage Site—one of the world's largest international protected areas. From sea to summit, Glacier Bay offers limitless opportunities for adventure and inspiration.

(left) The park frontcountry encompasses 7,120 acres centered around Bartlett Cove, the only developed area where visitor services are available. In a remote setting, accessible only by water, air, and local roads, Bartlett Cove is harder-to-reach than most national park frontcountry destinations.

Frontcountry visitors typically arrive at the Bartlett Cove public dock or by paved road from the nearby gateway community of Gustavus ~9 miles away, with a population of 544 (2017 Alaska Department of Labor data). The Gustavus airport supports regular small plane and seasonal jet service. An Alaska Marine Highway System (AMHS) dock provides year-round passenger and vehicle ferry service. Gustavus has strong links with Juneau (~50 miles away) where visitors can make connections to the rest of Alaska, Canada, and the lower 48 U.S. states.

More intrepid travelers perform logistical feats to launch a frontcountry visit from distant gateway communities, including Hoonah (~30 miles), principal village for the Huna Tlingit who originally settled the region, Elfin Cove (~25 miles), Haines (~50 miles), Skagway (~75 miles), and Yakutat (~160 miles).

# A Renewed Vision

## Letter from the Superintendent



Dear Friends,

We have reached an important milestone in finalizing a shared vision for Bartlett Cove that is responsive to visitor needs, discloses cumulative impacts, and articulates a path to guide future stewardship, activities,

decision-making, and investment priorities with transparency and accountability to the American public.

Thanks to all who contributed to this vision during initial outreach (June to October 2016) and during its final review (April to May 2019) despite accelerated Environmental Assessment deadline constraints. This final plan incorporates changes based on your feedback and concerns.

Please stay in touch during implementation to learn about our progress and provide input as we further define and refine the tiered actions (email us to subscribe to a planning updates list at [glba\\_public\\_comments@nps.gov](mailto:glba_public_comments@nps.gov) or visit us online at [https://go.nps.gov/GLBA\\_FMP](https://go.nps.gov/GLBA_FMP)).

Thank you for your commitment to Glacier Bay National Park and Preserve and its core values.

Philip Hooe, Superintendent  
Glacier Bay National Park and Preserve

The frontcountry is the only developed area in the park and includes lands and waters around Bartlett Cove, where NPS administrative facilities and visitor services are located (see map below).



(above) Bartlett Cove at sunset.



(above) Public Dock and Glacier Bay Lodge.



(above) Huna Tribal House.



FIGURE 3. BARTLETT COVE MAP





(above) Pictured above in its early days (~1970), the Glacier Bay Lodge was developed in Bartlett Cove in the late 1960s to support park visitation and to take advantage of an airfield constructed during WWII in nearby Gustavus.



(above) Bartlett Cove today (~2019) supports park visitation with remote facilities, infrastructure, and services; visitor attractions and interpretation; and outdoor recreation and backcountry access opportunities.



(above) The Bartlett Cove shoreline is where most frontcountry visitor activity occurs, and features the Huna Tribal House (left), the Glacier Bay Lodge (middle) and Visitor Information Station (VIS) and NPS public dock (right).



(above) The Inner Lagoon and tidal cut vicinity. Visible structures include NPS offices (left) and housing (right).

Aerial Images: ShoreZone, NOAA (2018).

FIGURE 4. BARTLETT COVE CONTEXT



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## Acronyms

ABAAS	ARCHITECTURAL BARRIERS ACT ACCESSIBILITY STANDARDS
CEQ	COUNCIL ON ENVIRONMENTAL QUALITY
CFR	CODE OF FEDERAL REGULATIONS
CTA	COMMON TO ALL ACTION ALTERNATIVES
DCP	DEVELOPMENT CONCEPT PLAN
DO	DIRECTOR'S ORDER
EA	ENVIRONMENTAL ASSESSMENT
EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY
FONSI	FINDING OF NO SIGNIFICANT IMPACT
FMP	FRONTCOUNTRY MANAGEMENT PLAN
GIS	GEOGRAPHIC INFORMATION SYSTEM(S)
GLBA	GLACIER BAY NATIONAL PARK AND PRESERVE
GMP	GENERAL MANAGEMENT PLAN
HIA	HOONAH INDIAN ASSOCIATION
IVUMC	INTERAGENCY VISITOR USE MANAGEMENT COUNCIL
NEPA	NATIONAL ENVIRONMENTAL POLICY ACT
NHPA	NATIONAL HISTORIC PRESERVATION ACT
NPS	NATIONAL PARK SERVICE
NRHP	NATIONAL REGISTER OF HISTORIC PLACES
PEPC	PLANNING, ENVIRONMENT, AND PUBLIC COMMENT
SHPO	STATE HISTORIC PRESERVATION OFFICE
USACE	U.S. ARMY CORPS OF ENGINEERS
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
VC	VISITOR CENTER
VIS	VISITOR INFORMATION STATION

## Symbols

- [CTA] PLANNING VISION PROPOSAL COMMON TO ALL ACTION ALTERNATIVES (B AND C)
- [EA] PLANNING VISION PROPOSAL ANALYZED IN THE ENVIRONMENTAL ASSESSMENT
- ~ APPROXIMATELY



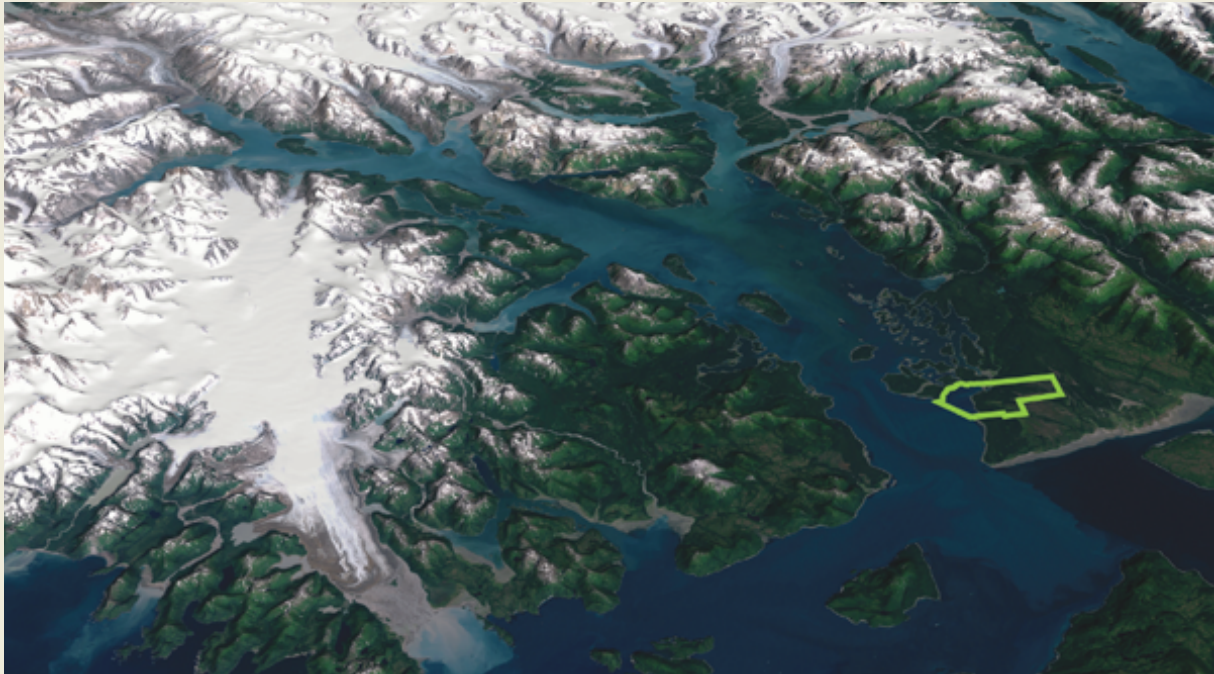


**Glacier Bay National Park and Preserve**

**Frontcountry Management Plan**

**Part I - A Renewed Vision for Bartlett Cove**

**June 2019**



(above) **A NASA Earth Observatory Satellite image of Glacier Bay and Icy Strait with park frontcountry highlighted.**

(below) **This image shows the Bartlett Cove shoreline, where most of the frontcountry visitor services, facilities, and attractions are located. Surrounded by dense, fast-growing successional vegetation, even in the busiest frontcountry areas visitors can have intimate nature experiences where they feel like they are on the edge of one of the wildest places on the planet.**

FIGURE 5. FRONTCOUNTRY PLANNING AREA



## INTRODUCTION

This National Park Service (NPS) **planning vision** provides long-term, comprehensive management direction for facilities, services, operations, resource stewardship, and visitor experiences in the frontcountry area of Glacier Bay National Park (*see figure 2*), and related to visitor day use originating from Bartlett Cove (including into adjacent designated wilderness).

Elements of the planning vision include:

■ **WHAT** the NPS is seeking to achieve:

- the **goal** or broad outcomes the park is hoping to achieve over the life of the plan (*see page I-14*)
- the **objectives**, including the specific outcomes or future desired conditions that the park is seeking to achieve through consistent management over time (*see page I-14*)

■ **HOW** the NPS proposes to achieve this:

- the planning **vision** (*see page I-18 and II-9*)
- the implementing actions including broad **strategies** and specific **actions**, described by how they support or relate to:
  - the **Huna Tlingit Homeland** (*see page I-20*)
  - the **Glacier Bay Lodge** (*see page I-22*)
  - the frontcountry **Visitor Experience** (*see page I-25*)
  - and overall **Park Operations** in the frontcountry (*see page I-34*)

■ **WHY** the NPS supports this planning vision (*see page I-37*)

■ **WHEN** the NPS may implement changes (*see page I-38*)

■ **WHERE** the NPS may implement changes, presented as illustrative **planning vision concepts**:

- an implementation site concept rendering (*see figure 8 on page I-18*)
- an overview map of the planning vision and trail concepts (*see figure 13 on page I-39*)
- an inset map of the visitor core area site concept (*see figure 14 on page I-40*)
- an inset map of the administrative core area site concept (*see figure 15 on page I-41*)

This planning vision is an expanded presentation of the NPS preferred alternative (**alternative C**) in the environmental assessment (EA) portion of this document.

The planning vision and alternative C together comprise the proposed Frontcountry Management Plan (plan) that updates the 1984 Glacier Bay General Management Plan and amends the 1998 Bartlett Cove Comprehensive Design Plan.

As context, following is a general overview of the park and its frontcountry, along with some of the NPS management responsibilities, and the process that guided the development of this plan.

## THE PARK

America's national parks are among our nation's greatest treasures, managed for the enduring benefit and legacy of present and future generations. A gem among these national treasures, Glacier Bay National Park and Preserve offers a sample of truly wild America, an awe-inspiring place to experience nature on its own terms in a dynamic landscape, where ancient Tlingit heritage blends with living cultural traditions.

First protected as a National Monument in 1925, generations of visitors have been inspired by Glacier Bay's rugged mountains, dynamic glaciers, dense temperate rainforest, wild coastlines, and deep sheltered fjords. Designated a national park in 1980 and a Biosphere Reserve since 1986, the park today includes 3.2 million acres, which is part of the even larger 25-million acre Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek World Heritage Site—one of the world's largest international protected areas (*see figure 1*).

As a national park experience, Glacier Bay delivers powerful natural and cultural experiences every day, while annually serving around 560,000 visitors (2018 NPS visitor data). The majority of these park visitors are cruise ship passengers aboard vessels that do not enter Bartlett Cove, and who never set foot on land in the park. On average, visitors travel more than 3,000 miles from home to visit the park from around the world (20%), across the country (80%), within the state (>5%), or who live in nearby areas (2%)(2015 NPS visitor data).

Overall park visitor expenditures and contributions total \$168 million in economic output, benefit 400 different companies, support an estimated 2,090 jobs, provide \$58.8 million in labor income, and add \$94.5 million in total contributions to the national gross domestic product (2017 NPS data).

## THE FRONTCOUNTRY

Located in a remote Alaskan setting centered around Bartlett Cove, the 7,120-acre frontcountry (*see figures 2 and 6*) includes some of the park's most biologically rich, culturally significant, and scenic coastal lands and waters. The frontcountry is the only developed area within the 3.2 million-acre park where visitor services are available. It is distinct from the park backcountry, which includes 2.6 million acres of designated Wilderness.



(above) Bartlett Cove's Inner Lagoon in the 1960s. The area has served as a base for NPS operations since the 1950s.

Since the 1950s, Bartlett Cove has been the NPS base for day-to-day parkwide operations. Depending on the season, 60 to 200 people with different roles supporting visitors, park stewardship, and day-to-day operations work in Bartlett Cove. This includes NPS interpretive staff who board cruise ships in Glacier Bay to serve around half a million visitors each season.

The NPS also provides housing in Bartlett Cove for around 5 permanent and 35 seasonal employees, supplemented by WWII-era Civil Aeronautics Administration Complex houses in Gustavus, transferred to the NPS after the Gustavus military airfield became a public airport.

In the 1960s, the Glacier Bay Lodge complex was developed on Bartlett Cove's scenic shoreline. The lodge was initially conceived as a remote way station to help visitors overcome the challenging logistics of experiencing Glacier Bay. Its location supported road connections to the nearby community of Gustavus (*see figure 6*) and a decommissioned WWII military airfield enabling visitors to arrive by plane, stay overnight, travel upbay and fly out the following day.



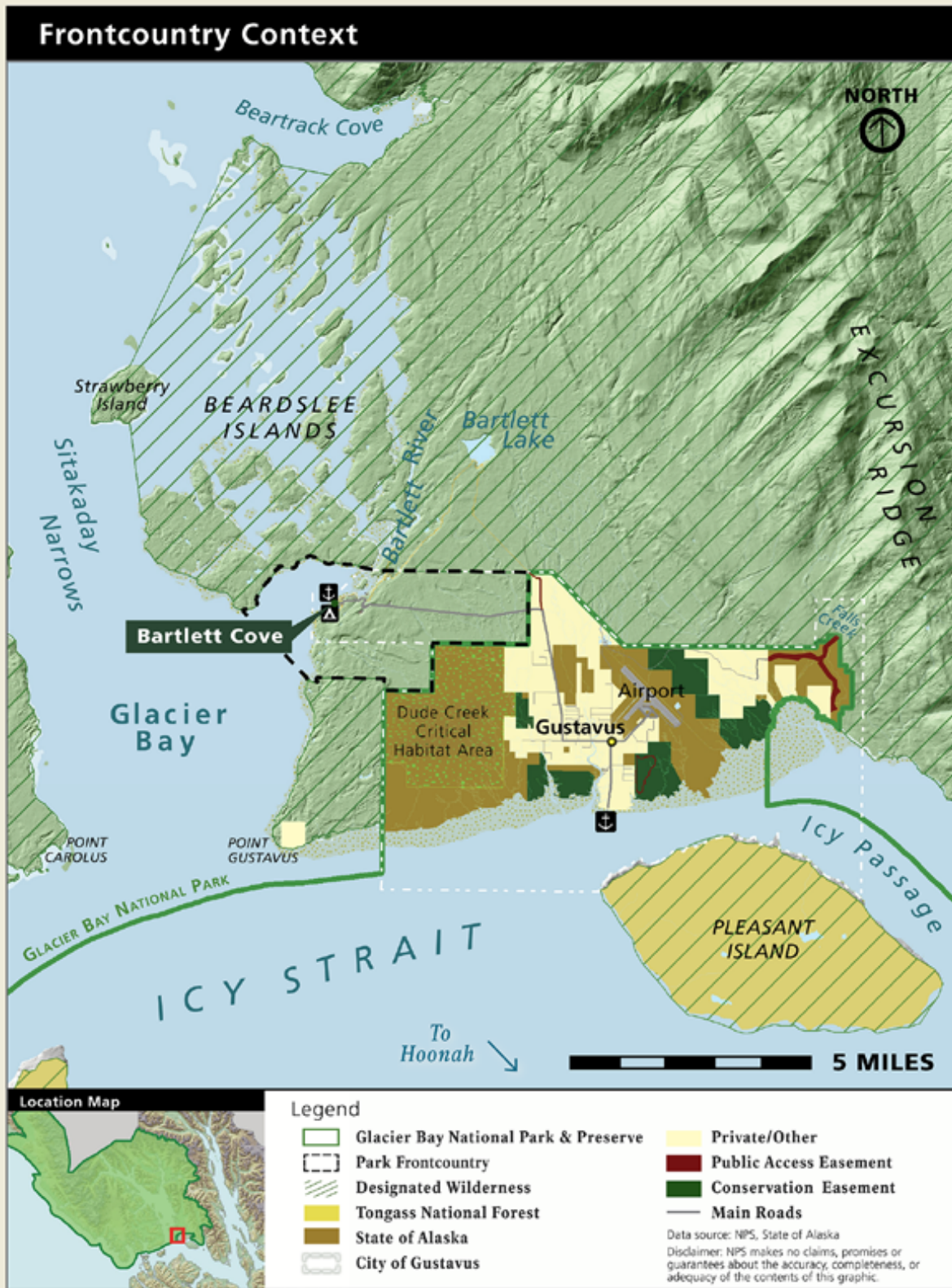


FIGURE 6. FRONTCOUNTRY CONTEXT MAP

Based on initial visitor demand, lodge additions were ongoing through 1974. By the late 1970s, however, emerging cruise ship markets began offering price-competitive park visits, bypassing Bartlett Cove and supplanting the lodge's role as a way station. Today, around 30,000 visitors annually visit the frontcountry, accounting for only five percent of the overall park visitation (2017 NPS visitor data).



(above) Pictured here in the early 1970s, the Glacier Bay Lodge opened in 1966 as an overnight way station to support visitation.

Given its remote setting and the travel logistics and expense of a visit, independent travelers are the segment most intimately connected to the Bartlett Cove experience. Frontcountry visitation occurs mainly during the prime season when Gustavus is served by a daily jet connection with Juneau (*see figure 1*), and when the Glacier Bay Lodge is open (Memorial Day through Labor Day).

While Glacier Bay's frontcountry remains harder to reach than most NPS frontcountry areas, most visitors value the experience of being "off the beaten path" in a remote Alaskan setting. The intrepid travelers who do arrive in Bartlett Cove generally enjoy learning about the park's rich cultural and natural heritage, and exploring the scenic shoreline and NPS trails. Most visitors also appreciate the lodge and other frontcountry services and comforts, in contrast with the rest of the park where there are no visitor amenities, and the unforgiving environment demands self-sufficiency.

The lodge facilities are owned by the NPS, and historically have been operated for visitors under a concession contract with a private business partner managing day-to-day operations. As the only developed accommodations in the park, the lodge complex features 48 guest rooms in cabins connected by wooden boardwalks. The main lodge building includes a restaurant, a gift shop, a 1980s-era NPS visitors center, an auditorium, an Alaska Geographic book store, and lounge areas. The current lodge operator, Aramark, reports annual average occupancy in recent years ranging between 66% (7,632 guests) and 75% (7,771 guests) during the period between 2016 and 2018.

Today, the lodge facilities and its associated landscape are recognized as a historically-significant architectural achievement of the NPS Mission 66 nationwide program (2018 NPS HSR). For decades now, however, the NPS has found it challenging to enlist commercial partners to operate the lodge on favorable terms and to generate the funds needed to reinvest in facility conditions and the overall guest experience. As a result, in recent years the NPS has accepted a greater role in caring for the aging facility and funding its deferred maintenance.

Many Bartlett Cove visitors arrive independent of guided tour groups, yet the majority depend on some form of commercial service to participate in backcountry adventures. These currently include an 8-hour upbay "dayboat" excursion with camper drop-off service, kayak rentals and guided trips, charter day trips that meet passengers at the Bartlett Cove Dock, and tour vessels with passengers who explore what the frontcountry has to offer as guided groups, or on their own.

Multi-day wilderness immersion trips also launch from Bartlett Cove. These often rely on NPS-provided services, including a semi-primitive walk-in campground with 33 individual and group tent sites, and basic amenities. This backcountry experience requires serious preparation, skill, equipment, and place-specific knowledge. Such backcountry visitors rarely go home disappointed. Few places across the US National Wilderness Preservation System (or planet) can match the Glacier Bay experience of challenge, freedom, and renewal as a part of the greater community of Life.

Consistently rated by visitors as a quality destination, 95% of park visitors who spend time on the ground in Bartlett Cove are satisfied overall with appropriate interpretation and recreational opportunities, services, and facilities (2016 NPS Visitor Survey Card Data).



## MANAGEMENT CONTEXTS

A planning vision is best served by first describing the park purpose and the NPS management responsibilities for the frontcountry area. Following is a summary of some of the overarching laws, policies, and plans that have helped the NPS manage Bartlett Cove as a special place over many decades in a consistent but dynamic portfolio approach. Most of these documents can be found on the park website (*see [www.nps.gov/glba/learn](http://www.nps.gov/glba/learn)*).

The Organic Act: Visitor Experience and Resource Protection (1916)

The 1916 NPS Organic Act (16 USC 1) charges the NPS with providing for public enjoyment while protecting our nationally-significant resources and values, unimpaired for the enjoyment, education, and inspiration of this and future generations. This mandate is defined by the NPS Organic Act, which is a substantive statute, and the NPS Management Policies 2006 (1.4.4), which set forth the NPS interpretation of the Organic Act.

Together, these policies prohibit the NPS from taking any action that would result in the impairment of park resources or values, while recognizing that “virtually every form of human activity that takes place within a park has some degree of effect on park resources or values, but that does not mean the impact is unacceptable or that a particular use must be disallowed.” Thus, while the NPS has the discretion to adversely impact park resources and values, managers must always seek ways to avoid, or to minimize them to the greatest extent practicable.

When making decisions about NPS-administered resources, including when assessing whether an action would result in impairment or unacceptable impacts to park resources and values, the National Environmental Policy Act (NEPA) review process is used by NPS managers in tandem with other applicable laws and policies (*see appendix F*), including Section 106 of the National Historic Preservation Act.

Glacier Bay National Park and Preserve Foundation Statement (2010 NPS)

The units of the national park system collectively represent fundamental resources, experiences, and stories that preserve our American heritage. Each unit’s foundation document provides basic guidance for planning and management decisions, including identifying the park unit’s purpose and fundamental resources and values through a careful analysis of the unit’s enabling legislation and legislative history.

As articulated in Glacier Bay’s enabling legislation and 2010 Foundation Statement, park-specific themes are presented below. Also discussed is how the frontcountry is relevant to, and presents opportunities for, meeting park purposes and preserving its fundamental resources and values.

### *Park Purpose*

Glacier Bay National Park and Preserve protects “a dynamic tidewater glacial landscape and associated natural successional processes for science and discovery in a wilderness setting.” The frontcountry supports this purpose day-to-day as an operational base for the NPS and its partners, and as a visitor node and gateway for the entire 3.3 million acre unit.

### *Enabling Legislation*

Three prongs of significance were emphasized in the 1925 enabling legislation that designated Glacier Bay as a national treasure (Presidential Proclamation 1733):

### *Tidewater Glaciers in a Magnificent Setting*

Central to the formation of Glacier Bay as a National Monument in 1925 was the presence and ability to access and enjoy “Tidewater glaciers of the first rank in a magnificent setting of lofty peaks, and more accessible to ordinary travel.” The desire by visitors to see and enjoy tidewater glaciers remains just as relevant today—even though their extent has dramatically changed over the past century (and will continue to change given the characteristic dynamism of Glacier Bay). Providing these experiences for frontcountry visitors thus remains relevant to meeting the park’s fundamental purpose.

### *A Living Laboratory*

When Glacier Bay and surrounding lands were first set aside, the principal lobby was the scientific community; they wanted to ensure preservation of the area’s potential to contribute to scientific knowledge with “unique opportunities for the scientific study of glacial behavior and of resulting movements and development of flora and fauna and relics of ancient interglacial forests.” Scientists were first drawn to Glacier Bay in the late 1800s because of its dynamic, rapidly-deglaciating landscape and the associated colonization of new land by plants and animals. Glaciologists, geologists, plant ecologists and other scientists came from all over the world to study the unfolding phenomena, and soon Glacier Bay became widely known as a living laboratory.



(above) Glacier Bay’s dynamic geologic and successional processes, as seen in this aerial of upper Tarr Inlet (~2007), have shaped scientific understandings of natural change since the late 1800s.

In this way, rather than the modern notion of employing science to preserve nature (science for parks, for example), Glacier Bay became the quintessential example of a park for science. Today, having hosted more than a century of research resulting in countless important contributions to science, Glacier Bay is considered a globally important reserve for learning about nature and helping the NPS and other management agencies wisely manage protected areas the world over. The frontcountry is relevant to the park’s fundamental purpose as a living laboratory through its role in actively supporting legacy science specific to Glacier Bay, and helping to translate this knowledge into understanding for frontcountry visitors.

### *Historic Interest*

The 1925 proclamation also describes Glacier Bay’s historical significance and the need to preserve valuable historic and cultural resources and records. The frontcountry is relevant through its support for the active study and preservation of Glacier Bay’s rich record of human experience—including its role as homeland, and in historic exploration, science, and conservation—and helping translate this knowledge into understanding for frontcountry visitors and the broader public.



(above) The steamer Ancon in Glacier Bay in 1889 with a tidewater glacier in the background (photo copyrighted by I.W. Taber, 1889). Adventurers and explorers visiting Glacier Bay in the late 1800s and early 1900s were instrumental to the protection of the area by 1925. These notably included the naturalist John Muir, travel writers like Eliza Scidmore, and a cadre of world-class scientists associated with the Ecological Society of America who were fascinated by Glacier Bay’s dynamic glacial landscape.

## *Park Fundamental Resources and Values*

The 2010 Foundation Statement articulates a range of fundamental park resources and values that align with the park's purpose, and that serve as a basis for frontcountry management directions:

### *Visitor Experience*

Bartlett Cove offers visitors a premium national park experience in one of the most scenic and biologically and culturally rich areas of the park. For generations of visitors, Bartlett Cove's setting, facilities, and services have delivered powerful natural and cultural experiences. Today the frontcountry remains an important base for a range of visitor experiences and services, and is a gateway for launching adventures in the larger park.



(above) Within the national park system, Glacier Bay is unique in conserving intact terrestrial, freshwater and marine ecosystems. From sea to summit, the park is a sanctuary for a myriad of species—and offers visitors limitless opportunities for adventure and inspiration.

### *Tlingit Ancestral Homeland*

The frontcountry presents opportunities to partner with the Hoonah Indian Association and support the park role as the traditional homeland of the Huna Tlingit, who evolved with and adapted to the changing Glacier Bay landscape just as they, in turn, shaped the resources and ecosystems themselves. The Bartlett Cove area is also of significance to the Huna Tlingit people, encompassing *L'eiwshaa Shakee Aan* and *Gaatheení* (traditional village sites), historical use areas, and natural systems that contribute to the traditional cultural landscape.



(above) During the 2016 dedication of *Xunaa Shuká Hít* (the Huna Tribal House), traditional carved spruce canoes journeyed from Hoonah to Bartlett Cove to herald the Huna Tlingit return to homeland.

In partnership with the tribe, this plan conceptualizes the frontcountry as a “living cultural landscape” with strengthened ties to tribal members who primarily live in the Tlingit village of Hoonah (around 30 miles by water across Icy Strait). The plan was developed through tribal consultation and builds from ongoing NPS-tribal collaborations (the draft Huna Tribal House Strategic Plan, Huna Tribal House Interpretive Site Plan, etc.).

Within this living cultural landscape, the treasured Tlingit homeland is both memorialized and renewed through contemporary frontcountry features that serve as “containers” to hold the ancestral stories and the traditions of the Chookaneidí, Kaagwaantaan, Wooshkeetaan, and T'akdeintaan clans. These features include *Xunaa Shuká Hít* (the Huna Tribal House), totem poles, culturally modified trees, *Yuxch Yaakuw* (a traditional dugout canoe), and the Ceremonial Beach. The plan also reinforces the Huna Tribal House and surrounding area as a venue for a range of tribal activities that not only strengthen and maintain relationships between the living Tlingit and their homeland, but also provide opportunities for visitors to learn about Tlingit culture, the bond between people and place, and the partnerships that support this evolving relationship.



### *Pre-Historic and Historical Site Records*

Bartlett Cove presents a range of opportunities to understand Glacier Bay through the historic lens of human experience and study, and its evolving role in the story of our shared American heritage—as homeland, and in historic exploration, science, and conservation. The frontcountry presents opportunities to preserve these multi-dimensional stories, features, landscapes, and structures, and showcase relevant features in the Bartlett Cove visitor experience.

### *Scientific Investigation*

The frontcountry presents opportunities for enhancing Glacier Bay as a living laboratory, building on more than a century of active field research and study. Bartlett Cove thus serves as an important base to help researchers overcome the challenging logistics of conducting field research in such a remote and dynamic environment. The frontcountry also serves as a venue for translating knowledge into understanding, and for sharing findings with Bartlett Cove visitors and broader audiences through the web and other media.

### *Dynamism and Succession*

Within the Glacier Bay story of dynamism and succession, the frontcountry physical environment is comprised of tell-tale geologic features and vegetation to indicate how the area was covered with a sheet of ice more than a mile thick around 200 years ago. Remnant biophysical hallmarks of large-scale glacial disturbance include relics of interstadial wood on shorelines and geologic features such as the Bartlett Cove moraine crest, kettle ponds, and Cooper’s Notch—a coastal feature created by the glacial outwash that formed the physical landscape of Gustavus today.



(above) A simulation of Glacier Bay 250 years ago, superimposed over today's coastline. A star marks Bartlett Cove, tan is glacial outwash, blue is water, and the green hillshade areas were untouched during recent glacial advances.

The frontcountry can bring attention to these features as well as the resulting living biota in the early stages of recovery after landscape-scale disturbance. This includes the biologically rich waters of Bartlett Cove and lower Glacier Bay, and their evolving story of dynamic habitats and resident species over time. This also includes tidal cuts and beach meadows that tell the story of “new” lands rising from the sea (the area has some of the fastest levels of isostatic rebound in the world, at around 1 inch per year) and the rapid rainforest vegetation growth due to succession, challenging NPS managers who are accustomed to more traditional national park approaches to maintaining scenic views, trails, and facilities.

### *Ecological Integrity | Protected Marine Ecosystems*

The frontcountry is strongly dominated by dynamic natural processes, including a variety of intact ecosystems. The frontcountry thus presents opportunities to enjoy a variety of habitats and wildlife, and for the NPS to implement measures and mitigations to retain intact landscapes and avoid unacceptable impacts to sensitive habitats and animal and plant populations of concern, since the area is also zoned as a day-to-day operational land base where human modifications, activities, and development are to be expected.



(above) Two humpback whales surface near the shore in Bartlett Cove. Glacier Bay encompasses one of the most productive marine environments on the planet.

## Wilderness

The park is one of the largest units in the wilderness preservation system, encompassing more than 2.7 million areas of designated Wilderness—including around 53,000 acres of marine wilderness. While the frontcountry does not encompass any of the designated Wilderness, it supports visitors who are launching and returning from extended backcountry experiences, and enables day-use trips from Bartlett Cove into adjacent designated Wilderness, targeted to those who may not otherwise be able to access this experience (e.g., due to physical conditions or the lack of equipment, time, or backcountry skill).



(above) A tent in Bartlett Cove's walk-in, semi-primitive campground. While the frontcountry includes no designated Wilderness, for some visitors, experiences like camping or walking in the frontcountry provide an accessible experience of the natural elements.

The frontcountry is an appropriate land base for higher concentrations of visitors, including commercial groups and higher intensity activities that require development and services. Focusing these activities in frontcountry preserves wilderness character parkwide.

The 1980 Alaska National Interest Lands Conservation Act (ANILCA)

This plan and its actions are consistent with the 1980 Act that designated Glacier Bay as a national park for the benefit, use, education, and inspiration of present and future generations, associated with its nationally significant natural, scenic, historic, archaeological, geological, scientific, wilderness, cultural, recreational, and wildlife values (Public Law 96-487, Section 101a).



The plan also focuses development to within a limited zone of the 3.2 million-acre park, complementing the intent of Congress when dedicating Glacier Bay National Park as a large “sanctuary where fish and wildlife may roam freely, developing their social structures and evolving over long periods of time as nearly as possible without the changes that extensive human activities would cause.” (ANILCA Senate Committee Report 96-413, p. 137).



Further, locating higher intensity, land-based activities and operations in the frontcountry (the only terrestrial area in the entire park that is not designated as Wilderness) supports the intent of Congress, as codified in ANILCA Title VII, Section 701(3) and implemented by Section 1317, to dedicate 2.7 million acres of Glacier Bay National Park to the preservation of wilderness character and values, as defined by the 1964 Wilderness Act (Public Law 88-577).

Glacier Bay National Park encompasses one of the few remaining intact ecosystems on the planet—with diverse marine, terrestrial and freshwater habitats that serve as an important sanctuary for a myriad of species. (above) Mountain goats on Gloomy Knob. (below) Mother and calf humpback whales, backed by the Fairweather Mountains in Glacier Bay (NPS photo by scientists conducting whale monitoring, NMFS Scientific Research permit #945-1776-01).

Finally, because ANILCA and NPS regulations prohibit subsistence uses in Glacier Bay National Park (codified in 36 CFR, part 13), the plan is not expected to significantly restrict or increase competition for ANILCA Title VIII subsistence resources on federal public lands within the broader region (*see further analysis in appendix B*).

#### Glacier Bay General Management Plan, 1984

This plan is consistent with and supplements directions in the general management plan (GMP) that guide the long-term management of the park including visitor use, facilities, and resource management. The GMP established management zones and placed Bartlett Cove into a Development Zone to be managed for park development and concentrated public use that would substantially alter the natural environment. Parking lots, public roads, buildings, and park utilities were to be included in this zone. It also emphasized that, to the extent possible, any development should emphasize a high quality of design that harmonizes with the park's history and atmosphere to minimize impacts on visitors and resources.

#### Glacier Bay National Park and Preserve Vessel Quotas and Operating Requirements (VQOR) | Final Environmental Impact Statement, Record of Decision 2003

This plan is consistent with the 2003 Vessel Quotas and Operating Requirements EIS Record of Decision to address the continuing demand for motorized watercraft access into Glacier Bay with a system of seasonal use quotas and operating requirements for four vessel types (cruise ships, tour, charter, and private vessels). As current issues and conditions do not warrant revisiting these management directions, this plan would not amend these decisions and defers to the decisions and guidance outlined in the Vessel Quotas and Operation Requirements EIS Record of Decision.

#### Huna Tribal House EA | FONSI (2013)

This plan is consistent with all of the 2013 Huna Tribal House EA directions. The Huna Tribal House EA called for the development of a Tlingit tribal house on the Bartlett Cove shoreline as a venue for tribal members to reconnect with their traditional homeland, lifeways, and ancestral knowledge, as a focal point for educational programs designed to convey the story of the Huna Tlingit and their evolving relationship with the NPS, and for appropriate NPS administrative activities.

The EA proposed two buildings that were completed in 2016, including *Xunaa Shuká Hit* (Huna Ancestors' House) and an adjacent annex building with a kitchen and restrooms. The development was also to include totem poles (completed in 2017) and an outdoor gathering area.

#### Glacier Bay National Park and Preserve Trail Management Plan (1994)

This plan amends the 1994 trail plan that identified trail deficiencies and established priorities for construction, rehabilitation, and maintenance. It includes new trails and management strategies to address plant succession, isostatic uplift, and maintenance sustainability.

#### Bartlett Cove Comprehensive Design Plan (CDP) | FONSI, 1998

This Frontcountry Management Plan amends and replaces the 1998 Comprehensive Design Plan (CDP) that called for upgrading existing utility systems and constructing a new maintenance facility, visitor access center, research or "Discovery Center," tribal house, and additional lodging. The CDP also proposed adapting existing facilities to accommodate the increased needs of administration, moderately expanding lodge facilities, and realigning a section of the park entrance road that was then converted to serve as a pedestrian trail. While much of the CDP has been implemented, some elements and directions have not. Any CDP actions and planning decisions carried forward (such as the new visitor Discovery Center project) are expressly identified in the Frontcountry Management Plan.



## PLANNING PROCESS

Planning began in early 2016 when an NPS team was formed (*see appendix G*). Their first step was to articulate a planning goal describing the broad outcome the park was hoping to achieve and specific management objectives to define “what success would look like.”

Next, the NPS asked the public and stakeholders to identify opportunities and concerns over a four-month open comment period (June to October 2016). Substantive comments were received from more than 100 individuals, several organizations and elected officials, and through formal government-to-government tribal consultation (*see appendix E for more details*).

During the public process, the NPS heard many ideas and a range of approaches to protecting Bartlett Cove’s natural and cultural resources, while enhancing opportunities for frontcountry visitors. Building from this input and the stated goal and objectives, the team prepared a purpose and need statement, and developed three alternative futures for park frontcountry (*presented in full in Chapter 2 of the environmental assessment*).

For each alternative, the NPS team prepared a comprehensive vision and set of implementing strategies and actions specific to frontcountry visitor experiences, facilities, services, resource management, and day-to-day operations. Then the NPS selected a preferred alternative and prepared a draft plan and an environmental assessment analyzing the trade-offs between alternative visions.

The NPS released the draft plan and environmental assessment during an open comment period (April 9 - May 8, 2019) and solicited comments through outreach and public meetings in Hoonah, Gustavus, and Juneau. Next the NPS considered all received comments, made changes and corrections, and prepared responses to substantive comments by agencies, organizations, and the general public. Then, the NPS prepared a final decision document (Finding of No Significant Impact) including amendments or modifications to the proposal based on feedback submitted by the public and agencies during the comment period, and finalized this planning vision.

### Planning Vision Elements

**Goal:** The broad outcomes the NPS is hoping to achieve over the life of this plan.

**Objectives:** The specific outcomes or future desired conditions that the NPS is seeking to achieve through consistent management action over time. Objectives can also be considered performance measures to guide decision-making as conditions change.

**Vision:** The NPS preferred alternative, including these elements:

- **Implementing strategies and actions**, described by how they support or relate to:
  - the **Huna Tlingit Homeland** (*see page I-20*)
  - the **Glacier Bay Lodge** (*see page I-22*)
  - the park’s **Visitor Experience** (*see page I-25*)
  - overall **Park Operations** in the frontcountry (*see page I-34*)
- The **planning vision concept**, presented in several illustrative graphics:
  - a rendering of the implementation **site concept** (*see figure 8, page I-18*)
  - an overview map highlighting **planning vision** elements and trail concepts (*see figure 13, page I-39*)
  - an inset map of the **visitor core area** site concept (*see figure 14, page I-40*)
  - an inset map of the **administrative core area** site concept (*see figure 15, page I-41*)

FIGURE 7. PLANNING VISION ELEMENTS

# PLANNING VISION

## GOAL



The frontcountry is a welcoming place where development, operations, and services promote the stewardship of park resources, serve the public, and provide opportunities for all to explore and discover the ever-changing natural and living cultural landscapes of Glacier Bay National Park and Preserve.

## OBJECTIVES

### Visitor Experience

The frontcountry provides meaningful experiences that connect visitors to Glacier Bay National Park and Preserve and its fundamental resources, values, and purposes.

The frontcountry welcomes diverse audiences, arriving by a variety of modes, and seeking a range of national park experiences that emphasize the exploration and discovery of Glacier Bay National Park and Preserve's ever-changing natural and living cultural landscapes.

Visitor transportation to park destinations, including Bartlett Cove, is viewed as a critical element of the recreation experience, and is managed to emphasize:

- visitor convenience and safety, appropriate to a remote national park setting
- experience-based opportunities for contact with the natural environment
- a low threshold for the acceptance of adverse impacts on resources
- optimized access opportunities that meet all current laws and regulations

To protect sensitive backcountry park resources and wilderness character, Bartlett Cove is the encouraged location in the park for higher intensity, land-based visitor activities associated with commercial services operations, such as passengers disembarking from small- to medium-sized marine vessels. To retain the quality of the visitor experience, the park intentionally manages these

high-density uses to address both the maximal and the sustainable daily infrastructure capacities of the frontcountry area (*see details in appendix C*).

Bartlett Cove is managed as a special place where human uses and alterations of the environment harmonize with the park's history and atmosphere, minimize impacts on visitors and resources, and convey an authentic character and remote Alaskan experience.

Architectural elements along the Bartlett Cove shoreline seek to complement the Glacier Bay Lodge form and roofline, and are sensitive to visitor enjoyment of scenic views and night skies.

NPS identity and design elements and guidelines are consistently applied in the frontcountry, adapted to incorporate Pacific Northwest Modern and Mission 66 design themes (e.g., colors and materials that harmonize to blend into their natural surroundings, open floor plans that maximize natural light and reduce outdoor-indoor distinctions, and the combination of rustic and modern features).

Visitors find appropriate recreational opportunities that connect them to the park.

Developed recreational facilities and amenities are designed to provide an authentic place-based experience at the lower intensity end of the Recreational Opportunity Spectrum, to include:

- Semi-Primitive experiences that emphasize nature “as it is,” with the least modification to support use. The experience requires of its users a high acceptance for personal effort, risk, and discomfort due to natural elements, and respect for other users’ privacy and quiet.
- Remote Rustic experiences that emphasize no-frills, basic conveniences and convey a minimalist rustic aesthetic. The experience requires self-sufficiency by its users due to the lack of amenities, but offers easier access, more comfort, and expanded social opportunities.

Developed recreational facilities and amenities anticipate the dynamic landscape and may be designed to shift their location over time to retain the desired experience.

The frontcountry supports a variety of **necessary** and **appropriate** visitor services that enable high-quality national park experiences and are also commercially viable, operationally sustainable, and administratively feasible.

Authorized commercial services are consistent with the preservation and conservation of resources and values of the park, and are **necessary** and **appropriate** for public use and enjoyment.

A visitor service that is **appropriate** accomplishes all of the following:

- It is consistent with the park purpose and significance.
- It is consistent with all applicable NPS policies, and federal, state and local regulations.
- It does not compromise public health and safety.
- It meets the desired conditions of the frontcountry management plan and other relevant park planning documents, and does not create unacceptable impacts to the fundamental resources and values of the park that are unable to be mitigated.
- It does not unduly conflict with other park uses and activities.
- It does not exclude the general public from participating in limited recreational opportunities.



A service that is **necessary** accomplishes one or more of the following:

- It contributes to visitor education, understanding, and appreciation of park purpose and significance.
- It enhances visitor experiences consistent with park purpose, significance, and the desired conditions of the park's fundamental resources and values.
- It assists the park in managing visitor use to protect park resources.
- It is an essential service or facility not available within a reasonable distance from the park.

#### Tlingit Ancestral Homeland

Living and evolving cultural relationships between Huna Tlingit tribal members and their homeland are strengthened in the frontcountry, supported by NPS-tribal partnerships based on mutual respect and collaborative effort.

Tribal members engage in traditional practices in the frontcountry that sustain their ongoing connection to ancestors, homeland, and culturally significant sites.

The Huna Tribal House, or *Xunaa Shuká Hit* (roughly translated as “Huna Ancestors’ House”) serves as a gathering place where tribal members can reconnect with their treasured homeland and visitors can learn about the Huna Tlingit ancestral homeland.

Contemporary cultural features along the Tlingit Trail serve as “containers” to hold the ancestral stories and traditions that maintain connections between a living culture and their traditional homeland, and also remind visitors of the deep and ongoing connection between a traditional people and their homeland.

The NPS and tribal interests collaborate to steward the lands and waters of traditional homeland and advocate for the protection of park purposes and values.

#### Pre-Historic and Historical Site Records

Cultural, historical, archaeological, and ethnographic resources in the frontcountry are described through the lens of human experience and study, and their integrity is preserved.

Frontcountry visitors have opportunities to learn about the park's rich cultural connections and particular meanings for traditionally-associated people and groups.

Nationally significant historic sites and structures are managed to preserve their story of significance and to avoid unacceptable impacts to their character-defining features.

#### Ecological Integrity | Protected Marine Ecosystems

The integrity of large, contiguous, intact ecosystems is sustained by frontcountry programs, facilities, and operations.

While the frontcountry serves as a concentrated visitor use and development zone, its landscape-level ecological integrity remains unimpeded by these activities.

Visitors can access and have authentic experiences of a variety of intact natural ecosystems in the frontcountry.

While Bartlett Cove is a hub of activity, the NPS and its partners demonstrate ecosystem-scale awareness and long-term preservation best practices.

Frontcountry operations are adapted to the remote setting and the dynamic environment to maximize life-cycle efficiencies, and model environmental stewardship.

#### Scientific Investigation

The long-term, world-class study of Glacier Bay as a “living laboratory” (as described in the 1925 enabling legislation) is sustained by frontcountry programs, facilities, and operations.

The frontcountry serves as a base for researchers engaged in diverse endeavors within Glacier Bay National Park and Preserve, who receive support to mitigate logistical challenges, and have opportunities to share the results of their research with the visiting public.

The frontcountry is an inspirational place where visitors can learn about Glacier Bay’s significance in a scientific context through exposure to legacy research findings, cutting-edge discoveries on emerging questions, and hands-on experiences in a dynamic landscape.

Bartlett Cove serves as a base for the NPS and its partners to generate and share scientific knowledge that promotes understanding and stewardship of ecosystems within the Glacier Bay National Park and Preserve.

#### Dynamism and Succession

Dynamic natural processes and environmental changes are anticipated by frontcountry programs, facilities, and operations.

While the frontcountry serves as an intensive visitor use and development zone, broader landscape-level succession and habitat changes are unimpeded by these activities.

Human disturbance zones are managed as native landscapes that blend with or frame broader successional landscape and scenic contexts.

The frontcountry showcases authentic experiences of the fundamental physical and biological processes of dynamism and succession, including the opportunity to directly or indirectly experience a tidewater glacier.

#### Wilderness

The frontcountry serves as a portal to high-quality wilderness experiences, ranging from more accessible day-trips to multi-day backcountry adventures.

Bartlett Cove supports backcountry users with appropriate services, facilities, and information.

The number and intensity of impacts to wilderness character (in nearby designated wilderness areas) are minimized and balanced with access and educational opportunities.

# A RENEWED VISION FOR BARTLETT COVE

## Planning Vision and Preferred NPS Alternative

Actions and strategies in this alternative would continue historic National Park Service management directions for this area (under the general management plan as a concentrated visitor use and development zone, with periodic incremental investment and expansion) so that the frontcountry becomes a welcoming destination that strengthens visitors' connections to larger park purposes.

Bartlett Cove would function more like a traditional national park frontcountry where visitors can “Find their Park” and be inspired by the features, processes, stories, and attributes associated with the national significance of Glacier Bay—whether or not they are able to explore farther into the backcountry. The National Park Service would continue to provide the foundational services to access the backcountry, but would further expand its facilities, operations, and programming to engage broader audiences in the frontcountry for longer periods and to offer more accessible and condensed experiences of park resources and values.

To strengthen Bartlett Cove's appeal as a day-excursion destination and as a base for multi-day independent stays, the National Park Service would redesign and expand its frontcountry trail system and add new amenities that enable visitors to enjoy Bartlett Cove despite Southeast Alaska's challenging weather. These amenities would include restorations to the historic lodge and new visitor-oriented upgrades.

The economic viability of the lodge would be addressed by broadening its range of accommodations and hospitality options and by strategic partnerships to strengthen occupancy. Finally, the National Park Service would seek to strengthen local tourism benefits and enhance visitor opportunities by defining the level of involvement and processes to collaborate with tribal, gateway community, private, and other entities.

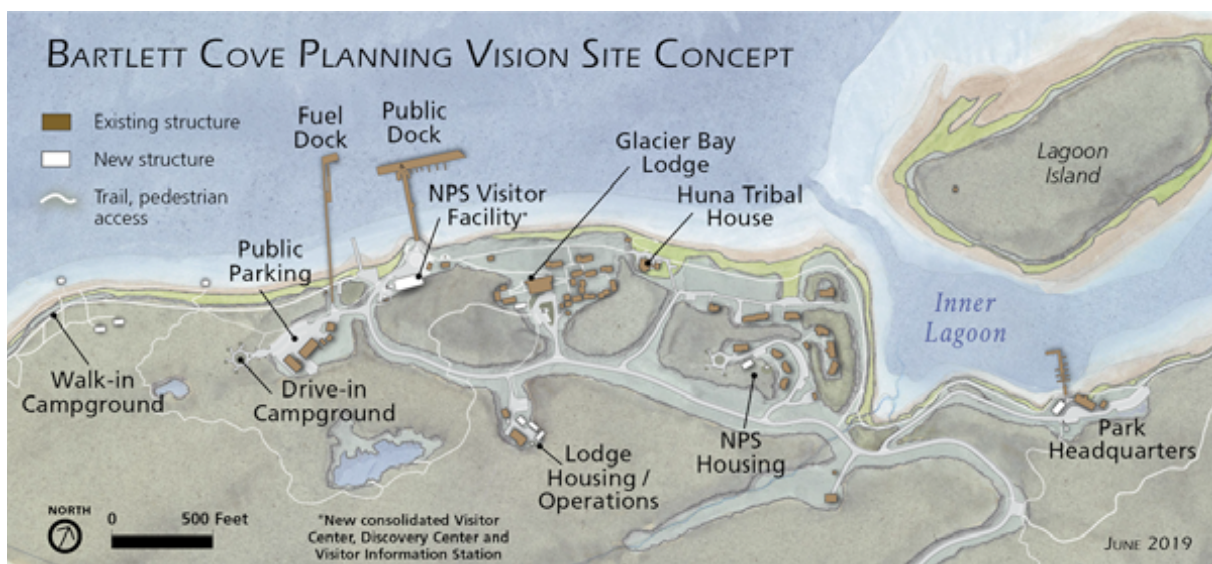


FIGURE 8. PLANNING VISION SITE CONCEPT





(above) **Bartlett Cove in the foreground, the Huna Tribal House at left, and the mouth of Glacier Bay in the distance.**

### **How the planning vision relates to the environmental assessment (EA):**

- This planning vision is a consolidated and elaborated version of **alternative C** in the EA
- All the goals and objectives and some of the actions presented here in the planning vision would also be implemented if the NPS had selected **alternative B**. These are “Common to all Action Alternatives,” and are indicated in the section that follows by **[CTA]**.
- Only some of the strategies and actions presented in the planning vision that follows are analyzed in the EA (as indicated by **[EA]**). Others are not analyzed at this time because:
  - 1) the activity falls within existing NPS management authorities
  - 2) required environmental analyses have been previously completed
  - 3) the action is too broadly defined and is not yet ripe for analysis

Details analyzed in the EA at this time are conceptual to give a sense of site use and scale of development footprint. Actual design will vary based on site constraints, resource conditions, and available funding. Finally, the analysis assumes that prior to the construction of facilities, site-specific environmental analyses, permitting, and consultation will occur (as appropriate), as further feasibility and site design studies are completed.

FIGURE 9. HOW THE PLANNING VISION RELATES TO THE ENVIRONMENTAL ASSESSMENT

# HUNA TLINGIT HOMELAND

## LIVING CULTURAL LANDSCAPE

Collaborate with the Hoonah Indian Association (HIA) to support tribal members' sustained connection to homeland at the Huna Tribal House and elsewhere in Bartlett Cove. [CTA]

Conceptualize the Huna Tribal House environment as a living cultural landscape that sustains meaningful, evolving homeland connections for tribal members, and convey this relationship to the visiting public. [CTA]

Partner with HIA to ensure that the Huna Tribal House and surrounding area meet appropriate tribal needs, and enhance its use to include:

- Upgrade the functional capacity of the Tribal House and especially its annex to accommodate larger groups. Attach a retractable awning to the backside of the covered walkway for enhanced capacity associated with larger gatherings. [CTA]
- Develop Architectural Barriers Act Accessibility Standard (ABAAS) access to the beach above high tide across the front meadow from the Huna Tribal House (~250 linear feet, Trail Class 5, tread 72" maximum). Incorporate a durable landing node for wheelchair turnaround and enhanced tribal house viewing. [EA, CTA]
- Directly in front of the Tribal House, between the Tlingit Trail and the beach, accommodate larger public gatherings by maintaining a native herbaceous species meadow with woody plants removed. Make limited site amendments to the existing natural terracing within a ~14,000 square foot area. Spot grade and strategically use natural stone and timber elements as

*"The frontcountry plan might consider the Tribal House environment as a living community."*

Robert Starbard, HIA Tribal Administrator (2016 NPS-HIA Frontcountry Management Plan Tribal Consultation)

*"Glacier Bay is not whole without the Huna Tlingit and the Huna Tlingit are not whole without Glacier Bay."*

Robert Starbard, HIA Tribal Administrator (2016 NPS-HIA Frontcountry Management Plan Tribal Consultation)



(above) The 2016 Huna Tribal House opening in Bartlett Cove marked the realization of a long-awaited dream, and represents decades of NPS-HIA collaborative effort.

needed. In nearshore waters and intertidal areas, make strategic spot rock movements to facilitate canoe arrivals. [EA]

- Build a retractable awning or permanent wooden covered shelter as a place to host cultural demonstrations and other gatherings in the disturbed footprint of the existing Tribal House or directly in front of its annex (up to 400 square feet). For this structure and any cultural activities that use temporary outdoor shelters, ensure that structures complement views of the Tribal House from the water, for pedestrians arriving via the Tlingit Trail, and are appropriate within a national park setting. [EA]
- Establish an area proximal to the Tribal House as a setting to demonstrate traditional activities to the visiting public. Traditional activities may include, but are not limited to: carving, canoe paddling with a canoe run, fire, art, methods of plant and seafood gathering and processing, and other cultural demonstrations.
- In front of and proximal to the Huna Tribal House, define vegetation clearing and terracing objectives and methods to:
  - enhance views to and from the Tribal House [CTA]

- maintain a visual connection with the historic village site on Lester Island, and [CTA]
- support traditional life ways demonstrations. [CTA]

Deter visitors from driving in front of the Tribal House by installing a gate at the top of its driveway. [EA, CTA]

In partnership with HIA, focus interpretation along the Tlingit Trail to convey:

- Tlingit history associated with Bartlett Cove and elsewhere the park. [CTA]
- The evolving and strengthening NPS-tribal relationship. [CTA]
- The living cultural landscape, of ever-adapting traditional life-ways. [CTA]

Retain the Ceremonial Beach's natural character to enable tribal members to reconnect with tribal stories and memories associated with the 1992 Peaceful Demonstration. [CTA]

Maintain *Yúxch' Yaakw* (the 1987 Tlingit dugout canoe) at its present site and honor its role in park and tribal relationships and in sharing traditional Tlingit boat craft. [CTA]

#### CULTURAL LEARNING OPPORTUNITIES AND STRENGTHENED HOONAH CONNECTIONS

Support potential HIA efforts to operate a tribal transportation ferry between Hoonah and Bartlett Cove that facilitates tribal and public access. [CTA]



(above) A Tlingit boat in the water and a young tribal member on the shoreline during the 2018 healing totem raising. The renewal of ancient traditions and new relationships to homeland are underway in Bartlett Cove.

Address barriers to tribal members' participation in cultural programs in Bartlett Cove (logistics, transportation, and overnight lodging, etc.). [CTA]

Update frontcountry park entrance signs to communicate to the visiting public that this area is the ancestral homeland for the Huna Tlingit people.

Visibly celebrate the park's significance as Huna Tlingit homeland by reflecting Tlingit traditional elements as appropriate in facilities, trails, and interpretive displays. [CTA]

With HIA, cooperatively implement the Huna Tribal House Strategic Plan and the Huna Tribal House Interpretive Site Plan to diversify the cultural learning opportunities available to frontcountry visitors, including:

- Develop diverse interpretive programs to educate the public about the Tribal House, Tlingit culture, traditional practices, and the evolving relationship between the Huna Tlingit and the NPS. [CTA]
- Develop enhanced cultural programs such as craft workshops at the Tribal House that may only be possible utilizing cost-recovery fees.
- Develop the living cultural landscape concept to support tribal members' sharing personally meaningful living history experiences with park visitors and residents from gateway communities.
- Provide some level of year-round public access to cultural interpretive opportunities. [CTA]
- Relocate and enhance a more accessible Ceremonial Beach wayside. Potentially co-locate with a visitor arrival node to include such things as a rustic transit shelter, wayfinding displays, and functional amenities like phone and wi-fi. [CTA]

Build frontcountry visitor facilities taking into account tribal interest in accessing nearby historic cultural sites, balanced with protecting the integrity of those sites. [CTA]



# GLACIER BAY LODGE

## HISTORIC RESOURCE

Enhance and showcase the Glacier Bay Lodge Complex Historic District as a signature Mission 66 project by:

- interpreting its Mission 66 history and significance [CTA]
- submitting a National Register nomination for the Glacier Bay Lodge Complex Historic District, and [CTA]
- marketing the lodge historic experience with targeted promotion (Historic Hotels of America list and tours, media, writers). [CTA]

Feature select historical elements (period pieces, retro finishings) in the lodge building and select cabins.

Perform vegetation maintenance tasks as defined in the Vegetation Treatment and Preservation Maintenance Plan (NPS 2018a) for the lodge to:

- define viewscape intent and restore historic district viewsheds, and [CTA, EA]
- develop defensible space and maintenance standards for managing vegetation in the historic district to protect the integrity of historic buildings (mildew, hazard trees, fire wise). [CTA, EA]

Portions of the lodge building would be restored to its period of significance (1965-1975), and the following rehabilitation treatments proposed in the 2018 NPS Historic Structures Report would be implemented:

- Remove non-historic additions to the south side of the lodge building that are located west of the main drop-off and visitor entrance. The lodge would be restored to historic specifications by constructing a wrap-around deck with southern exposure and rain cover. [EA]



(above) The Glacier Bay Lodge during its period of historical significance (1965-1975). A 2018 NPS Historic Structures Report recommended rehabilitation of the lodge with sensitive repairs, alterations, and expansions that preserve or restore its character-defining features.

- Remove NPS exhibits from the second floor of the lodge and restore the architect's original design configuration above the dining area to achieve the desired catwalk effect with enhanced natural lighting and views. [EA]

## NPS PRESENCE

Remove NPS visitor service operations from the lodge and explore opportunities for the highest and best re-use of the re-configured space, potentially working with a partner. [CTA]

Install a small NPS indoor kiosk/automated service desk with a phone and/or computer that connects visitors with both park and gateway community information to help with logistical planning for in-park and out-of-park activities.

## VISITOR EXPERIENCE

Address facility conditions by completing deferred maintenance. [CTA]

Add bathroom capacity in the lodge building that addresses accessibility (ABAAS).

Convert the upstairs auditorium into a more flexible multi-use space where internet and phone users can congregate, potentially in conjunction with other activities. [CTA]

Upgrade the upstairs auditorium to increase natural light, improve patio access, and increase sunshine and outdoor views. Consider expanded uses of this space such as a café, bookstore, and/or scheduled programs (e.g., movie, storytelling, indoor physical activities).



(above) In its early days the interior lodge floor plan was more open, designed to enhance indoor daylight and the social atmosphere for visitors.

Re-purpose some of the lodge ground level (north side) for visitor services and to showcase scenic Fairweather Range views. This may include such things as a coffee shop, public laundry, and/or an indoor-outdoor flexible space or banquet room that extends food service capacity for pulses of visitors, and supports special events. This could connect to a patio/overlook/terrace with open-air seating and an amphitheater-style fire feature that encourages visitors to relax and socialize to the best effect, and supports casual programming like informal talks, storytelling, and opportunities to showcase local talent.

Strengthen the arrival experience associated with the lodge main entrances:

- ABAAS access at main entrances. [CTA]
- Install attractive entry features on the south and northeast exteriors of the lodge with NPS wayside/orientation amenities and ABAAS connectivity.
- Develop an accessible trail between the lodge and Public Use Dock. [CTA]

Designate an area of the lodge as a kid's corner or informal play/reading nook. [CTA]

Provide 4-6 upscale room offerings with appropriate rate (combine two lodge units into one or build new).

Build new or remodel some lodge rooms as insulated bunk rooms or minimalist offerings with a kitchenette that can be used year-round.

In a new or existing structure consolidate camping services and public laundry/showers. Potentially combine with new overnight bunkhouse lodging in the historic lodge district, or relocate into the current Visitor Information Station (VIS) structure if a freestanding new combined Visitor Center, VIS, and Discovery Center is developed.

Reduce the need for parking at the lodge by providing convenient alternative transportation (scheduled shuttle, taxi) to support restaurant and bar demand from non-lodge guests.

Expand parking proximate to the lodge if/when needed due to expanded local patronage. [CTA]

Remove or limit use of wi-fi in the lobby and key window and scenic view areas of the lodge to enhance the primary visitor experience. [CTA]

Establish wi-fi in lodge rooms as local technology/cost permits. [CTA]

## PROFITABILITY AND REINVESTMENT

Partner to redefine the lodge as a more compelling, experientially-focused product using a total Glacier Bay package and approach:

- Focus on reducing the barriers independent travelers face in visiting Bartlett Cove.
- Leverage shore-based frontcountry excursions, trips into the bay, non-park activities, and services provided by the NPS and partners to support the lodge's functioning as a base for a compelling, competitive multi-day experience.

Work with partners to retain the lodge as a hotel in the park (instead of repurposing it) and adjust its offerings, products, and prices to improve the profitability and appeal of the Glacier Bay Lodge experience:

- Look for opportunities to expand the portfolio of room offerings at a range of prices. [CTA]

- Seek to expand the visitor base with offerings that appeal to a greater diversity of visitors (economic, age, cultural, ethnic). [CTA]
- Look for opportunities to improve visitor occupancy such as increasing length of visitor stays, extending seasons, and fully utilizing existing cabins. [CTA]
- Encourage increased advertising and digital communications about lodge opportunities, and cooperate with associations, partners, and others on marketing campaigns. [CTA]
- Provide bar service with a family-friendly atmosphere. [CTA]
- Look for opportunities to diversify food service. [CTA]
- Provide a variety of eating experiences.
- Explore opportunities to showcase high-quality local and regional talent and products that directly relate to Glacier Bay's stories of significance and align with a national park experience.

## **SUSTAINABLE BUSINESS MODEL**

Work to develop a more stable, flexible, and sustainable business model for the lodge using the most appropriate tools, such as under the 2016 National Park Service Centennial Act authorization. Address chronic lodge concessions challenges and seek to:

- Enhance the lodge's financial viability as a remote operation. [CTA]
- Promote a business model that achieves reinvestment into the historic facility and an enhanced visitor experience. [CTA]

Work with local entities and partners to leverage market expertise and resources to help refine the business model, expand visitor opportunities, and address chronic operational challenges (operating costs, attracting and keeping quality staff, remote logistics, etc.). [CTA]

Foster synergies and a sustainable regional tourism sector in which the lodge complements gateway community offerings and vice-versa. [CTA]

## **DAY-TO-DAY LODGE OPERATIONS**

Engage partners in functional space planning and consider opportunities to relocate non-essential administrative functions and operations from inside the lodge historic district in order to:

- enhance ambiance, reduce use conflicts
- maximize the space available for visitor enjoyment, especially indoor areas that provide a welcome escape from rain, and
- restore space uses and circulation to match the original architectural design intent (Mission 66 and Pacific Northwest Modern) and to maximize interior natural light.

Consolidate non-essential operations and administrative functions into a new or rehabilitated structure(s) on the concessions-assigned property, within the previously disturbed landscape, sensitive to the nearby Forest Trail experience. This may include such things as:

- storage (housekeeping supplies, goods, tools, equipment, recycling, and other materials)
- lodge functions (laundry, waste management, shipping, receiving, vehicle staging and staff parking)
- employee activity areas (maintenance work, designated staff smoking and break areas)

Consider electric utility vehicle or human-powered means to unobtrusively connect concessions-assigned property functions and the lodge complex (e.g., shuttle supplies, waste, laundry).

If staffing levels increase, expand housing capacity within concessions-assigned property area, and use shuttles to provide more opportunities for people to live in Gustavus.

Improve lodge employee housing within its assigned property area (outside of the lodge historic district). Buffer surrounding visitor uses and consider a range of alternatives and funding approaches (e.g., total rehab, new modular and/or efficiency buildings or structures). May feature an outdoor employee use space with permanent rain shelter, fire pit, and features to enhance healthy off-duty socialization in a natural setting. [CTA]

# VISITOR EXPERIENCE

## MEANINGFUL NATIONAL PARK EXPERIENCE

Expand the NPS Bartlett Cove visitor offerings with a focus on meaningful experiences that connect visitors to the park's fundamental resources and values. [CTA]

## VISITOR CONTACT MODEL

Consolidate and clarify NPS visitor contact functions to enhance visitor experiences and achieve staffing efficiencies. As facility upgrades are made, apply this new model and update NPS displays and exhibit packages with contents that:

- engage diverse modern audiences [CTA]
- are interactive and experiential to support longer and repeat visits [CTA]
- offer some exhibits that are accessible year-round (outdoor kiosk), and [CTA]
- showcase the park's fundamental resources and values. [CTA]

Implement the Discovery Center project from the 1998 Bartlett Cove Development Plan. Combine with visitor contact and service functions in a signature new facility (up to 20,000 square feet) with a new 80 person capacity auditorium on the southeast edge of the current VIS parking lot to maximize accessibility for visitors. During its design, redefine parking, circulation, and access needs in a way that is sensitive to the existing scale of the frontcountry arrival experience and overall shoreline aesthetics. Intentionally program the space to feature a strong research component that does justice to Glacier Bay as a living laboratory and the park's enabling legislation:

- Share the story of historical exploration and preserve the record of research heritage with targeted collection displays and real-time science exhibits that build on more than 100 years of active science in Glacier Bay.
- Coordinate, support, and extend current park interdisciplinary scientific



(above) **The frontcountry presents opportunities to connect park visitors with the values and stories that were important enough to merit national designation.**

collaborations within the park and with outside institutions with functional space.

- Provide a better integration of science and exploration as fundamental aspects of the park in all interpretation and education programs.
- Provide place-based experiential learning opportunities that deeply connect visitors to park resources and values by dynamically responding to personal knowledge and interests. Design for wide generational appeal and more intimate, smaller group formats. Opportunities could include citizen science, nature walks, scientist-led observation outings, visitor-populated exhibits (photo, video, nature journaling, art), and topic-specific presentations, labs, workshops, pre-trip science briefings, and interdisciplinary symposia.

## EXCURSION OPPORTUNITIES: TRAILS

Develop and maintain a high-quality trail network originating from Bartlett Cove that connects frontcountry visitors with fundamental park resources and values, including designated Wilderness.

Address park wilderness access originating from Gustavus (including Bartlett Lake/Towers Trail and Falls Creek) in backcountry planning. [CTA]





(above) In a marine park with large designated wilderness areas, Glacier Bay's frontcountry is a terrestrial base for welcoming visitors to explore the park.

Enhance visitor experience and reduce life-cycle maintenance costs associated with trails by applying sustainable trails best practices, trail management objectives, and anticipating the dynamic successional landscape in Glacier Bay (see figure 10).

Incrementally construct new trail segments as dedicated maintenance funds are available and route, design, and maintain according to sustainable trail standards and trail class (see figure 11), with ephemeral adaptations and investment strategies that anticipate succession given Glacier Bay's evolving landscape. [CTA]

Actively create and maintain quality views from land to water in key trail locations that interpret the post-glacial changing landscape and park resources. Add benches where appropriate, and design with wide spots for group gathering and other approaches that focus pedestrian traffic to reduce social trailing.

Develop trailheads and enhance trail network signage, wayfinding, and interpretive tools that support self-guided trail use. [CTA]

Design new and reroute existing trails to achieve a premium and sustainable experiential trail network that connects Bartlett Cove visitors with fundamental park resources and values, including designated Wilderness.

When planning projects, be aesthetically purposeful about frontcountry views in transition zones from wilderness waters to Bartlett Cove's more developed areas. [CTA]

## TRAILS IN A SUCCESSION LANDSCAPE

### Intertidal Zone



This biologically important zone has constant tide fluctuations up to 25 vertical feet—some of the world's largest. It is a fun place to explore with miles of prime scenery and wildlife viewing. Longer treks require familiarity with tide cycles, water crossings, and coastline conditions.

### Upper Intertidal



Above typical high tide and below the grassline is often a band of well-drained sand, gravel, and rocks punctuated by a few salt-tolerant plants. Although dry with great walking, hikers can inadvertently flush birds or step on camouflaged nests.

### Beach Grass



Beach meadows are a distinctive feature of Glacier Bay, where post-glacial isostatic rebound is causing the land to rise up out of the sea. Beach grasses are tolerant of storm waves and salt water at high tides, but are vulnerable to regular foot traffic.

### Forest Edge



A lush, diverse mix of plants grow above extreme high water, often backed by alder and fast growing new trees. Trails here can offer dry feet, scenic views, and diverse wildflowers with roots that attract bears.

### Lowland Forest



Young forests offer lush moss, lichen, ferns, spruce, hemlock, and dense shrubs, such as blueberry and alder. Trail issues include tree fall, thick understory, organics that soak in abundant rain (mud trenches), and slick roots.

### Upland Forest



Deeply-shaded uplands are dominated by tall, straight-trunked spruce and hemlock with few lower branches. Lovely moss carpeting and the lack of understory enhances walking, as do better-drained moraine substrates of gravel and sand.

FIGURE 10. DYNAMIC FRONTCOUNTRY TRAIL CONDITIONS

## BARTLETT RIVER TRAIL

### *Inner Lagoon Dock to Bartlett River*

#### **Class 3 ~1.8 miles**

Provide a high-quality rainforest and shoreline hiking experience. Feature premium bird, wildlife and intertidal life viewing, and an ABAAS accessible overlook in the north-eastern end of the Inner Lagoon. The trail connects the Bartlett River (in designated Wilderness), the Beardslee Islands Tidal Cut, and the Inner Lagoon Dock (with the NPS headquarters area as a multi-modal hub with other trail connections). Retain spur link to the existing park entrance road trailhead. Enhance visitor experiences with design considerations for scenic views, aesthetics (minimal boardwalk profile and natural colors that blend when viewed from afar), night skies, wildlife viewing best practices, forest-edge birding blinds, and clear distinctions between public and non-public use areas. Construct portions as a single-lane soft-tread trail using only native materials and reuse portions of the existing trail that are durable. Construct the rest as movable elevated structures such as boardwalks on helical piers that allow for periodic location adjustments to maintain the shoreline experience and adjust for isostatic rebound. Mitigate to address resource concerns including Wilderness character impacts, wildlife obstruction on boardwalks and wildlife disturbance, and to discourage off-trail access into sensitive estuary, wetland, and tidal cut areas.

**Analyzed Action:** Approximately one mile of new route would be built on the shoreline and along the tidal cut (some portions in designated Wilderness), as a Class 3 ABAAS and narrower rustic boardwalk (up to 36" wide) on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs. This would include the minimum required site modifications (based on wilderness analysis during pre-design). End the ABAAS boardwalk at a new 12-person overlook destination just outside the designated Wilderness boundary in the northeastern Inner Lagoon. Approximately .6 miles of new and existing route within rainforest would be upgraded to meet sustainable trail standards as a durable



FIGURE 11. FRONTCOUNTRY-WILDERNESS BOUNDARY AT THE BEARDSLEE ISLANDS TIDAL CUT

(above) The Beardslee Islands Tidal Cut at the northeast end of Bartlett Cove. The boundary for designated Wilderness is accessible less than a mile from the most fully developed area of the frontcountry. Water access through the cut opens and closes with the tides, and is getting shallower each year due to isostatic rebound (~1" per year).

soft-tread trail using native materials. The closed trail segment would no longer be maintained and about .70 miles would be spot revegetated to discourage public access. All inner lagoon kayak operations (racks and launching) would be consolidated to a site at the end of an expanded park headquarters parking area with a connecting path to the boardwalk that enables launching and consolidates foot traffic to reduce shoreline vegetation impacts. [EA]

## BARTLETT LAKE TRAIL

### *Inner Lagoon Dock to east of the Tribal House*

#### **Class 2, ~4 miles**

Upgrade a short spur connection (up to 300 feet) from the new Bartlett River trail to support Bartlett Lake Trail use. After the new trails in this plan are constructed, consider closing this and the entire Bartlett Lake Trail (weighing maintenance costs and trail use levels) using minimal vegetation rehabilitation and large rock placement to deter use. [EA]



## INNER LAGOON TRAIL

### *Inner Lagoon Dock to east of the Tribal House*

#### **Class 4, ~.5 miles**

Create a new ABAAS trail to showcase the scenic Inner Lagoon shoreline with expansive water and Fairweather Range views, and enhance pedestrian safety by enabling walkers to bypass the park entrance road at Alder Creek. On the existing portion, retain the experience of entering a natural green tunnel of vegetation. The trail connects the Inner Lagoon Dock (with the NPS headquarters area as a multi-modal hub with other trail connections), a new Alder Creek bridge, and the existing trail from the park entrance road to just east of the Huna Tribal House Annex. Enhance the visitor experience with design considerations for scenic views, aesthetics (minimal boardwalk profile and natural colors that help it blend when viewed from afar), night skies, wildlife viewing best practices, and clear distinctions between public and non-public use areas. Also, amplify the experience of discovery and surprise with a short side link to the Lagoon Island tidal “cut.” Starting at Alder Creek, construct a footbridge crossing and construct the northern portion as movable elevated structures, such as boardwalks on helical piers, that allow for periodic adjustments to maintain the shoreline experience and adjust for relocation due to isostatic rebound. On the existing portion, maintain as a rustic trail experience with a 36” maximum hardened width and an aesthetic crushed gravel base (limiting vehicular access to utility system repairs and emergencies). Maintain vegetation for a soft, natural, and more enclosed feeling with enough clearance for two people to walk abreast. Mitigate for historic lodge road considerations and to address resource concerns including wildlife obstruction on boardwalks and wildlife disturbance, and to discourage off-trail access into sensitive estuary and wetland areas.

**Analyzed Action:** Develop an Alder Creek footbridge crossing (~150 linear feet), and construct a ~.25-mile elevated boardwalk on the shoreline spanning from the trail terminus east of Alder Creek to a scenic vista near the Inner Lagoon Dock. It would be built as an ABAAS rustic boardwalk on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs. [EA]

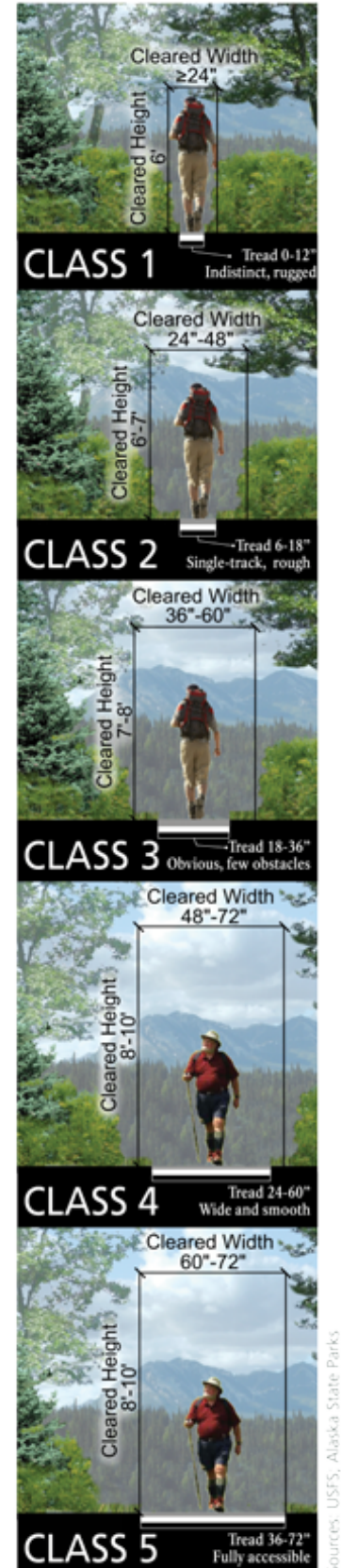
## TLINGIT TRAIL

### *Huna Tribal House Annex to the NPS Public Dock*

#### **Class 5 (~.25 miles)**

Continue to provide a high-capacity promenade featuring authentic visitor experiences (natural, cultural, historic). Thematically focus primarily on conveying living Tlingit traditions and an evolving healing relationship in partnership between NPS and HIA. Maintain existing route starting east of the Tribal House and extending to the Public Dock. Incorporate a range of featured visitor attractions for interpretation starting at the Healing Totem Pole and ending at the Tribal House. Add new amenities that enable access-challenged visitors to rest along the way, and expand opportunities to enjoy the shoreline, scenic water, and Fairweather

## Hiker-Pedestrian Trail Class Standards



Range views. Maintain as an accessible facility with an aesthetic crushed gravel base that is capable of supporting occasional vehicular access (e.g., fire engine, operations, and large event shuttles for those unable to walk). Mitigate to optimize the viewscape from both the water and the lodge, including night sky experiences, and to acknowledge the trail's origins and significance as the historic lodge road.

#### FOREST TRAIL

##### ***Lodge, Blackwater Pond, shoreline pavilion*** **Class 3 and 5 (~1.5 miles)**

Continue to provide an intimate nature immersion and rainforest visitor experience. The trail connects the lodge with the scenic Blackwater Pond and ends at a new shoreline day-use pavilion ~800 feet southwest of the Public Use Dock that serves as a hub for other trail connections. Reroute portions for accessibility and to retain the nature immersion experience. Actively revegetate social trail connectors. Enhance for group and self-guided interpretation. Maintain as an accessible trail with portions constructed as boardwalk trail with interpretive overlooks (existing Class 5) and then as a single lane soft-tread trail featuring native material in a natural setting (existing and relocated Class 3). Mitigate to limit views to and sounds from adjacent uses.

**Analyzed Action:** Up to 800 linear feet of the most steep and rough sections of the existing trail would be rerouted to improve opportunities for limited-mobility users. Rerouted sections would be constructed as 18" to 36" wide single track with soft tread featuring native material. Abandoned sections would be actively revegetated once trail construction is completed. [EA]

#### COOPER'S NOTCH TRAIL

##### ***Shoreline pavilion to the Inner Lagoon Dock*** **Class 3 and 2 (~5 miles)**

Provide a varied and more challenging hike transecting Bartlett Cove's most significant geomorphic features (the terminal moraine and Cooper's Notch) and interpreting natural disturbance and subsequent landscape development. Trail connects to a shoreline pavilion, the upper intertidal zone, Cooper's Notch, the moraine crest, and the Inner Lagoon Dock. Support connections to Forest Trail, Point Gustavus Route, and multi-modal links near park headquarters.

Enhance variety by showcasing different stages of successional vegetation and ecological zones (including wetland, riparian, and pond features). Incorporate regular steeper short-pitch elevation changes, rough tread, and rock-hopping obstacles for an interesting, diverse, and more strenuous experience. Provide interpretive overlooks and areas where small groups may gather. At wetland and riparian edges use natural materials to support crossings, ranging from strategic boulders to sections of rustic elevated trail. Mitigate natural resource damage by considering existing game trails and avoiding switchback layouts that encourage social trailing, fall-line drainage problems, and habitat disruption. Maintain as a rugged hike featuring native material to include minimal width single lane tread trail (Class 2), with regular interval passing zones (Class 3). Design the at-grade crossing of the park entrance road for safety and to support a continuity of experience connecting to the Headquarters area trail hub (with secondary links to the maintenance area for NPS staff pedestrian connectivity).

**Analyzed Action:** The proposed trail route would be refined to meet resource and visitor objectives. Four miles of new trail would be created, with tread width ranging from 18" to 36," and including up to five hardened gathering and overlook points (up to 400 square feet each). Elevated boardwalk on helical piers would be used to provide wetland and riparian edge access and crossings (up to 1,800 linear feet). An at-grade road-crossing would be prepared on the park entrance road. [EA]

#### POINT GUSTAVUS ROUTE

##### ***Cooper's Notch to Point Gustavus*** **Class 1 (~5.5 miles)**

Provide a longer-distance forest edge and scenic beach wilderness hike. Route starts at Cooper's Notch Trail and features mainly undeveloped shoreline, with minimalist, natural modifications to help users navigate tides, water crossings, and sensitive habitat (spot planks/strategic rocks). Enhance opportunities for visitors to have a premium backcountry experience by preserving wilderness character. Promote as a day trip with an end point turnaround location that considers designated overnight use areas (to be explored in future backcountry planning, working with adjacent landowners and



broader interests). Preserve wilderness character by limiting modifications and maintenance to the minimum; use indistinct single track tread and unmodified natural conditions (Class 1) with spot modifications (Class 2) using native materials. Consider isostatic rebound, avoid multiple social trails.

**Analyzed Action:** Minimalist, natural modifications (i.e., rock placement and spot planking) would be provided to help users navigate tides, water crossings, and sensitive habitat along 5 miles of shoreline, including designated Wilderness. This would include minimum required modifications (based on analysis during pre-design) to the environment using native natural materials such as rock and logs. [EA]

Working with partners outside the park, explore a Dude Creek State Critical Habitat Area trailhead with a park connection to the proposed Point Gustavus Route. Seek collaborative agreements with private land owners, government entities, and tribal interests (Hoonah Indian Association, native allotment owners).

#### EXCURSION OPPORTUNITIES: MARINE

Look for opportunities to provide leisurely, sensory-focused boat tours for whale and wildlife watching that are 1/2 day or shorter, and focus on understanding the science of productivity in lower Glacier Bay. These could utilize the current dayboat entry permit (in the evening), or an existing tour permit, or the park could encourage these offerings through the charter prospectus process. Seek to keep a low cost price point and focus on quality, repeatable experiences using a small eco-vessel.

For future dayboat selection, optimize visitor experience (natural sound, viewing, social and interpretive presentation areas), energy efficiency, and ticket affordability. [CTA]

#### EXCURSION OPPORTUNITIES AND RELATED SERVICES

Seek to build more flexibility and accountability into concessions operations to enhance visitor outcomes, broaden the



(above) The NPS vision strengthens Bartlett Cove's role as a wilderness adventure gateway, while seeking also to add more accessible and condensed frontcountry opportunities that enable visitors to learn about and experience the park.

frontcountry visitor base, and adapt to changing generational preferences. This may include such things as:

- work with partners to expand shore excursions and visitor offerings that align with the NPS mission and park purpose
- expand rental services to support short-notice kayak rentals and day excursion opportunities (2 - 5 hours)
- expand visitor offerings into shoulder seasons, and
- provide new opportunities for stand-up paddleboard rentals.

Frontcountry kayaking commercial operations are consolidated and shifted to outside the Glacier Bay Lodge Complex Historic District, into temporary/removable structures instead of permanent land assignments. This shift would be an opportunity to create convenient access for customers, improve operations, relieve congestion in the VIS area, and address trailer traffic congestion. A shared quarter-acre site would be prepared northeast of the fuel pier and southwest of the launch ramp for concessioner-provided storage buildings (kayak rental and day trip operations). In this area, a new 200 square foot rain shelter would be constructed to support orientations and equipment staging, marked by NPS typography signage and linked to the shoreline by a short hardened foot path extending approximately 30 feet to reduce shoreline vegetation impacts. Within the site, up to 1,000 square feet of tree clearing and ground hardening would enable access, circulation, and kayak trailer parking.

A portion of the existing Beach Trail (up to 130 feet) would be upgraded, widened, and extended with graded gravel or paving to support the vehicular access required to install and retrieve removable structures seasonally, and to support through-foot traffic. [EA, CTA]

Increase the number of kayak racks in the frontcountry and consolidate to three locations. Retain public use racks at current location under fuel pier. After the Inner Lagoon Trail and headquarters parking lot upgrades are constructed, add an active use/short-term use rack (public and NPS) and define its uses. Relocate NPS non-active use kayak storage racks to the “erratic” (a former generator building in seasonal housing). Visually screen kayak storage areas from the water and visitor use areas and add appropriate site adaptations to focus shoreline access and minimize vegetation trampling and erosion. Require public permits and manage recreational equipment so as to avoid derelict or indefinite property storage along the shoreline. [CTA]

Work with business partners and gateway communities to enhance visitor access to essential services and provisions:

- Offer the sale/rent of certain backcountry necessities in Bartlett Cove that are difficult to obtain or travel with from afar, or are prohibitively expensive (e.g., bear spray, fishing licenses, camp stove fuel). [CTA]
- Upgrade laundry and shower opportunities to serve backcountry users, campers, and private boaters.
- Enhance backcountry users’ and private boaters’ access to light groceries and sundries.

Collaborate with partners to promote a sustainable frontcountry tourism model to:

- leverage the resources of the NPS, partners, and gateway communities, and [CTA]
- anticipate and respond effectively to dynamic market forces, recognizing that various tourism futures are possible over the life of the plan, and future visitation levels cannot be predicted. [CTA]

Support community partners as they seek to implement complementary tourism offerings, visitor-oriented services, and infrastructure

outside the park, recognizing that many services and forms of recreation enjoyed by the public do not require a national park setting and are more appropriate in other venues. May include projects such as the Gustavus Community Center and transportation and recreation facilities outside the park, including trails and community boat facility upgrades. [CTA]

The NPS will encourage private cellular telephone service in the frontcountry and adjust NPS public wi-fi coverage if duplicative, to free up bandwidth for park operations.

Designate specific areas in Bartlett Cove for internet and phone users to congregate so as not to detract from the primary visitor experience. Provide a map of zones to include:

- hotspots for connectivity with plug-ins, seating, and congregation areas, and [CTA]
- places where communication services are intentionally unavailable or device use is discouraged to protect the unconnected experience for visitors. [CTA]

## RAIN SHELTERS

A 30’ x 30’ day-use pavilion for NPS demonstrations and programs would be built on the beach and/or intertidal zone that could secondarily support casual visitor use and picnicking. The pavilion would be constructed as a park-appropriate, iconic landmark consistent with historic park architecture visible to arriving boats. It would connect to the Campground Trail and to expanded day-use parking areas with a new Class 3 ABAAS accessible trail (up to 36” wide) of ~500 linear feet through the forest with tread appropriate to the anticipated regular use and with a short ramp segment at the pavilion. [EA]

Build another 30’ x 30’ day-use pavilion on the beach and/or intertidal zone near the campground dedicated to casual camper and visitor use, socializing, cooking and picnics, and to support gear staging and preparations for backcountry trips. [EA]

A covered picnic area (up to 300 square feet) would be developed near the relocated park

headquarters for day-use by visitors and staff. The area would be oriented for sun and scenic views and integrated with a covered walkway between NPS buildings. [EA]

## OVERNIGHT OPTIONS

Provide a range of on-shore overnight options for visitors, while retaining the bulk of camping sites as no-fee, semi-primitive walk-in sites available on a first-come first-serve basis. [CTA]

A small, drive-in campground would be developed that includes between four and six rustic, no-frills sites that could accommodate up to 30-foot-long RVs as well as other vehicles. Encourage any expanded future need for RV camping to occur in Gustavus by private enterprise or local government that could better provide for enhanced services such as hookups. The area could include picnic tables, fire pits, and tent sites. No utilities would be provided except a limited-service, small RV pump-out station and a nearby vermiculture composting toilet (that also serves pavilion and parking area users). Use quiet hours to manage visitor-created noise to reduce its impacts on other visitors. A cost-recovery fee and/or a reservation system may be applicable. The campground would be located southwest of the expanded parking area within easy walking distance of the composting toilet, but offset with some vegetated buffers to reduce impacts to walk-in campsites and the final Forest Trail route, and enhance the rustic experience. Up to 18,000 square feet of forest would be cleared, with an expanded gravel pad and pavement installed for an entrance road, drop-off and pump station pull-outs, and sites that can accommodate up to 30-foot-long RVs. [EA]

Up to two public use huts (~260 square feet each) would be developed as a rustic, no-frills option for low-cost lodging in the frontcountry and a dry and warm option for outgoing and incoming kayakers. The huts would be connected to the existing campground group sites, have a minimal building pad clearing zone, and be surrounded by natural forest that buffers nearby campers. Consider as a multiple-party use concept with 12 bunks, a wood stove, plywood counters for cooking using personal gear, and a rustic

table/booth for gathering. Visitors would be required to carry in water. No utilities would be provided, but a bear-proof, vermiculture leach system for gray water disposal (cleaning dishes) would be incorporated. Use of the public use huts could include fees and reservations. [EA]

Relocate campers' storage shed function into a visitor facility near the dock. [CTA]

## VISITOR ACCESS, ARRIVAL, AND CIRCULATION

Make Bartlett Cove's layout and services more user-friendly and self-evident using design, wayfinding, circulation, and signage for an enhanced visitor arrival experience. [CTA]

Focus more accessible and condensed park experiences within easy walking distance of the Bartlett Cove Public Use Dock (using ABAAS standards) sited along the shoreline to showcase premium scenic water-mountain views. [CTA]

Decrease the scale and intensity of development as visitors leave more high-use areas, and again at each wilderness boundary, to enhance visitor perceptions of traveling deeper into the park. [CTA]

For boat- and vehicle-based visitors, provide visitor facilities that convey an authentic remote Alaska character emphasizing rustic, compact, and no-frills development at a walkable scale. [CTA]

Enhance the visitor experience of arriving in Bartlett Cove by water:

- Provide a cohesive and inviting frontcountry appearance from offshore that conveys a sense of arrival for visitors. [CTA]
- Continue to maintain an attractive welcome sign and wayfinding information at the Public Use Dock. [CTA]
- Actively manage dock use to enhance its capacity to welcome first-time visitors, and best support short-duration activities. [CTA]
- Perform passenger-oriented Public Use Dock modifications/enhancements to improve accessibility and wheelchair offloading from vessels. [CTA]

- Reallocate Public Use Dock usage to serve the widest number and type of visitors, while maintaining essential NPS capacity. [CTA]
- Consider other alternatives for enhancing Public Use Dock functionality. [CTA]
- Phase-in a public mooring facility for both short-term and long-term use in Bartlett Cove on a cost-recovery fee basis. This system would address boat anchoring failures and sea-floor damage concerns, and would provide opportunities for more convenient, secure, and longer duration tie-ups that enable visitors to maximize time ashore. Over time, this may include up to 40 boat moorings with enough reserved for short-term private vessel permit holders, charter vessels, and other commercial users. Installation would include removable and relocatable conservation helical type moorings to include float, rode, and helical fixed anchors at the bottom. Moorings would be located within a five-acre area starting 300 feet from the Public Use Dock, at no less than a 10-foot minimum depth (at minus low tide). Install moorings in a grid pattern with extra spacing to account for vessels with different swinging characteristics due to currents and winds. Independent anchorage in Bartlett Cove would be prohibited for vessels within the mooring-appropriate size class. Areas would be specified for larger boats to anchor, for float plane landings, and for transiting to the Public Use Dock. [EA, CTA]

Utilize the flexibility afforded the superintendent in current law and regulation to optimize private vessel marine entries to the frontcountry, recognizing that Bartlett Cove is the portal for such vessels initially entering Glacier Bay. This optimization would seek to promote quality visitor experiences consistent with the park's 2003 Vessel Quotas and Operating Requirement (VQOR) EIS ROD. [CTA]

Remove accumulated sediment from the public boat launch ramp to enhance the functional tidal range and usability for small recreational vessels (recognizing that gateway communities support this function for commercial and larger vessels). Use minimally invasive suction to maintain the ramp to its original constructed condition by relocating sediment to a nearby seafloor location while

minimizing its suspension in the water column. [EA, *see additional details on page II-8, CTA*]

Enhance the visitor experience of arriving in Bartlett Cove by road:

- Provide a national park-like aesthetic along the park entrance road. [CTA]
- Provide wayfinding and/or signage in the park and in key town locations to assist first-time visitors who are driving. [CTA]
- Continue to maintain an attractive welcome sign at the park entrance. [CTA]
- Actively manage parking near the VIS to welcome first-time visitors and for short-duration activities (drop-off/pick-up, ABAAS, etc.).
- Designate an area near the launch ramp for staging boat trailers with time-limited parking that is compatible with overall traffic safety and circulation. Manage time durations to make it possible to obtain permits and stage recreational trips, yet short enough to give greater numbers of visitors easier launching and enhanced opportunities to experience the park.
- Allow boat trailer parking in designated area at the park maintenance facility. [CTA]

Develop additional visitor parking capacity within walking distance of the VIS to facilitate access to Bartlett Cove facilities and services, in a phased approach:

- **Phase 1)** Maximize use of the existing paved area and disturbed footprint near the generator building to support expanded and reconfigured public and staff parking. Relocate non-essential activities off-site. Up to 25,000 square feet of forest would be cleared with an expanded gravel pad and pavement installed to support up to 58 total parking spots and new ABAAS pedestrian connectors to the VIS and dock area (Class 3 ABAAS accessible trail, ~600 linear feet, up to 36" wide). [EA]
- **Phase 2)** When VIS/VC project is constructed, reprogram the VIS lot as drop-off, drive-through access serving the dock, and limited parking (ABAAS).
- **Phase 3)** When needed and/or Discovery Center is constructed.





(above) Most visitors to Bartlett Cove arrive without a vehicle and explore the frontcountry on foot.

Reduce peak demand parking needs in Bartlett Cove and enhance visitor access from Gustavus by establishing regularly-scheduled shuttle service and/or other alternative transportation options. Intentionally design for fiscal and environmental sustainability, enhanced visitor experience, and a complementary role and/or collaboration with private transportation services.

Strategically locate trailhead parking to serve an expanded trail network, while minimizing impacts to park resources and operations, and discouraging private land trespass and impacts.

Widen the entire park entrance road up to 60" and restripe it to support on-grade bike and pedestrian use on one side. The road would be constructed for year-round active transportation (bike, pedestrian, and ski). [EA]

Enhance pedestrian and bicycle connectivity and safety in the vicinity of Bartlett Cove roads, facilities, and parking areas when physically feasible and cost effective. [CTA]

Strategically locate covered bike racks around the frontcountry. [CTA]

In addition to recreational trails in the frontcountry, plan and develop a well-defined network of supporting walkways and pedestrian facilities as the primary mode of on-shore visitor transportation in Bartlett Cove's core area. Intentionally link key areas together with a focus on self-evident layout, wayfinding, safety, discouraging visitors from entering non-visitor use areas, and eliminating social, user-created paths. Upgrade for ABAAS accessibility where cost and site conditions allow, while also retaining some rugged and steeper footpaths where more appropriate due to site conditions, costs, and user needs. [CTA]

# PARK OPERATIONS

## THE NATIONAL PARK EXPERIENCE

Align the operational and administrative activities of the park and business partners in the frontcountry to:

- harmonize with the park's history and atmosphere [CTA]
- minimize impacts on visitors and resources [CTA]
- convey a national park-like experience, even in operational and utility functional zones, with care to minimize any unnecessary sights, sounds, smells, and/or activities that might detract from visitor enjoyment of the natural environment, and [CTA]
- perform operations to high environmental standards and best practices. [CTA]

## ENERGY AND OPERATIONAL EFFICIENCY

Upgrade frontcountry facilities and operations for electrical efficiency and to capture energy- and cost-saving opportunities. [CTA]

Invest in local renewable energy by connecting to the Falls Creek Hydroelectric Project. [CTA]

Explore opportunities to replace the park fleet and to operate visitor services (including the lodge dayboat) using electrical vehicles that maximize the use of local renewable energy sources and spread peak demand by taking advantage of night time low-energy use within the community. Also explore opportunities for electrical vehicle plug-in stations consistent with NPS policy.

Reduce staff-related needs for additional parking in Bartlett Cove by supporting a program of alternative employee transportation to, from, and within the park. [CTA]

Intentionally link park housing, headquarters, and maintenance with footpath connectors that reduce the need for driving in Bartlett Cove; where appropriate, communicate and buffer to discourage public access. [CTA]

Minimize the footprint of park operations and facilities by concentrating and consolidating park operations where possible, and removing obsolete assets. [CTA]



(above) The Inner Lagoon in the 1960s with NPS housing, a maintenance shop, and dock. Since 1950, generations of park staff have worked and lived in Bartlett Cove, playing a legacy role in managing day-to-day park operations and implementing the park's legislative purposes.

Minimize increased needs for storage by re-evaluating functional space and looking for opportunities to increase efficiency. [CTA]

Consolidate emergency response equipment storage from four existing locations into one in the existing generator building, with facility adaptations. Enhance operational capacity and efficiency by re-programming emptied-out areas. [CTA]

## NPS FACILITIES

The 1958 park headquarters building would be replaced to address its deferred maintenance and substantial deficiencies. Construct nearby within the historic disturbance footprint, while keeping with the original aesthetics and character/feel of the area. Build to replace in-kind administrative space (~6,000 square feet) scaled up as required to meet current NPS facility standards (ABAAS, telecommunications, utilities, etc.). [EA]

The park headquarters road would be upgraded to address spot safety issues and enhance overall circulation. The upgrades may include paving and redesign to efficiently meet staff parking demands, support alternative and active transportation, serve as a public trailhead, and implement environmental best practices that safeguard water quality and protect people's health. This may include such things as a settling

basin to treat snow and stormwater runoff and pollution, and road paving to reduce airborne dust. Views of vehicles from the water would be buffered by retaining vegetation. [EA]

Develop a new ABAAS restroom(s) near park headquarters that supports public access as a new 400 square foot structure located on the concrete pad of the existing headquarters building (after it is replaced). It would include multi-modal hub and trail amenities (covered bicycle parking, ABAAS restroom, and wayfinding). [EA]

Develop additional housing and associated facilities in the seasonal housing area, off the existing service road (total area of development would not exceed 0.5 acres):

- New dormitory style housing or a bunkhouse (up to 2,000 square feet in size) southwest of the existing duplexes for seasonal employees, Student Conservation Association volunteers, Volunteers in Parks, and researchers. The new development may include additional parking for up to eight vehicles (up to 2,000 square feet in parking). [EA, CTA]
- Three RV pads with electrical and water hook ups (totaling up to 8,000 square feet) would be constructed at the end of the seasonal housing area service road to accommodate RVs brought by volunteers, visiting scientists, and/or seasonal staff. [EA]
- A new rain shelter would be developed in a central open area between the park entrance road and park employee housing. The site would be constructed to promote responsible socializing and gathering, and would be developed as a natural and rustic outdoor area for employees to use during off hours. New parking would be included in the vicinity for up to six vehicles, with boardwalks extended to link to nearby housing (up to 150 linear feet). May include clearing up to 1,500 square feet of forest. Vegetative buffers would be retained so the shelter is not visible from the main road. [EA]

Maintain the Lagoon Island Cabin, the oldest building in the park, for utilization as a housing opportunity that supports enriched visitor

experiences in the frontcountry, such as an artist-in-residence, cultural experts, teacher-rangers, and visiting scientists. May also be used for longer-duration Student Conservation Association intern and volunteer housing. Recognizing full-scale changes in the cultural landscape, do not restore to original full vista clearing.

Maintain the Civil Aeronautics Administration Historic Complex (in Gustavus) to provide NPS seasonal and permanent employee housing. Enhance its historic interpretation by developing a wayside describing its significance. Also, fulfill community obligations associated with its infrastructure and the transfer of this facility to the NPS.

Buffer park employee housing from Tribal House use and associated activities. [CTA]

Provide functional amenities that foster employee wellness and retention. May include such things as recreational equipment storage and gear drying, bike fleet and maintenance area, greenhouse, barbecues, and logistics support (recycling, mail/grocery delivery, transit), and/or bike commuter amenities. [CTA]

Adaptively reuse the erratic building (formerly a generator shed) in seasonal housing as a base for recreational equipment to support employee fitness and on-the-job skills.

#### MANAGING THE DYNAMIC LANDSCAPE

Maintain adequate navigational markers for the Lagoon Island “cut.” [CTA]

Maintain the Inner Lagoon Dock for administrative use and consider compatible special case public and concessions uses and enhancements consistent with park mission, with explicit recognition of the inherent safety and equipment damage risks given tidal access limitations.

Hazard and windthrow risk trees would be removed in a half-acre area above the cut bank south of employee housing and north of the park entrance road. This area would be actively managed for wind stability (e.g., forest health, age diversity) and as an attractive visual buffer. [EA]

Define desired conditions for vegetation maintenance and clearing for each park structure. Intentionally consider cultural landscape, protection of structures and assets (hazard tree fall, mold, fire), building use (privacy, daylight, scenic views), visitor experience and landscape succession. Maintain defined conditions. [CTA]

Define desired conditions for vegetation maintenance and clearing for each park road and trail. Intentionally consider safety, structural integrity, natural resources (such as prevention of invasive plant establishment/spread, wildlife disturbance and conflict with humans), destination viewsheds, and park-like aesthetics. Maintain defined conditions. [CTA]

Intentionally manage, as appropriate, the landscape in disturbed areas to retain the visitor experience intended at the time of development by taking into account natural processes, cultural landscapes, viewsheds, and safety. [CTA]

In design, development, and vegetation management, anticipate natural regime changes and preserve ecological integrity at the larger landscape level. Thus, in disturbed footprints, the NPS will not seek to create new artificial habitats or artificially enhance any habitat in order to conserve a single species (e.g., salmon habitat enhancement in park entrance roadside ditches). Also, rather than arresting natural systems at one successional stage through periodic disturbance (e.g., trails, views), the NPS will regularly perform treatments that retain the original design and blend within larger landscape contexts. [CTA]



(above) A current view of the Glacier Bay Lodge and the public use dock. While the lodge site was selected for its scenic views, active vegetation management is needed to maintain the view because of the dynamic landscape (e.g., isostatic uplift at ~1 inch a year, less than 200 years of plant succession, and temperate rainforest conditions with ~70 inches of precipitation annually).

## WHY THE NPS SUPPORTS THIS VISION

Before selecting the preferred management vision described in part I, the NPS considered three alternative visions for Bartlett Cove's future based on extensive public, tribal, agency, and internal consultation. After considering all the visions and review comments, and weighing their benefits and trade-offs for park resources and visitor experiences, the park is interested in implementing its preferred vision for several reasons.

First and foremost, this vision best aligns with the NPS mission, park purpose and significance, and the goal and objectives for the frontcountry plan.

Second, the vision incorporates many of the thoughts and suggestions raised by the public during public engagement efforts (*see appendix E*).

Third, it presents a compelling agency vision with realistic management tools to:

- welcome diverse visitors to immerse themselves in the park's fundamental resources and values in the frontcountry
- sustain and enhance the quality of those resources
- direct public investments in a coordinated and holistic approach that is more locally appropriate and operationally sustainable

Finally, the renewed vision for Bartlett Cove also helps the NPS meet its new and evolving responsibilities. In its first century, the NPS pioneered "America's best idea." As we enter a second century, the viability and success of the national park system also appears inextricably linked to evolving public mandates, above and beyond its core mission, including to:

- inspire the next generation to connect to the natural world
- extend the benefits of outdoor recreation to improve our health and quality of life
- be exemplary in all aspects of stewardship: natural and cultural resource protection, public safety, operational excellence, transparency, and financial accountability
- advance scientific exploration, learning, and conservation with the NPS serving as a catalyst, convener, and collaborator
- strengthen gateway communities and extend economic benefits for a win-win tourism model aligned with NPS mandates. On this point, the planning vision integrates tourism sector themes expressed by gateway communities, as highlighted below:

**GUSTAVUS:** Enhance value-added economic opportunities for local businesses and residents, and retain an economically viable NPS lodge, recognizing its interconnected importance to the upbay dayboat and seasonal jet service as an economic anchor for local tourism and the community. Also, provide the world-class national park opportunities that target the intrepid, independent adventurers that local businesses seek to attract (especially related to nature immersion and marine experiences).

**HOONAH:** Support a tribal ferry between Hoonah and Bartlett Cove to facilitate tribal access to homeland and improve access to Bartlett Cove for independent visitors. Also, enhance value-added economic opportunities for the Hoonah Indian Association, local businesses, and residents including related to employment (NPS, tribal, and private), cultural tourism and demonstrations, native arts and crafts, and transportation services (ferry, marine services, harbor).

**JUNEAU:** Seek to encourage Southeast Alaska cruise passengers to return to Juneau as a base for independent and intimate experiences, off the beaten track.



## IMPLEMENTATION AND VISION CONCEPT

Long-range planning is a vision for the future in the face of unknowable conditions (usually for at least five years, but often over decades). Only time will tell (maybe over ten to twenty years) if the collaborative work and investment required to implement the planning vision will be realized.

For example, the 1998 plan recommended a Discovery Center that has not yet been funded (this plan carries it forward). Further, implementing *Xunaa Shuká Hít* (the Huna Tribal House) took many years to implement and today represents the fruits of an evolving and strengthening NPS and tribal relationship.

Whether any proposed action within the plan is implemented depends on many factors, including NPS staffing, visitor use patterns, environmental considerations, funding, and other resource availability. At the same time, the NPS is excited about its vision and hopes to begin pre-design on top-priority actions starting in 2019.

Further, the NPS recognizes that there will be experiential challenges and trade-offs to frontcountry users during the implementation process. Common areas of concern include localized construction disturbances, user inconveniences, and adjusted operations during the transition.

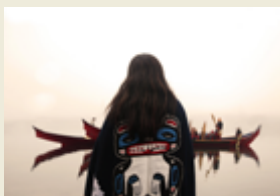
For these reasons, the NPS will consider an incremental action approach (where phased disturbances are smaller and spread over a much longer timeframe) as well as a “do it all at once and get it over with” approach (where multiple actions are scaled up for cost efficiencies, resulting in a more compressed, but more impactful, disturbance period).

Prior to the construction of facilities, further feasibility and site design studies will occur to inform site-specific environmental analyses, permitting, and consultation (as appropriate) with tribes, agencies, and relevant parties.

Concluding part I, the following pages graphically present the planning vision concept (figures 13-15) and existing conditions (figure 16) to convey a sense of site use and the scale of the development footprint. Actual design will vary based on site constraints, resource conditions, ongoing consultation, and funding availability.

### Planning Vision Themes

*Implementation of the planning vision seeks to:*



**Huna Tlingit Homeland:** Sustain living cultural connections, evolve and strengthen the NPS and tribal relationship, and share this rich heritage with visitors.



**Fundamental Park Resources & Values:** Connect frontcountry visitors with distinctive experiences of the foundational qualities that merited national designation (glaciers, science, intact ecosystems).



**Visitor Access & Services:** Provide a more condensed frontcountry experience with enhanced offerings to broaden the visitor base and enhance multi-day stays.



**Accommodations:** Rehabilitate the historic lodge, retain the semi-primitive walk-in camping experience, and add new dry and affordable overnight options.



**Resource Stewardship:** Emphasize caring for the park as a special place so that all may experience its heritage.





# Frontcountry Management Plan

## Planning Vision Concept

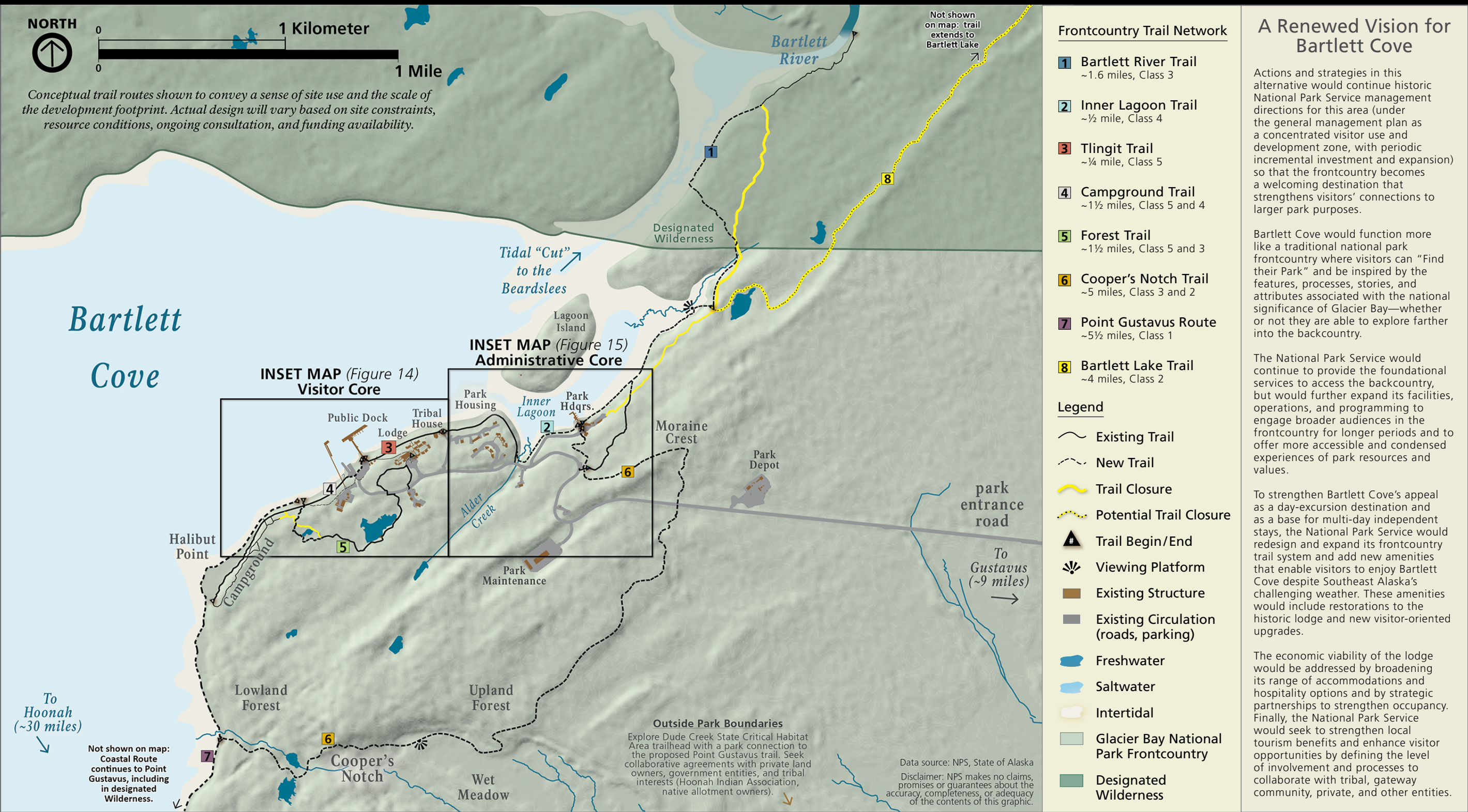


FIGURE 13. PLANNING VISION AND FRONTCOUNTRY TRAIL NETWORK





# Frontcountry Management Plan

## Planning Vision Concept

### Legend

- Trail, pedestrian access
- Trail closure
- Trailhead
- Existing structure
- New structure
- Potential phased parking expansion (if/when needed)

### Implementing Actions

#### Visitor Experience

- A - New Consolidated Visitor Facility: NPS Visitor Center, Glacier Bay Science and Discovery Center, and Visitor Information Station (VIS).
- B - Remove Existing VIS Structure
- C - Glacier Bay Lodge as a Historic Centerpiece
- D - Lower Bay Boat Tour
- E - Optimize Day Boat Experience
- F - Enhanced Trails Suited to a Succession Landscape
- G - Viewscape/Succession Vegetation Management
- H - Day Use Pavilion
- I - Enhanced Cultural Programs
- J - Enhanced Commercial Services
- K - Seasonal Housing Upgrades (Glacier Bay Lodge staff)

#### Overnight Amenities

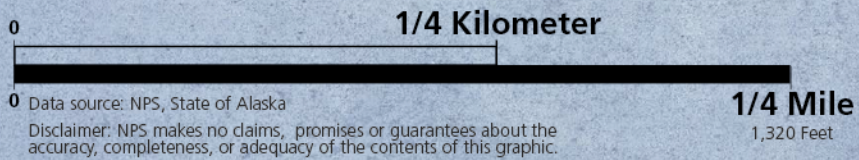
- L - Diversified Lodge Offerings
- M - Rustic Car/RV Campsites (4 to 6)
- N - Multi-Party Public Use Hut (1 or 2)
- O - Campground Cooking Pavilion
- P - Semi-Primitive Walk in Camping (existing)
- Q - Eco-Moorings (phased, up to 40)

#### Access and Transportation

- R - Dock and Water Arrival Enhancements
- S - Road Arrival Enhancements (parking/shuttle, accessibility, active transportation, safety)

#### Tribal Ancestral Homeland

- T - Tribal Transportation Ferry to/ from Hoonah
- U - Tlingit Trail Enhancements to convey cultural themes
- V - Tribal House and Associated Landscape
- W - Park Sign Homeland Recognition



### Visitor Experience Themes

#### Values of the Frontcountry

- Adventure and inspiration in an iconic setting
- High-quality, comprehensive interpretation
- A quiet, rustic Alaskan atmosphere where you feel you are “on the edge of one of the wildest places on the planet”
- User-friendly, accessible frontcountry activities and services
- Backcountry launch point

#### Vision for the Frontcountry

- High quality and expanded visitor experiences
- Emphasize nature immersion and place-based experiences
- Partner with the tribe on living cultural connections to homeland
- Interpret the environment, scientific legacy, and history

#### Additional Services and Facilities

- Huna Tribal House expanded opportunities
- New and improved NPS facilities (visitor center, lodge, rain shelters, outdoor interpretation)
- Increase interpretation and education
- Expand trail system and quality
- Opportunities to learn about and actively engage in science
- Expand the range of overnight opportunities
- Alternative transportation/shuttles

To Hoonah (~30 miles) ↓

Conceptual design shown to convey a sense of site use and the scale of the development footprint. Actual design will vary based on site constraints, resource conditions, ongoing consultation, and funding availability.

Bartlett Cove

### Frontcountry Trail Network

- 2 Inner Lagoon Trail
- 3 Tlingit Trail
- 4 Campground Trail
- 5 Forest Trail
- 6 Cooper's Notch Trail

FIGURE 14. VISITOR CORE AREA SITE CONCEPT





# Frontcountry Management Plan

## Planning Vision Concept

### Legend

- Trail, pedestrian access
- Trail closure
- Trailhead
- Existing structure
- New structure

### Implementing Actions

#### Visitor Experience

F - Enhanced Trails Suited to a Succession Landscape

#### Park Operations

- G - Succession Vegetation Management
- S - Road Arrival Enhancements (parking/shuttle, accessibility, active transportation, safety)
- X - Seasonal Housing Capacity Upgrades
- Y - Replace Headquarters Building
- Z - Inner Lagoon Cut Markings and Dock Utilization

### NPS Operations Contexts

The 1916 NPS Organic Act (16 USC 1) charges the NPS with providing for public enjoyment while protecting our nationally-significant resources and values, unimpaired for the enjoyment, education, and inspiration of this and future generations.

The NPS focuses its management efforts on protecting the national significance, fundamental resources, and the values that merited the designation of each unit, as described in their enabling legislation and foundation documents.

The General Management Plan for Glacier Bay National Park (1984) sets the management zoning for Bartlett Cove as supporting parkwide operations and serving visitors, including with high-quality development and design that harmonizes with the Park's history, atmosphere, and resources.

Before making decisions that impact the human environment and historic properties, the NPS is required to complete integrated review under the National Environmental Policy Act and Section 106 of the National Historic Preservation Act, and to ensure actions are consistent with current policy and law (see pages I-7 to I-12, and appendix F).

### NPS Operations Themes:

#### Values of the Frontcountry

- Diverse visitors feel welcomed and supported in “finding their park” through meaningful experiences of the park’s extraordinary natural and cultural heritage.
- Sustainable and efficient operations are adapted to a remote setting and the dynamic environment (e.g., isostatic uplift, vegetative succession, precipitation, tides).

- Minimize operational impacts on resources and visitors.

#### Vision for the Frontcountry

- Leverage capacity and partnerships, both inside and outside the park.
- Be an example: model stewardship, best practices, cost-effective operations, and exemplary customer service.
- Continue the good work.

#### Additional Services and Facilities

- Employee housing (NPS/Lodge)
- Rehabilitate the Lagoon Island Cabin
- Functional space planning to consolidate, address deficiencies, and enhance operational efficiency (NPS, concessions, private):
  - Combine the visitor information station and visitor center
  - Public dock/mooring
  - Parking, alternative transportation
  - Guiding/excursion operations
  - NPS, concessions, and private equipment storage (kayak, boat trailers, bikes, etc)
  - Emergency response
  - NPS indoor-outdoor storage
  - Lodge housekeeping and operations

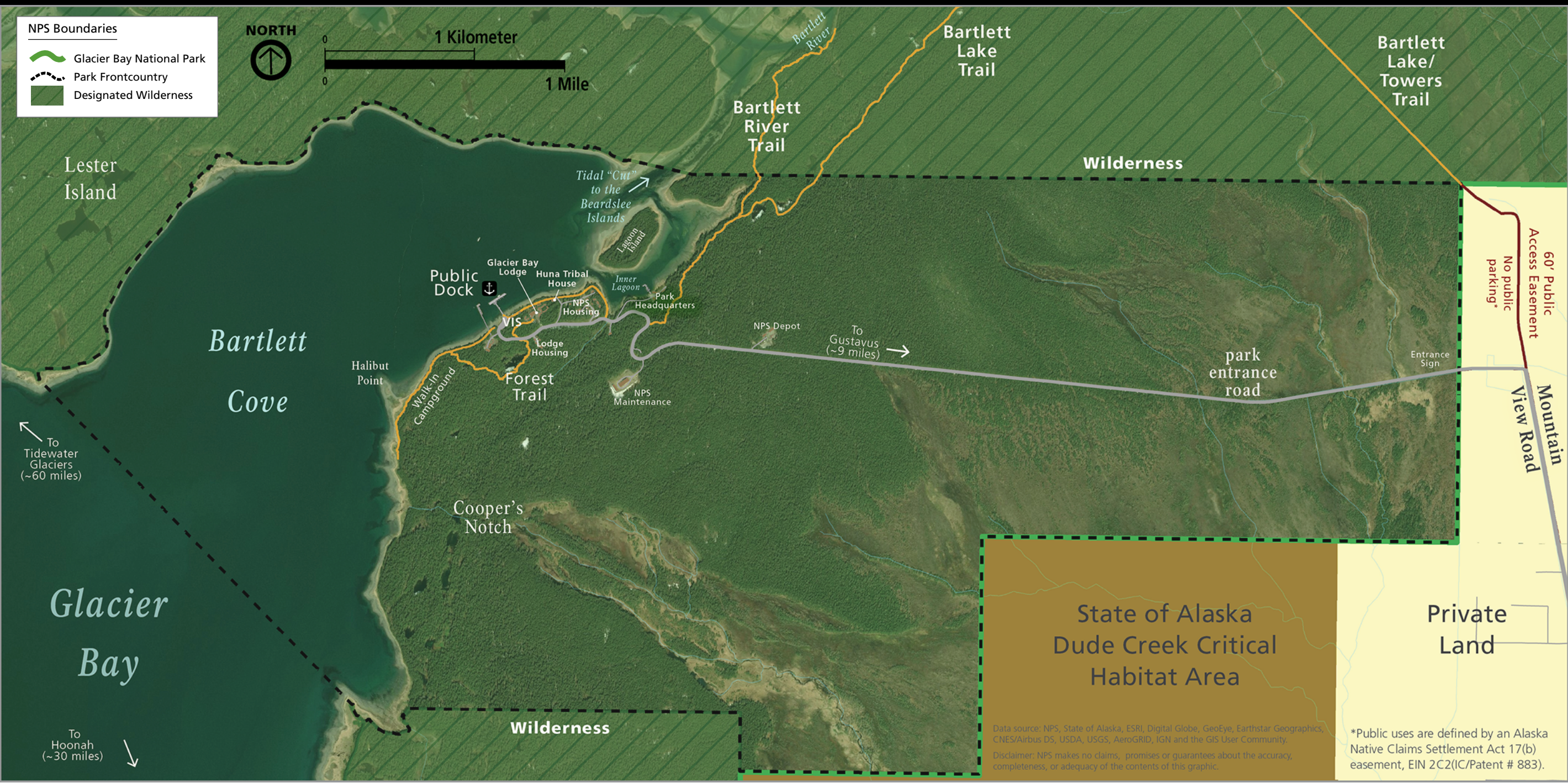


FIGURE 15. ADMINISTRATIVE CORE AREA SITE CONCEPT





# Frontcountry Existing Conditions Map



**SETTING** Glacier Bay's frontcountry is located in a remote Alaskan setting, centered around Bartlett Cove. The 7,120-acre area includes some of the Park's most biologically rich, culturally significant, and scenic coastal areas near Gustavus, Alaska.

**ZONING** The 1984 General Management Plan set aside this area as a development zone for concentrated visitor use and development, "to a high quality of design that harmonizes with the park's history and atmosphere to minimize impacts on visitors and resources."

**BOUNDARY** This plan updates the Bartlett Cove Developed Area 36 CFR 13.65(b)(1) boundary to: 1) Exclude designated Wilderness areas, managed for the highest conservation protection our country affords, and 2) Include higher intensity visitor use and commercial group management zones in a Frontcountry Management Area.

FIGURE 16. FRONTCOUNTRY EXISTING CONDITIONS MAP



**Glacier Bay National Park and Preserve**  
**Frontcountry Management Plan**  
**Part II - Environmental Assessment**

**April 2019**



**Part II - EA**

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## CHAPTER 1: PURPOSE AND NEED

This environmental assessment (EA) informs the National Park Service (NPS) decision to update the visitor experience and management vision for the frontcountry area (*see figure 16 from part I*) of Glacier Bay National Park (park). It fulfills National Environmental Policy Act (NEPA) requirements for an environmental assessment and provides the required content organized into the following four chapters:

**Chapter 1. Introduction:** The planning area, purpose, and need are described along with an overview of the NPS proposed action and the EA scope of analysis (and its limitations).

**Chapter 2. Alternatives:** The three NPS proposed alternatives are presented in full, along with implementing actions that can be meaningfully analyzed per the NEPA process.

**Chapter 3. Affected Environment and Environmental Consequences.** Each alternative proposal is analyzed to disclose its environmental trade-offs in terms of site-specific changes and cumulative impacts to the affected human environment. Note that analysis findings are contingent on the NPS implementation of appendixes B and C (resource condition monitoring, visitor capacity guidelines, and project best management practices).

**Chapter 4. Coordination and Consultation.** The extent of NPS coordination and consultation with federal and state agencies and associated tribes is described, including what is required during implementation prior to final construction and implementation.

The NEPA process enhances decision-making and transparency by providing the measurable environmental trade-offs of alternative proposals. Within the NEPA framework, environmental assessments analyze federal proposed actions where “no significant impact” to the human environment is anticipated. Adverse impacts have been minimized to the greatest extent practicable. The proposed action and alternatives are consistent with NPS *Management Policies 2006*, (1.4.3) and the 1916 NPS Organic Act (16 USC 1).

When the NEPA procedural requirements associated with this planning effort are met, the National Park Service may finalize a decision document for public release indicating the National Park Service’s intent to implement the selected alternative with any amendments after considering substantive comments from the review.

### PLANNING AREA

The environmental assessment evaluates actions associated with Glacier Bay’s frontcountry (figure 16 from Part I). Located in a remote, Alaskan setting centered around Bartlett Cove, the 7,120-acre frontcountry area is the only developed area of the park where core visitor services and NPS administrative facilities are located and includes some of the Park’s most biologically rich, culturally significant, and scenic coastal areas.

The 1984 Glacier Bay National Park and Preserve General Management Plan (GMP) zoned the area for intensive visitor use and development “to a high quality of design that harmonizes with



the Park's history and atmosphere to minimize impacts on visitors and resources." The NPS selected activities and actions in this frontcountry management plan are consistent with this management zoning.

## **PURPOSE OF THE PLAN**

The National Park Service initiated planning in 2016 with the stated purpose to:

"Set forth a long-term, comprehensive management direction for Bartlett Cove and adjacent frontcountry areas of Glacier Bay National Park. An updated plan would provide direction covering visitor opportunities for the area, facilities (including the Glacier Bay Lodge and Huna Tribal House), commercial services, resource management, and park operations. Planning actions are intended to enhance the protection of natural, cultural, and scenic resources and values, while providing visitors with opportunities to be inspired through personal connections with those resources."

The Glacier Bay National Park and Preserve Frontcountry Management Plan (plan) will update the general management plan and replace the 1998 Bartlett Cove Comprehensive Design Plan (CDP).

## **NEED FOR ACTION**

At this time, the park needs updated direction to support and guide management direction in the frontcountry. The last plan was developed almost twenty years ago and is now at the end of its life cycle. Many of its main components have been implemented.

Recreational use patterns have changed since the last plan was completed, including the introduction of vehicle-transport and passenger ferry service to Gustavus and increased demand for access to Bartlett Cove water access resources (dock, mooring, launches). These changes have presented challenges both for visitors and for the management of park resources. Therefore, there is a need to address what opportunities and services will be available for visitors.

A recent unsuccessful attempt to attract bids on the Glacier Bay Lodge prospectus to support a viable operation has brought attention to the need to ensure that the lodge concession and other services are economically viable and serve the needs of park visitors. Therefore, there is a need to re-evaluate the range of visitor opportunities provided in the Glacier Bay National Park frontcountry.

There is also a need to evaluate conditions and facilities to create operational efficiencies. This includes addressing access and use of newly available facilities (e.g., Huna Tribal House) and options for addressing facilities that are nearing the end of their life cycle (e.g., park headquarters).

These considerations point to the need for a new plan for the frontcountry to ensure that Glacier Bay National Park and Preserve is relevant to and accessible by a diversity of people, while its natural and cultural resources and values remain well preserved for future generations.

## **THE NPS PROPOSED ACTION**

Following extensive outreach and consultation (June – October 2016) the National Park Service prepared three alternative visions (summarized below) that each take a different approach to resolving the purpose and need. They include:

**Alternative A** continues current frontcountry management directions. (No-Action Alternative)

**Alternative B** changes the NPS management direction for this area from a concentrated visitor use and development zone to a minimalist gateway and launching point for excursions deeper into the Park, with limited visitor offerings and simplified operations. (Gateway Alternative)

**Alternative C** continues historic NPS management directions for this area as a concentrated visitor use and development zone and expands offerings and operations so that the Frontcountry becomes a welcoming destination that strengthens visitors' connections to larger park purposes—whether or not they are able explore farther into the Park. (Destination Alternative)

Alternative C is the NPS proposed action and preferred alternative because it best addresses the totality of the stated purpose and need. The Planning Vision presented at the beginning of the document, together with alternative C, comprise the proposed frontcountry management plan.

## **SCOPE OF ANALYSIS**

This environmental assessment evaluates the environmental trade-offs of three NPS conceptual visions for managing the frontcountry area of the Park. The analysis in the environmental assessment is limited to proposed actions that may be meaningfully analyzed at this time for any measurable environmental impacts that may result. The analysis also assumes stringent NPS guidelines have been applied (such as the monitoring and best management practices described in appendixes B and C) to protect resources and visitor experiences. Finally, the analysis assumes that prior to the construction of facilities, site-specific environmental analyses, permitting, and consultation will occur (as appropriate), as further feasibility and site design studies are completed.

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## CHAPTER 2: MANAGEMENT ALTERNATIVES

### INTRODUCTION

Three alternatives were considered by the National Park Service based on 2016 preplanning input around “a renewed vision for Bartlett Cove” (*see summary in appendix F*). Each alternative described in this chapter represents a different direction for managing the park frontcountry with varied approaches to serving park visitors in Bartlett Cove based on public, stakeholder, and tribal input gathered during extensive outreach (June to October 2016).

The environmental assessment evaluates alternative A (no action) as a continuation of the park’s current management directions. Two NPS action alternatives, alternative B (gateway alternative) and alternative C (destination alternative), propose new and updated directions for managing the frontcountry. These alternatives (B and C) are organized by how they support or relate to the Huna Tlingit Homeland, the Glacier Bay Lodge, the park’s visitor experience, and park operations. Alternative C (destination alternative) is the NPS proposed action and preferred alternative. *For a full description of the preferred alternative, please see the planning vision in part I of this plan.*

The implementation of both alternatives B and C will be guided by adaptive management strategies related to visitor capacity (as required by the 1978 National Parks and Recreation Act, using the Interagency Visitor Use Management Council framework). Visitor capacity is a component of visitor use management defined as the maximum amount and types of visitor use that an area can accommodate while sustaining desired resource conditions and visitor experiences (i.e., goals and objectives for this plan), consistent with the purpose for which the area was established. Implementing indicators, thresholds, visitor capacities and the associated adaptive strategies help the National Park Service protect resources, while also ensuring that visitors have the opportunity for a range of high-quality frontcountry experiences. Additional detail on these components can be found in appendix C.

The implementation of both alternatives B and C will also be contingent on resource mitigations to protect natural resources, cultural resources, and the quality of the visitor experience. These resource protection measures are outlined in appendix D to be implemented as part of both action alternatives with a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. Prior to implementing proposed actions, the National Park Service will conduct Section 106 reviews as appropriate (*see “Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps”*).

### ALTERNATIVE A: NO ACTION

Under this “no-action alternative,” Bartlett Cove would continue to be managed under its current direction as prescribed in the 1984 General Management Plan and the 1998 Comprehensive Design Plan. Many of the major actions identified in these plans have already been implemented, and the zoning and other management directions defined in those planning documents would continue to guide the future development and management of Bartlett Cove. Under this alternative, visitors would experience Bartlett Cove much as they do now. Commercial operations at the Glacier Bay Lodge would continue under current directions, with



the park retaining significant responsibility for maintaining and preserving the historic lodge structures and associated landscapes.

### **ALTERNATIVE B: BARTLETT COVE AS A “GATEWAY”**

Actions and strategies in this alternative would purposely change the fundamental National Park Service management direction for the frontcountry area (from a concentrated visitor use and development zone). The frontcountry would instead be managed as a minimalist gateway and launching point for excursions deeper into the Park, with a focus on orienting and preparing visitors for meaningful backcountry experiences. Compared to the no-action alternative, the National Park Service would reorient Bartlett Cove to a minimalistic functionality, since frontcountry visitors would be primarily transiting through, en route to the backcountry. As such, the National Park Service would maintain existing infrastructure as-is and where-is, critically look at whether existing infrastructure is needed, and seek to shrink its footprint. The National Park Service would also refrain from incremental expansions in new visitor opportunities and park operations, and defer to other entities to support new or higher levels of service outside the park. At the Glacier Bay Lodge, the National Park Service would try converting some rooms to lower-cost, no-frills offerings (bunkhouse and budget boutique) while also upgrading a few to upscale luxury suites to see if broadening the visitor base would enhance the economic viability of the lodge. The National Park Service would continue to assume some responsibility for rehabilitating lodge structures and associated landscapes to a baseline standard.

### **Huna Tlingit Ancestral Homeland**

The Huna Tribal House or *Xunaa Shuká Hít* (roughly translated as “Huna Ancestors’ House”) continues to serve as a gathering place where tribal members reconnect with their treasured homeland and visitors can learn about the Huna Tlingit ancestral homeland. Additional actions associated with the Tribal House include:

- Develop Architectural Barriers Act Accessibility Standard (ABAAS) access to the beach above high tide across the front meadow from the Huna Tribal House (~250 linear feet, Trail Class 5, tread 72” maximum). Incorporate a durable landing node for wheelchair turnaround and enhanced tribal house viewing.
- Directly in front of the Tribal House, between the Tlingit Trail and the beach, accommodate larger public gatherings by maintaining a native herbaceous species meadow with woody plants removed. Make limited site amendments to the existing natural terracing within a ~14,000 square foot area. Spot grade and strategically use naturalized stone and timber elements as needed. In nearshore waters and intertidal areas, make strategic spot rock movements to facilitate canoe arrivals.
- Build a retractable awning or permanent wooden covered shelter as a place to host cultural demonstrations and other gatherings in the disturbed footprint of the existing Tribal House or directly in front of its annex (up to 400 square feet). For this structure and any cultural activities that use temporary outdoor shelters, ensure that structures complement views of the Tribal House from the water, for pedestrians arriving via the Tlingit Trail, and are appropriate within a national park setting.

- Deter visitors from driving in front of the Tribal House by installing a gate at the top of its driveway.

## **Glacier Bay Lodge**

**Vegetation Management.** Perform vegetation maintenance tasks as defined in the Vegetation Treatment and Preservation Maintenance Plan (NPS 2018a) for the lodge to:

- define viewscape intent and restore historic district viewsheds, and
- develop defensible space and maintenance standards for managing vegetation in the historic district to protect the integrity of historic buildings (mildew, hazard trees, fire wise).

At the Glacier Bay Lodge, the National Park Service would try converting some rooms to lower-cost, no-frills offerings (bunkhouse and budget boutique) while also upgrading a few to upscale luxury suites to see if broadening the visitor base would enhance the economic viability of the lodge.

## **Visitor Experience**

**Combine Visitor Center and Visitor Information Station** activities to within a ~2,900 square foot, multi-story facility in the current VIS area, to include a 40-person capacity auditorium. The facility would serve as a hub to orient visitors and introduce park themes, in addition to supporting backcountry use, trip planning, and leave-no-trace principles. Parking efficiency enhancements would be included within existing disturbance and pavement footprints.

The existing frontcountry trail system would generally be maintained in its current condition and location (e.g., Forest Trail, Tlingit Trail, Beach Trail, and Bartlett River Trail). Discontinue maintenance on the four-mile trail connector between Bartlett River Trail and Bartlett Lake. Perform minimal vegetation rehabilitation and place some large rocks on portions to deter use.

A new ABAAS restroom(s) would be developed near park headquarters. This would be a remodel, addition, or up to 200-square-foot new structure within the previously disturbed area.

The main access road would be retrofitted by marking and signing existing shoulders to provide an on-grade bike lane. This would be done in connection with regular road resurfacing.

Phase-in a public mooring facility for both short-term and long-term use in Bartlett Cove on a cost-recovery fee basis. This system would address boat anchoring failures and sea-floor damage concerns, and would provide opportunities for more convenient, secure, and longer duration tie-ups that enable visitors to maximize time ashore. Over time, this may include up to 40 boat moorings with enough reserved for short-term private vessel permit holders, charter vessels, and other commercial users. Installation would include removable and relocatable conservation helical type moorings to include float, rode, and helical fixed anchors at the bottom. Moorings would be located within a five-acre area starting 300 feet from the Public Use Dock, at no less than a 10-foot minimum depth (at minus low tide). Install moorings in a grid pattern with extra spacing to account for vessels with different swinging characteristics due to currents and winds. Independent anchorage in Bartlett Cove would be prohibited for vessels

within the mooring-appropriate size class. Areas would be specified for larger boats to anchor, for float plane landings, and for transiting to the Public Use Dock.

Sediment would be removed and relocated to enhance the functional tidal range and usability of the public boat launch ramp. This may consist of a submersible diver-operated dredge that uses minimally invasive suction to relocate sediment to a nearby seafloor location below the intertidal zone (within a 3-acre total project area) while minimizing suspension in the water column. This action would be carried out in the winter when humpback whale populations are not present and primary and secondary biological productivity in the water is presumed to be lower to minimize acoustic underwater disturbance. Following the initial sediment removal, this activity may occur on a smaller scale every three years. Before implementing this activity, park staff would work with the Army Corps of Engineers and Alaska Department of Environmental Conservation to comply with any permitting requirements under the Clean Water Act. Park staff would also consult with the U.S. Fish & Wildlife Service (USFWS) and National Marine Fisheries Service to determine if additional mitigation measures would be necessary.

Frontcountry kayaking commercial operations are consolidated and shifted to outside the Glacier Bay Lodge Complex Historic District, into temporary/removable structures instead of permanent land assignments. This shift would be an opportunity to create convenient access for customers, improve operations, relieve congestion in the VIS area, and address trailer traffic congestion. A shared quarter-acre site would be prepared northeast of the fuel pier and southwest of the launch ramp for concessioner-provided storage buildings (kayak rental and day trip operations). In this area, a new 200 square foot rain shelter would be constructed to support orientations and equipment staging, marked by NPS typography signage and linked to the shoreline by a short hardened foot path extending approximately 30 feet to reduce shoreline vegetation impacts. Within the site, up to 1,000 square feet of tree clearing and ground hardening would enable access, circulation, and kayak trailer parking. A portion of the existing Beach Trail (up to 130 feet) would be upgraded, widened, and extended with graded gravel or paving to support the vehicular access required to install and retrieve removable structures seasonally, and to support through-foot traffic.

## **Park Operations**

The current headquarters building would be remodeled to address issues (health, safety, ABAAS, utility/IT, and drainage).

Hazard and windthrow risk trees would be removed in a half-acre area above the cut bank south of employee housing and north of the park entrance road. This area would be actively managed for wind stability (e.g., forest health, age diversity) and as an attractive visual buffer.

## **ALTERNATIVE C: BARTLETT COVE AS A “DESTINATION” (NPS PREFERRED)**

Actions and strategies in this alternative would continue historic National Park Service management directions for this area (under the general management plan as a concentrated visitor use and development zone, with periodic incremental investment and expansion) so that the frontcountry becomes a welcoming destination that strengthens visitors’ connections to larger park purposes. Bartlett Cove would function more like a traditional national park frontcountry where visitors can “Find their Park” and be inspired by the features, processes, stories, and attributes associated with the national significance of Glacier Bay—whether or not they are able to explore farther into the backcountry. The National Park Service would continue to provide the foundational services to access the backcountry, but would further expand its facilities, operations, and programming to engage broader audiences in the frontcountry for longer periods and to offer more accessible and condensed experiences of park resources and values. To strengthen Bartlett Cove’s appeal as a day-excursion destination and as a base for multi-day independent stays, the National Park Service would redesign and expand its frontcountry trail system and add new amenities that enable visitors to enjoy Bartlett Cove despite Southeast Alaska’s challenging weather. These amenities would include restorations to the historic lodge and new visitor-oriented upgrades. The economic viability of the lodge would be addressed by broadening its range of accommodations and hospitality options and by strategic partnerships to strengthen occupancy. Finally, the National Park Service would seek to strengthen local tourism benefits and enhance visitor opportunities by defining the level of involvement and processes to collaborate with tribal, gateway community, private, and other entities.

This alternative includes *all* of the actions listed above under the gateway alternative, plus the following actions (unless otherwise noted).

### **Glacier Bay Lodge**

Portions of the lodge building would be restored to its period of significance (1965-1975), and the following rehabilitation treatments proposed in the 2018 NPS Historic Structures Report would be implemented:

- Remove non-historic additions to the south side of the lodge building that are located west of the main drop-off and visitor entrance. The lodge would be restored to historic specifications by constructing a wrap-around deck with southern exposure and rain cover.
- Remove NPS exhibits from the second floor of the lodge and restore the architect’s original design configuration above the dining area to achieve the desired catwalk effect with enhanced natural lighting and views.

### **Visitor Experience**

**Trail Construction and Rerouting.** New trails would be designed or rerouted to achieve a premium and sustainable experiential trail network that connects frontcountry visitors with fundamental park resources and values, including designated Wilderness. *See figure 14 in part I for additional information on the locations and extents of these proposed trail-related actions.*



- **Bartlett River Trail:** Approximately 1.4 miles of new route would be built on the shoreline and along the tidal cut (some portions in designated Wilderness), as a narrower rustic boardwalk (up to 36" wide) on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs. This would include the minimum required site modifications (based on wilderness analysis during pre-design). The closed trail segment would no longer be maintained and about .75 miles would be spot revegetated to discourage public access. All inner lagoon kayak operations (racks and launching) would be consolidated to a site at the end of an expanded park headquarters parking area with a connecting path to the boardwalk that enables launching and consolidates foot traffic to reduce shoreline vegetation impacts.
- **Inner Lagoon Trail:** Develop an Alder Creek footbridge crossing (~150 linear feet), and construct a ~.25-mile elevated boardwalk on the shoreline spanning from the trail terminus east of Alder Creek to a scenic vista near the Inner Lagoon Dock. It would be built as a rustic boardwalk (up to 36" wide) on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs.
- **Forest Trail:** Up to 800 linear feet of the most steep and rough sections of the existing trail would be rerouted to improve opportunities for limited-mobility users. Rerouted sections would be constructed as 18" to 36" wide single track with soft tread featuring native material. Abandoned sections would be actively revegetated once trail construction is completed.
- **Cooper's Notch Trail.** The proposed trail route would be refined to meet resource and visitor objectives. Four miles of new trail would be created, with tread width ranging from 18" to 36," and including up to five hardened gathering and overlook points (up to 400 square feet each). Elevated boardwalk on helical piers would be used to provide wetland and riparian edge access and crossings (up to 1,800 linear feet). An at-grade road-crossing would be prepared on the park entrance road.
- **Point Gustavus Route:** Minimalist, fully naturalized modifications (i.e., rock placement and spot planking) would be provided to help users navigate tides, water crossings, and sensitive habitat along 5 miles of shoreline, including designated Wilderness. This would include minimum required modifications (based on analysis during pre-design) to the environment using native natural materials such as rock and logs.

**Widen Access Road.** Unlike the gateway alternative, this alternative proposes widening the entire park entrance road up to 60" and restriping it to support on-grade bike and pedestrian use on one side. The road would be constructed for year-round active transportation (bike, pedestrian, and ski).

**Visitor Facilities.** Unlike the gateway alternative, this alternative proposes developing a new ABAAS restroom(s) near park headquarters that supports public access as a 400-square-foot new structure located on the concrete pad of the existing headquarters building (after it is replaced). It would include multimodal hub and trail amenities (covered area, ABAAS restroom, and wayfinding).

A 30' x 30' day-use pavilion for NPS demonstrations and programs would be built on the beach and/or intertidal zone that could secondarily support casual visitor use and picnicking. The pavilion would be constructed as a park-appropriate, iconic landmark consistent with historic park architecture visible to arriving boats. It would connect to the Campground Trail and to

expanded day-use parking areas with a new Class 3 ABAAS accessible trail (up to 36" wide) of ~500 linear feet through the forest with tread appropriate to the anticipated regular use and with a short ramp segment at the pavilion.

A covered picnic area (up to 300 square feet) would be developed near the relocated park headquarters for day-use by visitors and staff. The area would be oriented for sun and scenic views and integrated with a covered walkway between NPS buildings.

**Car Camping Loop:** A small, drive-in campground would be developed that includes between four and six rustic, no-frills sites that could accommodate up to 30-foot-long RVs as well as other vehicles. The area could include picnic tables, fire pits, and tent sites. No utilities would be provided except a limited-service, small RV pump-out station and a nearby vermiculture composting toilet (that also serves pavilion and parking area users). A cost-recovery fee and/or a reservation system may be applicable. The campground would be located southwest of the expanded parking area within easy walking distance of the composting toilet, but offset with some vegetated buffers to enhance the camping experience. This area would be separated from existing walk-in campsites and the final Forest Trail route. Up to 18,000 square feet of forest would be cleared, with an expanded gravel pad and pavement installed for an entrance road, drop-off and pump station pull-outs, and sites that can accommodate up to 30-foot-long RVs..

**Parking Expansion:** Maximize use of the existing paved area and disturbed footprint near the generator building to support expanded and reconfigured public and staff parking. Relocate non-essential activities off-site. Up to 25,000 square feet of forest would be cleared with an expanded gravel pad and pavement installed to support up to 58 total parking spots and new ABAAS pedestrian connectors to the VIS and dock area (Class 3 ABAAS accessible trail, ~600 linear feet, up to 36" wide).

**Visitor Shelters.** Up to two public use huts (~260 square feet each) would be developed as a rustic, no-frills option for low-cost lodging in the frontcountry and a dry and warm option for outgoing and incoming kayakers. The huts would be connected to the existing campground group sites with a buffer separation, and the area would retain naturalized forest surrounds by minimizing the building pad clearing zone. A multiple-party use model with 12 bunks, a wood stove, plywood counters for cooking with a camp stove, and common rustic table/booth seating for gathering would be considered. Visitors would be required to carry in water. No utilities would be provided, but a bear-proof, vermiculture leach system for gray water disposal (cleaning dishes) would be incorporated. Use of the public use huts could include fees and reservations. Build another 30' x 30' day-use pavilion on the beach and/or intertidal zone near the campground dedicated to casual camper and visitor use, socializing, cooking and picnics, and to support gear staging and preparations for backcountry trips.

## **Park Operations**

The 1958 park headquarters building would be replaced to address its deferred maintenance and substantial deficiencies. A replacement of up to 6,000 square feet would be constructed nearby within the historic disturbance footprint, while keeping with the original aesthetics and character/feel of the area.

The park headquarters road would be upgraded to address spot safety issues and enhance overall circulation. The upgrades may include paving and redesign to efficiently meet staff

parking demands, support alternative and active transportation, serve as a public trailhead, and implement environmental best practices that safeguard water quality and protect people's health. This may include such things as a settling basin to treat snow and stormwater runoff and pollution, and road paving to reduce airborne dust. Views of vehicles from the water would be buffered by retaining vegetation.

Develop additional housing and associated facilities in the seasonal housing area, off the existing service road (total area of development would not exceed 0.5 acres):

- New dormitory style housing or a bunkhouse (up to 2,000 square feet in size) southwest of the existing duplexes for seasonal employees, Student Conservation Association volunteers, Volunteers in Parks, and researchers. The new development may include additional parking for up to eight vehicles (up to 2,000 square feet in parking)
- Three RV pads with electrical and water hook ups (totaling up to 8,000 square feet) would be constructed at the end of the seasonal housing area service road to accommodate RVs brought by volunteers, visiting scientists, and/or seasonal staff.
- A new rain shelter would be developed in a central open area between the park entrance road and park employee housing. The site would be constructed to promote responsible socializing and gathering, and would be developed as a rustic, naturalized, outdoor area for employees to use during off hours. New parking would be included in the vicinity for up to six vehicles, with boardwalks extended to link to nearby housing (up to 150 linear feet). May include clearing up to 1,500 square feet of forest. Vegetative buffers would be retained so the shelter is not visible from the main road.

## **ACTIONS CONSIDERED AND DISMISSED**

While developing each alternative, it became evident that certain alternative concepts or strategies were not appropriate to fully analyze in the environmental assessment. Below is a brief description of alternative strategies that were considered but dismissed from detailed analysis.

### **Alaska Marine Highway System (AMHS) Ferry Berthing in Bartlett Cove**

Some scoping commenters have requested that the National Park Service provide a new docking facility for AMHS ferries. During emergencies, a standing agreement enables AMHS ferries to seek temporary shelter in Bartlett Cove. The National Park Service does not believe that these occurrences are frequent enough to warrant the capital improvements and ongoing maintenance that would be needed to support this kind of docking facility, especially as it would increase AMHS operating times and costs (compared with the state ferry dock at Gustavus). Therefore, this action was determined to be technically and economically infeasible and unnecessary.

### **Wilderness Trails Originating Outside the Park**

Public commenters requested access into designated Wilderness originating from non-NPS lands (including the Bartlett Lake/Towers Trail and Falls Creek areas in Gustavus). Because these pose more complex jurisdictional, parking/vehicular access, and maintenance questions, the National Park Service decided to not include those actions in this plan and to wait to address them in the future wilderness stewardship/backcountry management plan. Additionally, actions related to the Park's backcountry are outside the scope of this plan.

## RELATED ACTIONS

NEPA analysis considers direct localized actions proposed by a federal agency but also requires consideration of any other collectively significant, “past, present and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Thus, the following proposed projects in and outside the park are analyzed as part of the cumulative analysis of frontcountry environmental impacts.

### **Gustavus Community Center**

A new Gustavus Community Center is planned to be completed by a local nonprofit in 2019. The goal of the Gustavus Community Center is to provide a warm, dry space to deliver programs throughout the year. The center will be one of the most prominent public buildings in Gustavus. This center will also serve as a focal point to provide orientation and community information to the 11,000 visitors who pass through the town. Alaska Geographic and the National Park Service have already recognized the potential for using space in the community center building once it is completed. (Analyzed in Socioeconomics and Visitor Use and Experience sections of chapter 3.)

### **Electrical Intertie to Falls Creek Hydroelectric**

This is the culminating component of a 20-year Falls Creek Hydroelectric Project to provide local renewable energy. This project is funded for implementation by 2020. The project will bury an 8.5-mile electrical intertie cable underground, co-located with other utilities in existing rights-of-way/easements along the road shoulder. The design features a 15-kilovolt, three-phase electrical line plus a communication link between the Alaska Power and Telephone Company’s Falls Creek hydroelectric plant and the Park’s Bartlett Cove electrical grid.

The project would enhance energy independence by connecting the park to the local Falls Creek Hydroelectric and reduce use of nonrenewable, fossil fuels (diesel) to generate electricity. This project is anticipated to save approximately 70,000 gallons of diesel fuel annually, reduce greenhouse gas emissions by 222 metric tons carbon equivalent per year, reduce air pollutants by 46,428 pounds per year, reduce the opportunity for a catastrophic barge fuel spill, and reduce fuel purchases by 62% annually. Power distribution lines within the park exist and were extended 1.5 miles in 2000 in anticipation of the intertie project.

### **Bartlett Cove Discovery Center**

Implementing the Discovery Center project from the 1998 Bartlett Cove Development Concept Plan is carried forward as a future action in the planning vision for the Glacier Bay National Park frontcountry (*see part I: visitor experience*). This project would potentially combine the visitor contact and service functions in a signature new facility (up to 20,000 square feet) with a new 80-person capacity auditorium on the southeast edge of the current VIS parking lot to maximize accessibility for visitors. This project will redefine parking, circulation, and access needs in a way that is sensitive to the existing scale of the frontcountry arrival experience and overall shoreline aesthetics. This facility would intentionally program to feature a strong research component that does justice to Glacier Bay as a living laboratory (as described in the Park’s enabling legislation). This project is not analyzed in the proposed action of this environmental



assessment as it will require additional scoping and project development to further define the project before its ready for NEPA analysis, and it would only be carried forward for further consideration under the conditions of the preferred alternative described in this environmental assessment (see “*Destination Alternative*” above and part I of the planning vision for more information on this future project).

## CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### INTRODUCTION

The “Affected Environment and Environmental Consequences” section describes the resources that could be affected as well as the potential environmental consequences of implementing any one of the alternatives being considered.

The topics presented are those related to the key issues that could inform the NPS decision on how to manage park frontcountry. The descriptions of the resources provided in this chapter serve as an account of the baseline conditions against which the potential effects of the proposed actions considered in this plan are compared.

### GENERAL METHODOLOGY

This section is organized by resource topic and provides a comparison of the alternatives based on issues. In accordance with the NPS Council on Environmental Quality regulations, direct, indirect, and cumulative impacts are described, and the impacts are assessed in terms of context, intensity, and duration (40 CFR 1502.16).

### SITKA SPRUCE/WESTERN HEMLOCK FOREST

#### Affected Environment

The majority of the project area lies in a mature Sitka spruce/western hemlock forest, described as roughly 220 years old, predominantly of Sitka spruce (*Picea sitchensis*), with some western hemlock (*Tsuga heterophylla*) and occasional black cottonwood (*Populus balsamifera* ssp. *trichocarpa*). Hemlock saplings, stunted spruce, and various shrubs form the subcanopy in this area. Many dominant spruce trees have been severely affected or killed by spruce bark beetle, and there are some standing dead trees within the project area. Sitka alder (*Alnus viridis* ssp. *sinuata*) occupy many openings and recently disturbed areas. Patches of devilscub (*Oplopanax horridus*) often grow in wet areas of the forest. Routine clearing around buildings, roadside corridors, and trails has created non-natural thickets of alder, horsetail, and other plants, including invasive species. Sitka spruce and hemlock forests are widespread in the Park, covering over 300,000 acres of the Park’s vegetated land (Boggs et al. 2008).

#### Environmental Consequences

**No-Action Alternative.** The no-action alternative would be the continuation of current management. The existing trails and facilities would continue to be used in their current state, with routine maintenance being performed as necessary and as time and funding allow. Continued use of the area’s authorized trails would result in continued displacement of vegetation from existing paths where soil compaction might prevent grasses or understory vegetation that might otherwise establish. The reduction of vegetation along 8 miles of narrow linear corridors would continue to cause no noticeable alteration in the overall vegetative

communities at the sites. As such, there would be no new impacts to native plant species populations under the no-action alternative.

**Gateway Alternative.** Construction of a combined visitor information station and visitor center would include the removal of some potential hazard trees around the building. The loss of vegetation occurring under the gateway alternative would not notably affect plant species at a population level because Sitka spruce and hemlock forests are widespread in the Park, covering more than 300,000 acres of the Park's vegetated land.

**Destination Alternative.** In addition to the actions in the gateway alternative, the destination alternative calls for the construction of new trails and facilities that would involve additional vegetation clearing and ground disturbance. Estimated areas of impact are presented below; these numbers are approximate because the alternative alignment is not yet in the design stage of development and could change. Because of rounding, numbers presented may not add up precisely to the totals provided.

- Rerouting 800 to 1,000 linear feet of the Forest Trail would require clearing 36" to 60" of vegetation along the new sections (up to 0.1 acres).
- Constructing 2.3 to 2.5 miles of trail for the Cooper's Notch Trail would require clearing 36" to 60" of vegetation along the path (up to 1.5 acres). Construction of five overlook hardened gathering points, up to 400 square feet each, would involve clearing vegetation from between 2,000 and 2,500 square feet (less than 0.1 acres).
- Construction of a Class, 3 ABAAS accessible trail connecting the new day-use pavilion to the campground would require clearing up to 1,700 square feet of forest (less than 0.1 acres).
- Construction of a new six-site, drive-in campground would require clearing up to 18,000 square feet of forest (less than 0.5 acres).
- Expanding the parking lot near the generator building and constructing new ABAAS pedestrian connectors to the VIS and dock area would require clearing up to 25,000 square feet of forest (less than 0.6 acres).
- Construction of two public use huts would require clearing up to 600 square feet of forest (less than 0.1 acres).
- Construction of additional staff housing and associated facilities would require clearing up to 15,000 square feet of forest (less than 0.4 acres).

Negative effects from construction of new trails and facilities would include the loss of ground cover and understory species, as well as the removal of some trees. In total, between 3 and 4 acres of Sitka spruce/hemlock forest would be removed under the destination alternative because of vegetation clearing. However, the loss of up to 4 acres of Sitka spruce/hemlock forest would not notably affect plant populations because Sitka spruce and hemlock forests are widespread in the Park, covering more than 300,000 acres of the Park's vegetated land.

## **Cumulative Impacts**

Past and ongoing actions in the Bartlett Cove developed area have resulted in a small incremental loss of vegetation in the respective project areas. Existing facilities in the Bartlett Cove area cover about 31 acres of land. Most projects (aside from projects on trails, for example) affecting vegetation in the Bartlett Cove vicinity have occurred (and most future projects would be expected to occur) within or adjacent to existing developed areas. Placement

of an 8.5-mile electrical intertie cable underground in existing rights-of-way/easements along the park entrance road shoulder would require the removal of a few trees, as well as ground disturbance of previously cleared areas. As previously described, there would be no new impacts under the no-action alternative, and therefore there would be no cumulative impacts to Sitka spruce/hemlock forests. The gateway and destination alternatives would contribute to the loss of forest vegetation occurring from other present and foreseeable future actions that involve new construction. Under the gateway alternative, some potential hazard trees around the new combined visitor information station and visitor center would be removed; under the destination alternative, up to 4 acres of vegetation would be cleared. When these effects are combined with other past, present, and reasonably foreseeable future impacts, the total cumulative impact on mature Sitka spruce/hemlock forest would continue to be adverse. The incremental impacts of the alternatives would contribute slightly to, but would not substantially change, the impacts that are already occurring.

## Conclusion

Under the no-action alternative, current operation and maintenance and visitor use activities would continue unchanged. This continuation of current management would result in no notable changes to the Sitka spruce/hemlock forest. Under the gateway alternative, a combined visitor information station and visitor center would include the removal of some potential hazard trees around the building. In comparison, the destination alternative, which includes all actions in the gateway alternatives plus some others, entails the greatest number and widest scope of activities under consideration in the plan. In the destination alternative, up to 4 acres of Sitka spruce/hemlock forest would be removed due to development of new facilities. However, the actions proposed under the gateway and destination alternatives would not be expected to impact forest species at a population level because the disturbance would be localized to the construction sites, and the species affected are common throughout the 7,000-acre Bartlett Cove frontcountry area. The impacts would be even less noticeable parkwide, since at least 300,000 acres of Sitka spruce/hemlock forest would remain undisturbed.

## COASTAL MEADOWS AND EARLY SUCCESSIONAL FORESTS

### Affected Environment

Coastal meadows are a distinctive feature of the Glacier Bay region, where post-glacial isostatic rebound is causing the land to rise up out of the sea. As the land emerges, beach meadow vegetation creeps forward to claim flat terraces before most woody plants can establish. These biologically important meadows are often backed by a narrow band of alder and then the forest. Supratidal meadows are dominated by herbaceous vegetation and are located between the high tide line and the forest edge. Common herbaceous species present in the plant community include wild strawberry (*Fragaria sp.*), fireweed (*Chamerion angustifolium*), lupine (*Lupinus spp.*), cow parsnip (*Heracleum maximum*), dunegrass (*Leymus mollis ssp. mollis*), lady fern (*Athyrium filix-femina*), and yarrow (*Achillea sp.*). Sitka alder and a variety of shrubs, such as willows (*Salix spp.*), currants (*Ribes spp.*), devilscub, and elderberry (*Sambucus racemosa*), occur as marginal bands. Behind the band of shrubs stands the spruce forest. Coastal meadows are common throughout lower Glacier Bay and the entire Park; more than 90% of the marine shoreline in the project area and more than 60% of the shoreline in Glacier Bay proper are backed by coastal meadows in some form (NPS staff, pers. comm., Dec. 12, 2018).



More than 40 species of exotic (nonnative) plant species have been observed in Bartlett Cove (NPS Exotic Plant Management Team 2015 [NPS 2015]), many of them occupying coastal meadows and early successional forests. Several species of lower concern, like common dandelion (*Taraxacum officinale*), common plantain (*Plantago major*), and common chickweed (*Cerastium fontanum*), are widespread throughout the developed area. Species of greater concern, like reed canarygrass (*Phalaris arundinacea*), Robert geranium (*Geranium robertianum*), and oxeye daisy (*Leucanthemum vulgare*), have established adjacent to some of the buildings and road corridors. Most of the invasive species found in the park occur in the Bartlett Cove developed area within one mile of all Bartlett Cove facilities; however, dandelions grow in beach meadows in backcountry areas (Dowlatsahi 2013). Additionally, the City of Gustavus has many other invasive plant species of concern not yet documented in the Park. These plants provide seed sources that could quickly colonize newly-disturbed ground if transported by people, vehicles, or natural processes and wildlife.

### Environmental Consequences

**No-Action Alternative.** The no-action alternative would be the continuation of current management. Maintenance of roads, buildings, parking lots, and trails may disturb soils, which could promote the establishment or expansion of invasive exotic plants in coastal meadows and early successional forests if transported by people, wildlife, or other means. Established invasive exotic plant populations would continue to serve as sources for seeds to colonize newly disturbed ground, potentially resulting in continual adverse impact to native plants in coastal meadows and early successional forests.

**Gateway Alternative.** Construction of a Class 5 ABAAS trail from the Tribal House to the beach would require clearing approximately 1,500 to 2,000 square feet (less than 0.1 acres) of coastal meadow and early successional forest. The proposed actions represent an incremental addition to the existing development footprint and therefore are not expected to impact native plant species at a population level through habitat loss.

**Destination Alternative.** In addition to the actions in the gateway alternative, the destination alternative calls for the construction of new trails and facilities that would involve additional vegetation clearing and ground disturbance. Up to 2,000 square feet (less than 0.1 acres) of coastal meadow and forest would be cleared to construct two, day use pavilions. This ground disturbance, as well as the clearing of 3 up to 4 acres of Sitka spruce/hemlock forest (discussed previously), increases the potential for establishment of invasive exotic plants, which could then be transported into coastal meadows and early successional forests by people, vehicles, or wildlife. In addition, newly built trails could serve as vectors for the spread of invasive exotic plants into currently undisturbed areas of the Park. The implementation of mitigation measures (see appendix D) during and after construction activities would help reduce the establishment and spread of invasive species, thus reducing adverse impacts to native plant species in coastal meadows and early successional forests from the proposed actions. The proposed actions represent an incremental addition to the existing development footprint within coastal meadows and early successional forest and therefore are not expected to impact native plant species at a population level through habitat loss.

## **Cumulative Impacts**

Past and ongoing actions in the Bartlett Cove developed area have resulted in ground disturbance and subsequent establishment of invasive exotic plants. Existing facilities in the Bartlett Cove area cover about 31 acres of land. Construction and maintenance of existing buildings, roads, and trails have created disturbed soil areas where invasive plant populations have become established. These plant populations continue to serve as sources of seed, causing persistent adverse impacts to native plants in coastal meadows and early successional forests. Reasonably foreseeable actions include constructing an electrical intertie between Bartlett Cove and Gustavus; while this action would not directly impact coastal meadows and forest edge, the ground disturbance could promote the establishment of invasive exotic plants that could spread into other areas of the Park. As previously described, there would be no new impacts under the no-action alternative, and therefore there would be no cumulative impacts to coastal meadows and early successional forest. The gateway alternative and the destination alternative would cause ground disturbance to up to 0.1 acres and 4 acres, respectively. When these effects are combined with other past, present, and reasonably foreseeable future impacts, the total cumulative impact on coastal meadows and early successional forests would continue to be adverse. The incremental impacts of the alternatives described in this plan would contribute slightly to, but would not substantially change, the impacts that are already occurring.

## **Conclusion**

Under the no-action alternative, current operation and maintenance and visitor use activities would continue unchanged. This continuation of current management would result in no notable changes to the coastal meadow and early successional forest communities. Actions proposed under the gateway alternative would have considerably fewer impacts on these plant communities than under the destination alternative. The destination alternative would result in greater levels of ground disturbance and vegetation clearing, with a subsequent increase in the potential for establishment and expansion of invasive exotic plants in coastal meadows. Mitigation measures would be used to limit the encroachment of invasive plant species and minimize collateral soil loss.

## **WETLANDS**

### **Affected Environment**

Several site-specific wetland assessments and delineations have been conducted for infrastructure-related projects in the Park. However, detailed wetland mapping of the proposed project area is currently limited. National Wetlands Inventory mapping was completed by the US Fish and Wildlife Service and is available for the entire project area (USFWS 2018b). Additionally, the most recent park land-cover type classification (Boggs et al. 2007), which includes locations of vegetative cover types typical of wetlands in the project area, contributed to a preliminary assessment of wetland impacts. Wetlands in the project area have been previously impacted through placement of fill for development in the Bartlett Cove frontcountry area and construction of the park entrance road. Additionally, wetland conditions are still evolving because of isostatic rebound; as uplift occurs, some wetland areas are reorganizing into more developed stream systems (NPS staff, pers. comm., 3/1/19). Little information is available on the functions or values of the project area wetlands; however,

wetlands in general within the park provide important resting habitat for migratory waterfowl and ground-nesting birds. Wetlands also support unique plant species.

Three wetland types, described below, are expected to be present within the project area:

- Freshwater forested/shrub wetland. These wetlands are characterized by erect, rooted, herbaceous hydrophytic plants, excluding mosses and lichens. They may also include areas dominated by woody vegetation less than 20.1 feet (6 m) tall, including true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. In Boggs et al. (2008), it is commonly mapped as Sitka spruce woodland/wet herbaceous land cover. Plant species that dominate forested/shrub wetland in the park include sedges and forbs such as Sitka sedge (*Carex aquatilis* var. *dives*), Lyngbye's sedge (*Carex lyngbyei*), and water horsetail (*Equisetum fluviatile*).
- Freshwater emergent wetland. These wetlands are common on intertidal flats and beaches. In tidal marshes, the sites are flat and the soils are silt, sand and silt, or cobbles with sand. In Boggs et al. (2007), it is commonly mapped as halophytic herbaceous wet meadow. Vegetation is characterized by erect, rooted, herbaceous hydrophytes, such as Lyngbye's sedge (*Carex lyngbyei*), Bering's hairgrass (*Deschampsia beringensis*), and seaside sandplant (*Honckenya peploides* ssp. *major*).
- Estuarine intertidal wetland. In the project area, this consists of tidal wetlands that have open, partially obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff by land. Vegetative cover is less than 30%, and salt and brackish water-tolerant species dominate this wetland, such as Lyngbye's sedge (*Carex lyngbyei*), Bering's hairgrass (*Deschampsia beringensis*), and Nootka alkaligrass (*Puccinellia nutkaensis*).

## Environmental Consequences

**No-Action Alternative.** The no-action alternative would be the continuation of current management. There would be no new actions and therefore no new effects on wetlands under the no-action alternative.

**Gateway Alternative.** Construction of new facilities would primarily occur on well-drained glacial outwash. Before any construction occurs, a soil investigation would be conducted to confirm soil-bearing capacity and drainage characteristics. If such an investigation reveals soil conditions indicative of wetlands, alternative locations would be assessed. If no alternative non-wetland sites were located, then additional compliance (e.g., a Wetlands Statement of Findings) would be done to assess impacts to wetlands and ensure no net loss of wetland area.

The park would remove accumulated sediment from the public boat launch ramp by using a minimally invasive suction device to relocate sediment to a nearby seafloor location. The public boat launch ramp is located within wetlands classified as “estuarine, intertidal, unconsolidated shore, regularly flooded.” No sediment would be removed from beyond the footprint of the boat ramp, and sediment would be relocated to subtidal habitat, which is not subject to NPS wetland protection procedures. Use of a submersible diver-operated dredge would minimize suspension in the water column. Therefore, overall functions of nearby wetlands are not likely to be noticeably altered.

**Destination Alternative.** In addition to the actions in the gateway alternative, the destination alternative calls for the construction of new trails and facilities that would involve additional vegetation clearing and ground disturbance. Wetlands would be minimally impacted through the placement of boardwalks with helical piers. Estimated areas of impact are presented below; these numbers are approximate because the alternative alignment is not yet in the design stage of development and could change. Because of rounding, numbers presented may not add up precisely to the totals provided.

- *Bartlett River Trail*—The new route would cross through between 3,250 and 3,580 linear feet of freshwater emergent wetland and between 7,280 and 8,020 feet of estuarine intertidal wetland. The use of helical piers to support the boardwalk would affect between 0.08 and 0.09 acres of soil. The total surface of the boardwalk would be approximately 0.80 acres.
- *Inner Lagoon Trail*—The trail would cross through approximately 780 linear feet of estuarine intertidal wetlands and 440 linear feet of freshwater forested/shrub wetland. The use of helical piers to support the boardwalk would affect between 428 to 470 square feet (0.01 acres) of soil. The total surface area of the boardwalk would be approximately 0.1 acres.
- *Cooper's Notch Trail*—The trail would cross through approximately 1,160 linear feet of freshwater forested/scrub wetland. The use of helical piers to support the boardwalk would affect approximately 410 to 450 square feet (0.01 acres) of soil. The total surface area of the boardwalk would be approximately 0.1 acres.

Construction of the boardwalks would result in permanent loss of wetland from removal of vegetation for the placement of helical piers for the boardwalk and potentially some larger vegetation (shrubs and trees) for placement of the boardwalks through forested wetlands. In addition, some continual adverse impacts to vegetation could result from shading caused by the boardwalks. Removal of trees of substantial size would be avoided to the extent possible to avoid impacts to natural resources and because the root systems make it difficult to drive the piers into the ground. Following construction of the boardwalks, disturbed areas would be allowed to recover naturally or revegetated with native plant species. However, overall functions of the wetlands are not likely to be noticeably altered because of the small area of ground disturbance in relation to the total acres of wetlands present in the project area; more than 800 acres of similar wetlands within the frontcountry area would remain undisturbed. Remaining adjacent wetlands would continue to filter and convey precipitation and provide an important complex of habitats. The impacts would be even less noticeable parkwide because at least 22,000 acres of wetlands would remain undisturbed.

## Cumulative Impacts

Past, present, and reasonably foreseeable future actions that have impacted wetlands in the project area include realignment of the park entrance road and rehabilitation of the Bartlett Cove Dock. For the park entrance road realignment, about 3.8 acres of wetland were permanently lost, while another 0.7 acres of wetland were converted from palustrine to open water ditches; approximately 0.3 acres of wetlands were adversely impacted by rehabilitation of the dock. As previously described, the no-action alternative would have no new impacts on wetlands, and therefore there would be no cumulative impacts. Under both action alternatives,



the use of a minimally invasive suction device to remove and relocate sediment from the public boat launch ramp to a nearby subtidal seafloor location would not noticeably alter the overall functions of adjacent estuarine wetlands. Under the destination alternative, up to 0.1 acres of wetlands soils and vegetation would be adversely impacted through the placement of helical piers to support boardwalks, while up to 1.7 acres of wetlands would be indirectly affected through shading by boardwalks. When these effects are combined with other past, present, and reasonably foreseeable future impacts, the total cumulative impacts on wetlands would continue to be adverse. The incremental impacts of the action alternatives would contribute slightly to, but would not substantially change, the impacts already occurring.

## **Conclusion**

Under the no-action alternative, current operation and maintenance and visitor use activities would continue unchanged. This continuation of current management would result in no notable changes to wetlands. Construction of new facilities under the gateway alternative would primarily occur on well-drained glacial outwash; if a soil investigation reveals conditions indicative of wetlands, alternative locations would be assessed. Use of a submersible diver-operated dredge and hoses to relocate sediment from the public boat launch ramp to the subtidal zone would likely result in no noticeable alteration of nearby wetland function. Therefore, actions proposed under the gateway alternative would not be likely to result in notable changes to wetlands.

In comparison, the destination alternative, including actions in the gateway alternative, entails the greatest number and widest scope of activities under consideration in the plan. Overall, the destination alternative would have adverse impacts to wetlands for the foreseeable future because of the placement of helical piers to support boardwalks and shading of vegetation underneath boardwalks. However, overall functions of the wetlands are not likely to be noticeably altered because of the small combined area of ground disturbance in relation to the total acres of wetlands present. The impacts would be even less noticeable parkwide, since at least 22,000 acres of wetlands would remain undisturbed.

## **SALMON AND ANADROMOUS TROUT**

### **Affected Environment**

The word anadromous means “upward running” and refers to a relatively uncommon life history strategy used by approximately 100 of the more than 28,000 fish species. Anadromous fish are born in freshwater, spend some portion of their lives in the marine environment, and return to spawn in freshwater. Several anadromous fish species of special concern occur within the project area, including sockeye salmon (*Oncorhynchus nerka*), coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*), and sea-run cutthroat trout (*Oncorhynchus clarki clarki*) (Nadeau et al. 2017). These species are of particular concern because they may have small populations in certain watersheds and/or are vulnerable to overharvest by recreational anglers. Anadromous fish populations are known to experience a high degree of natural variation in abundance, and species and populations can vary greatly in how they respond to environmental changes. Spawning populations of coho salmon in small creeks and headwater streams may be small, numbering in the tens or hundreds of individuals; however, coho salmon within the park and preserve are generally not a conservation concern because of their widespread spawning distribution and relatively undisturbed habitat (NPS 2018d).

Moreover, Bartlett River coho stock escapement is estimated to be in the thousands to tens of thousands (NPS unpublished data). In contrast, populations of steelhead trout are typically small, and recreational steelhead harvest limits are conservative compared with other Pacific salmon species (Harding and Coyle 2011; NPS 2018c). Southeast Alaska spawning cutthroat populations are also typically small; multiple cutthroat populations often overwinter together in lakes, and these aggregations rarely exceed 2,000 fish (Harding and Coyle 2011; NPS 2018b).

Recreational fishing for salmon and trout is a popular activity for many local residents and visitors to Glacier Bay National Park and Preserve, particularly along the Bartlett River. Recreational fishing results in the harvest and direct mortality of Bartlett River salmon and anadromous trout. Based on angler survey data provided by the Alaska Department of Fish and Game (ADFG), 2013 sport harvest in the Bartlett River accounted for 1,447 salmon removals (ADFG 2013). Sockeye and coho salmon were the species harvested in the greatest numbers between 1997 and 2013, with pink and chum salmon harvested in low numbers. The 2013 Bartlett River sport harvest was estimated at 135 sockeye salmon and 1,168 coho salmon, which was well above the 7-year (nonconsecutive) average. In addition, catch-and-release fishing results in a small amount of incidental mortality of fish over and above the reported harvest.

Sockeye and coho salmon are also commercially harvested, while steelhead and sea-run cutthroat trout are not commercially targeted species (Nadeau et al. 2017). Because commercial fishers target mixed salmon and trout populations in the ocean, it is not possible to quantify the effect on any one river's population.

## **Environmental Consequences**

**No-Action Alternative.** The no-action alternative would be the continuation of current management. There would be no new actions and therefore no new effects on salmon and anadromous trout under the no-action alternative. Anglers would continue to access the Bartlett River for recreational fishing using the existing Bartlett River Trail, resulting in the harvest and mortality of Bartlett River salmon and anadromous trout.

**Gateway Alternative.** There would be no new impacts on salmon and anadromous trout from actions proposed as part of the gateway alternative. Ongoing impacts would remain the same as those under the no-action alternative.

**Destination Alternative.** Trail modifications may improve recreational anglers' ability to more easily reach fishing spots and could make it easier to retain a greater number of fish. Currently, access to the Bartlett River is provided by the Bartlett River Trail, which requires anglers without watercraft to hike 1.7 miles on a rough trail through temperate hemlock and spruce forest. By rerouting the Bartlett River Trail along the tidal cut to the Beardslees, the new trail would provide access to an additional segment of shoreline previously not typically used by recreational anglers. Salmon and trout migrating up the Bartlett River to spawn move through the tidal cut, and recreational anglers may be able to target fish along the tidal cut shoreline trail segment. The close proximity of the tidal cut to Bartlett Cove facilities could lead to an increase in both the number of recreational anglers and the number of fish harvested, as there would be a shorter hike required to reach fishing spots and to carry out fish. In addition, actions under the destination alternative may result in some visitors extending their stay in Bartlett Cove, which would also increase the potential for recreational harvest of fish. While some increase in harvest

and mortality of individual fish is expected, anglers would continue to be subject to State of Alaska daily recreational harvest limits. Furthermore, park staff would continue to periodically monitor recreational fishing harvest data. If there were a noticeable change in angler harvest and associated catch rates, which may be predictive of harvest concerns and population viability, park staff would consider implementing additional management strategies to reduce pressures on fish populations from recreational fishing, such as reducing daily bag limits, limiting gear types, or implementing temporary spatial or temporal closures. Therefore, the proposed actions under the destination alternative are not likely to have a significant effect on salmon and anadromous trout at a population level.

### **Cumulative Impacts**

Past actions that have impacted salmon and anadromous trout include the construction of the existing Bartlett River Trail to provide access for recreational anglers; continuing impacts from these actions on fish populations are described as part of the Affected Environment section. There are no present or reasonably foreseeable future actions that would have noticeable adverse impacts on salmon and anadromous trout in the project area. As previously described, there would be no new impacts under the no-action alternative, and therefore there would be no cumulative impacts to salmon and anadromous trout. The destination alternative could cause adverse impacts to individual fish but would likely not impact species population viability. When these effects are combined with other past, present, and reasonably foreseeable future impacts, the cumulative impact on fish populations would continue to be adverse. The incremental impacts of the alternatives described in this plan would contribute slightly to, but would not substantially change, the impacts that are already occurring.

### **Conclusion**

Under the no-action alternative, current operation and maintenance and visitor use activities would continue unchanged. This continuation of current management would result in no changes to salmon and anadromous trout populations beyond that occurring from incrementally increased visitation and angler activity. Actions proposed under the gateway alternative would result in some changes to park operation and maintenance and visitor use activities; however, these actions would also result in no changes to salmon and anadromous trout populations. In contrast, under the destination alternative, the Bartlett River Trail would be rerouted next to the tidal cut. This action has the potential to both increase recreational fishing opportunities closer to Bartlett Cove along the tidal cut and increase harvest along the Bartlett River due to easier trail travel conditions, potentially resulting in an increased harvest and mortality of salmon and anadromous trout.

## **SHOREBIRDS AND WATERFOWL**

### **Affected Environment**

Many species of shorebirds and waterfowl use beaches and nearshore marine waters in the Bartlett Cove area, particularly in areas protected from wind such as the inner lagoon. Bartlett Cove and the tidal cut contain approximately 8.8 linear miles (46,400 linear feet) of shoreline; the coastline of Glacier Bay proper, including all islands, is 760 miles (NPS 2016). Yellowlegs (*Tringa spp.*) are common along the shoreline of Bartlett Cove in the spring, summer, and fall, and other species of shorebirds, including Black-bellied Plover (*Pluvialis squatarola*) and Dunlin

(*Calidris alpina*) are especially abundant during migration. Black Oystercatchers (*Haematopus bachmani*) nest and raise young along the shoreline of Halibut Point. Black Oystercatchers have been identified as a species of high concern by federal and state agencies and conservation organizations in the U.S. and Canada. The total population is fewer than 11,000 birds, making it one of the rarest shorebirds in North America, and the status of the population is unknown. Other ground nesting shorebirds include Spotted Sandpiper (*Actitis macularius*) and Least Sandpiper (*Calidris minutilla*). Prevalent, year-round, waterfowl species include mallards (*Anas platyrhynchos*), goldeneye (*Bucephala sp.*) and merganser (*Mergus sp.*), as well as Canada geese (*Branta canadensis*). Trumpeter swans (*Cygnus buccinator*) may be present during winter and during spring and fall migrations.

Streveler et al. (1995) described known sensitivities for specific species that may be found in the Bartlett Cove frontcountry area. Certain species are more sensitive to human disturbance than are others. For example, greater yellowlegs (*Tringa melanoleuca*) has a low tolerance for disturbance while nesting; these birds use estuaries and marine beaches for feeding, both while nesting and, in greater numbers, during migration (Streveler et al. 1995). The shoreline area along Bartlett Cove is important to a variety of bird species, many of which have been displaced at least to a degree by development and visitor use. The more remote portions near the mouth of the Bartlett River remain heavy-use areas by wildlife (Streveler et al. 1995).

## Environmental Consequences

**No-Action Alternative.** There would be no new actions and therefore no new effects on shorebirds and waterfowl under the no-action alternative. Routine park operations and visitor use activities would continue to affect shorebirds and waterfowl through habitat modification from maintenance activities as well as behavior modification because of visual and acoustic disturbances. As natural vegetation shifts continue, wildlife would respond, resulting in a dynamic ecosystem for the foreseeable future where some species thrive and others decline.

**Gateway Alternative.** Shorebirds and waterfowl could be affected temporarily through construction-related noise and visual disturbances and permanently through the loss of habitat as well as visual and acoustic disturbances from maintenance activities and increased human use of the area. The short-term impacts from construction activities common to all alternatives would be partially mitigated by working outside of the critical nesting/migration seasons. Habitat loss from ground disturbance and construction of new facilities would amount to less than 0.1 acres and would occur in close proximity to existing facilities. In addition, higher levels of noise and human activity around new facilities could displace shorebirds and waterfowl from using nearby areas. While this impact would be permanent, it would not be likely to impact avian species at population levels because the amount of habitat lost would be small relative to the total amount of similar habitat in the frontcountry. Nearly 8 miles of shoreline and more than 2,600 acres of similar Sitka spruce/hemlock forest would remain undisturbed.

**Destination Alternative.** The destination alternative calls for notably more trail and facility construction than what is proposed under the gateway alternative. Construction-related noises and visual disturbances may be notable for the short time they occur and may alter avian species use of the project area, particularly species that make use of shoreline habitats. The short-term impacts from construction activities would be partially mitigated by working outside of the

critical nesting/migration seasons. Vegetation clearing would not occur during nesting season, so it is unlikely that there would be any direct mortality of birds.

Vegetation clearing in Sitka spruce/western hemlock forest, coastal meadows, and early successional forests would total between 3 and 4 acres, resulting in some habitat loss and fragmentation. In addition, higher levels of noise and human activity could displace shorebirds and waterfowl from using nearby areas. However, this loss is not expected to impact any bird species at a population level because of the abundance of similar habitat nearby. In addition, new facilities proposed under the destination alternative would have long-term impacts on avian wildlife because of intermittent disturbances associated with maintenance activities and increased human presence. The proposed Inner Lagoon and rerouted Bartlett River trails go through important bird habitats. This increase in recreational use would likely cause disturbance and displacement from preferred habitat for several avian species and may result in habitat fragmentation. In addition, the suitability of the lagoon and tidal cut for shorebirds and waterfowl to feed and rest could decrease, especially during peak visitation but also during migration periods in May and August. There would also be an increased likelihood of disturbance and displacement to the adults, eggs, and chicks because of higher visitation to the park during the peak summer season. Disturbance effects may include energetically costly physiologic responses (i.e., frequent flushing of resting, feeding, and breeding birds and their young).

Ground nesting birds, such as the Black Oystercatcher, may be especially susceptible to visitor use of trails along beaches because of the potential for stepping on the camouflaged eggs, in addition to other forms of disturbance. Other beach-dependent, ground nesting shorebirds including plovers and yellowlegs would experience similar impacts. It is important to note that the lagoon is most important to birds during fall and spring migrations and in winter when visitation is lower; however, regular disturbance from human use during the off-season is likely although at lower volumes than in the summer season. Educational material and programs would inform visitors of sensitive species and habitats to reduce unintentional visitor-caused impacts.

In summary, the impacts of the destination alternative on shorebirds and waterfowl would be of two types: temporary (during construction) and lasting for the foreseeable future. In addition to permanent habitat loss/alteration, additional acoustic and visual disturbances from increased human presence may cause repeated wildlife disturbances and displacement. Unless properly managed, these activities can disturb and displace shorebirds and waterfowl and negatively affect their breeding, feeding, and migratory success. However, implementation of mitigation measures and best management practices such as clearing vegetation outside of nesting season and providing additional visitor education related to wildlife would help reduce adverse impacts.

Changes to trails and additional development will likely lead to some increased displacement of wildlife from the project area. Even though Bartlett Cove is considered high-quality habitat for these species, because there is other similar habitat nearby, survival rates, local population size, and long-term viability are unlikely to be affected. Bird species are not expected to be affected at population levels because approximately 4.6 miles of shoreline habitat in Bartlett Cove would remain undisturbed. The impacts would be even less noticeable parkwide, since more than 700 miles of shoreline in Glacier Bay proper would remain free of development. However, shoreline habitat in Glacier Bay varies in complexity and substrate type (Sharman et al. 2005) and habitat



used for nesting varies by species (Arimitsu et al. 2007); not all undisturbed shoreline throughout the park would provide suitable habitat for the species found in Bartlett Cove.

## Cumulative Impacts

Previous actions in the Bartlett Cove frontcountry area may have resulted in the intermittent or permanent disturbance and/or displacement of shorebirds and waterfowl within the developed area's approximately 110-acre, noncontiguous development footprint. Past development in the Bartlett Cove area has removed about 31 acres of mature forest and nearshore upland habitats by converting it into building sites, roads, parking lots, and pedestrian walkways (NPS 2012). Shorebirds and waterfowl have been adversely affected by the removal of forest canopy during construction of the existing buildings and by recurring human disturbance during migration and nesting seasons. Increasing human use of the Bartlett Cove shoreline and adjacent Beach Trail may have altered wildlife use of this area, which is known to be an important area for wildlife foraging and use as a travel corridor (NPS 2011b). As previously described, there would be no new impacts under the no-action alternative, and therefore there would be no cumulative impacts. The direct and indirect impacts of the gateway and destination alternatives would result in intermittent or permanent disturbance and/or displacement of shorebirds and waterfowl from constructing new facilities, maintenance activities, and visitor use. When these effects are combined with other past, present, and reasonably foreseeable future impacts, the total cumulative impact on bird populations would continue to be adverse. The incremental impacts of these alternatives would contribute to, but would not substantially change, the impacts that are already occurring.

## Conclusion

Under the no-action alternative, current operation and maintenance and visitor use activities would continue unchanged. This continuation of current management would result in no notable changes to natural resource conditions. Actions proposed under the gateway alternative would have considerably fewer impacts on shorebirds and waterfowl than under the destination alternative. The destination alternative entails the greatest number and widest scope of activities under consideration in the plan. These actions would result in vegetation removal/alteration, permanent habitat loss, and visual and acoustic disturbances to and displacement of shorebirds and waterfowl; some individuals may temporarily or permanently relocate to areas outside the project area. Mitigation measures (*see appendix D*) would be used to reduce impacts to the extent possible. Still, even though Bartlett Cove is considered high-quality habitat for these species, these actions would not be expected to have any long-term adverse effect on species population viability because of an abundance of similar habitat adjacent to the project area as described above.

The impacts would be even less noticeable parkwide, since more than 700 miles of shoreline in Glacier Bay proper would remain free of development. However, shoreline habitat in Glacier Bay varies in complexity and substrate type (Sharman et al. 2005) and habitat used for nesting varies by species (Arimitsu et al. 2007); not all undisturbed shoreline throughout the park would provide suitable habitat for the species found in Bartlett Cove.

## **HUNA TLINGIT ANCESTRAL HOMELAND**

### **Affected Environment**

Huna Tlingit clans occupied what is now Glacier Bay for many generations, subsisting on the rich abundance of the coastal waters and adjacent lands. Based on oral tradition, an important winter village site, Sand Hill Town (L'eiwshaa Shakee Aan), was located near present-day Bartlett Cove. The village contained several plank structures that housed the Chookaneidí, Kaagwaantaan, Wooshkeetaan, and T'akdeintaan clans. Today, clans are represented by the Hoonah Indian Association, the federally recognized tribal government of the Huna Tlingit. Sand Hill Town and other settlements were destroyed around AD 1735 by the sudden advance of a glacier. The Huna clans resettled in nearby protected areas but returned to the general area of their former settlements sometime in the 1800s following the glacial retreat. They established seasonal settlements, including a summer fishing camp on Lester Island called Gaatheení, and continued to hunt seals, fish, and harvest sea bird eggs and other coastal resources in what is now Glacier Bay well into the 20th century (NPS, Huna Tribal House EA, 2012).

Importantly, the Tlingit concept of “place” differs significantly from that of most western cultures. For Tlingit people, place is more than a geographically bounded area; it is a container that holds the actions, words, stories, songs, and agreements of those who passed there. Consequently, Huna Tlingit identity is inextricably connected to specific settlement sites, resource gathering areas, and places of historic import in Glacier Bay, including Bartlett Cove. Their deep connection to homeland is reflected in place-based oral histories, songs, stories, dances, crests, place and personal names, and artwork. The ability of clans and individuals to retain customary and meaningful interaction with ancestral places is vitally important to the perpetuation of Tlingit cultural identity.

Following a cultural landscape inventory of Bartlett Cove conducted in 2000, the National Park Service determined that Bartlett Cove represents an ethnographic landscape and a Traditional Cultural Property (a culturally associated site eligible for the National Register of Historic Places) in consideration of the area's continuing importance to the Huna Tlingit. The Alaska State Historic Preservation Officer concurred with the finding. The boundaries of the Bartlett Cove traditional cultural properties (TCP) encompass the entire Bartlett Cove vicinity, including the waters up to and including the mouth of the Bartlett River, across to the southern third of Lester Island, and inland to the south as far as one mile above the high tide line. Natural systems / features and cultural traditions contribute to the importance of the cultural landscape and traditional cultural properties. The Bartlett Cove Pilings (remnants of a pier suspected to have supported the transport of fresh water to a late 19th-century fish cannery and saltery on Lester Island) are also identified as resources contributing to the Bartlett Cove traditional cultural properties (NPS, Huna Tribal House EA, 2012).

The establishment of Glacier Bay National Monument in 1925 precluded permanent reoccupation of the area by the Huna Tlingit, and later NPS regulations curtailed many of the tribe's traditional food gathering activities in Glacier Bay. Huna Tlingit use of Glacier Bay was further diminished as tribal members entered into the western economy, enrolled their youth in school, and established a centralized village in Hoonah. Today, Huna Tlingit visit Glacier Bay and Bartlett Cove on an infrequent basis. The last generation of Huna Tlingit to have lived on the landscape in a traditional way is now elderly and passing on, threatening the loss and

perpetuation of traditional Tlingit knowledge, stories, songs, and lifeways (NPS, Huna Tribal House EA, 2012).

While the entirety of Glacier Bay is sacred to the Huna Tlingit, the Bartlett Cove area is of particular significance for many reasons. First, as noted above, it is revered as the site of the ancestral villages of L'eiwshaa Shakee Aan and Gaatheení. The area is replete with culturally modified trees thought to have been modified during the period of occupation following glacial retreat. Additionally, a dugout canoe, named Yúxwch' Yaakw, rests on what is now the Tlingit Trail adjacent to the Visitor Information Station. This canoe, carved by Huna residents in 1988, is a reminder of early efforts between the National Park Service and the tribe to collaborate. Bartlett Cove is also the site of a 1992 event, now known as the Peaceful Demonstration, in which Huna clans reaffirmed their claim to Glacier Bay homeland on the Ceremonial Beach due east of the boat ramp.

Importantly, the Huna Tribal House, completed in 2016, is the first permanent traditional structure at Glacier Bay since Tlingit villages were destroyed by an advancing glacier more than 250 years ago. *Xunaa Shuká Hít* (the Tribal House) is the culmination of about 20 years of collaborative planning between the Hoonah Indian Association and the National Park Service. It reflects traditional Tlingit design elements and symbolically anchors the Huna Tlingit in their ancestral homeland at Glacier Bay. The 2,500 square-foot structure on the shores of Bartlett Cove near NPS headquarters serves as a venue for tribal members to reconnect with their traditional homeland, lifeways, and ancestral knowledge. The Tribal House also serves as a place for NPS and tribal interpreters to convey the story of the Huna Tlingit, their traditional lifeways, and their evolving relationship with the National Park Service to the visiting public. Appropriate NPS administrative activities are also conducted there.

This assemblage of cultural features—the Ceremonial Beach, the dugout canoe, the Tribal House and associated totem poles, including a Healing Totem Pole, and a series of waysides conveying Tlingit culture and traditions—serve as “containers” that hold ancestral stories and traditions and maintain connection between the living culture and their traditional homeland. Importantly, these features also remind visitors of the deep and ongoing connection between a traditional people and their homeland.

## **Environmental Consequences**

**No-Action Alternative.** Under the no-action alternative, the National Park Service would continue to consult and work with the Hoonah Indian Association to address tribal concerns and issues and ensure that the Huna Tribal House continues to meet tribal needs including appropriate access and functional requirements. All the cultural features arrayed in Bartlett Cove including the Ceremonial Beach, *Yúxch' Yaakw* (a Tlingit dugout canoe), the Healing Totem Pole, the Tribal House and associated totems, and culturally modified trees would be maintained to recognize and honor the Huna Tlingit's deep connection to homeland. Other resources contributing to the significance of the Bartlett Cove cultural landscape and traditional cultural property would continue to be protected and preserved. Interpretive programs would be developed to educate the public about the Tribal House and Tlingit culture, and an appropriate level of public access would be provided to broaden understanding and support for tribal culture. These actions and others that continue to support tribal connections and access to

places and resources of ongoing cultural importance would have beneficial impacts on perpetuating tribal traditions and identity.

**Gateway Alternative.** Under the gateway alternative, the National Park Service would continue to consult and work with the Huna Tlingit and the Hoonah Indian Association to strengthen relations and ensure that the Huna Tribal House and its immediate area appropriately address tribal needs (e.g., accessibility standards for beach access). All cultural features arrayed in Bartlett Cove, including the Ceremonial Beach, *Yúxch' Yaakw* (a Tlingit dugout canoe), the Healing Totem Pole, the Tribal House and associated totems, and culturally modified trees, would be maintained to recognize and honor the Huna Tlingit's deep connection to homeland. Other resources contributing to the significance of the Bartlett Cove cultural landscape and traditional cultural property would continue to be protected and preserved. These actions and others that continue to support tribal connections and access to places and resources of ongoing cultural importance would have beneficial impacts on perpetuating tribal traditions and identity.

Interpretive programs would be developed to educate the public about the Tribal House and Tlingit culture, and an appropriate level of public access would be provided to broaden understanding and support for tribal culture. Vegetation clearing and terracing in front of the Tribal House would enhance views and better accommodate larger public gatherings. These measures would have benefits on preserving and enhancing culturally important resources by ensuring that places, resources, and cultural connections having enduring importance to the Huna Tlingit and the Hoonah Indian Association are protected.

Through a variety of means, the park would work with the Hoonah Indian Association to recognize and demonstrate the park's significance as the Huna Tlingit ancestral homeland (e.g., interpreting Tlingit history and culture). New frontcountry facilities would be developed with appropriate sensitivity and consideration of tribal interests for protecting resource integrity and access to culturally important sites. Values and resources contributing to the Bartlett Cove cultural landscape and traditional cultural property would be protected. These measures would have benefits on preserving and enhancing resources and cultural connections having enduring importance to the Huna Tlingit and the Hoonah Indian Association.

**Destination Alternative.** Actions proposed under the gateway alternative are included in the destination alternative as well. Consequently, the beneficial impacts to resources of cultural importance to the Huna Tlingit would be similar. Additional programs and developments associated with this alternative would further efforts to perpetuate tribal heritage, support efforts to impart cultural knowledge, and expand opportunities to host cultural demonstrations and gatherings to improve cultural outreach. Traditional activities and life ways (e.g., carving, canoe paddling, art, plant and seafood gathering and processing) could be demonstrated to the public outside the Tribal House. In common with all alternatives, values and resources contributing to the Bartlett Cove cultural landscape and traditional cultural property would be protected. These measures would have benefits on broadening public support and understanding of Huna Tlingit culture and help to protect resources and perpetuate cultural connections of tribal importance.

## Cumulative Impacts

Related actions considered for potential cumulative impacts in this environmental assessment include construction of a new Gustavus Community Center by a local non-profit organization,

planned for completion in 2019. The center is anticipated to become one of the most prominent public buildings in Gustavus, serving as a focal point to orient visitors and provide community information. Although no direct cumulative impacts were identified by construction of the community center with the objectives of the Huna Indian Association, Huna Tribal House, or the Bartlett Cove traditional cultural properties, there may be a potential for future collaboration in imparting information to visitors about Huna culture, events, and efforts to preserve cultural identity. Likewise, no direct cumulative impacts were identified by development of the Falls Creek Hydroelectric Project and the electrical intertie to the Bartlett Cove electrical grid. Beneficial impacts on the visual character of the Bartlett Cove cultural landscape would be expected from efforts to place the electrical intertie cable underground. All areas of ground disturbance would be surveyed and assessed to ensure the avoidance of sensitive archeological and other cultural resources. The beneficial impacts resulting from actions proposed by the “no-action,” “gateway,” and “destination” alternatives, together with the beneficial impacts resulting from development of the Gustavus Community Center and the electrical intertie project, would result in overall beneficial cumulative impacts on the Huna Tlingit Ancestral Homeland.

## **Conclusion**

In the no-action alternative, beneficial impacts on resources contributing to the Huna Tlingit Ancestral Homeland would result from the continuation of actions that protect tribal access and connections to places and resources of cultural importance to the Huna Tlingit. Beneficial impacts would also result from interpretive programs developed to educate the public about the Tribal House and Tlingit culture and measures to provide an appropriate level of public access to broaden understanding and support for tribal culture. Resources contributing to the significance of the Bartlett Cove cultural landscape and traditional cultural property would continue to be protected and preserved.

Actions proposed under the gateway alternative and the destination alternative are essentially the same and would provide beneficial impacts on resources of cultural importance to the Huna Tlingit as a result of efforts to promote tribal access and cultural connections to the Bartlett Cove area, enhance public interpretation and education of Huna Tlingit culture, and strengthen NPS and tribal relations and partnerships. The National Park Service would continue to consult with the Huna Tlingit and the Hoonah Indian Association to ensure that the Tribal House and its immediate area appropriately address tribal needs. Resources contributing to the significance of the Bartlett Cove cultural landscape and traditional cultural property would continue to be protected and preserved.



## **GLACIER BAY LODGE AND HISTORIC DISTRICT**

### **Affected Environment**

The Glacier Bay Lodge Complex Historic District was built in two primary phases of construction (1965 and 1972/1973) as part of the National Park Service's systemwide program of planning, design, and construction known as "Mission 66." The mid-20th-century program was largely undertaken to modernize outdated facilities and improve visitor services. Designed by prominent Seattle-based architect John Morse of John Morse & Associates, the lodge and associated district reflect a Pacific Northwest regional approach to park service modern architectural design in conformance with Mission 66 principles. The district comprises a central lodge building flanked by guest and employee lodging. It was designed as a visitor accommodation, dining, and information facility. Additional visitor service functions were added to the lodge including an expanded guest registration and information area, retail space, auditorium, and interpretive exhibit area. Few alterations were made to significant exterior features of the lodge complex, and the distinguishing asymmetrical roofline, triangular dormers, and glass curtain wall on the northwest elevation of the main lodge remain virtually unchanged. The Glacier Bay Lodge Complex Historic District includes eighteen contributing buildings, two contributing structures and one noncontributing building (NPS, National Register nomination, draft).

The district retains historic integrity and is recognized as nationally significant as the only example of a Mission 66 lodge in the Alaska Region and the only federally funded, Mission 66 lodge in the nation. In 2011, the Alaska State Historic Preservation Office (SHPO) concurred that the lodge complex is eligible for listing on the National Register of Historic Places as a cultural landscape and a historic district. As a historic designed landscape associated with trends in the history of landscape architecture, the district exhibits environmentally sensitive modern and award-winning architectural design. It is an exemplary representation of the NPS Mission 66 program's objectives to modernize and increase the accessibility of the national parks. In 2003, the access road along the beach was decommissioned and the current inland access road was added. The original road, now the Tlingit Trail, along with the boardwalks and driveway, were determined contributing landscape features. The historic utility system, including water and sewer lines underlying the Tlingit Trail, is not listed as a contributing element of the historic district. A historic structure report (HSR) for the Glacier Bay Lodge Complex Historic District was completed in 2018 that presents a history of the lodge design and development as well as treatment recommendations. The historic structure report furthers understanding of the lodge by identifying the significance and integrity of its character-defining features. In keeping with the Secretary of the Interior's Standards for Treatment of Historic Properties, "rehabilitation" is the overall treatment recommended for the complex (NPS, National Register nomination, draft; Cultural Landscape Inventory, NPS 2011a; HSR, NPS 2018a).

### **Environmental Consequences**

**No-Action Alternative.** Under the no-action alternative, the National Park Service would continue to preserve and maintain the Glacier Bay Lodge to the extent possible in accordance with NPS policies and the 2018 historic structure report. The backlog of deferred maintenance for the historic Mission 66 building would continue to present threats to its architectural and structural condition and integrity. Nonconforming alterations to the building (e.g., NPS visitor center and other interior changes that block natural light and views) would continue to

adversely impact its architectural character and the historic design intent. Other changes that have occurred over time that have altered the historic character of contributing elements of the district and associated cultural landscape (e.g., employee housing/cabins, parking and circulation, the historic viewshed of the lodge historic district) would continue to diminish the historical integrity of the district. Limited to moderately severe adverse impacts on the lodge and district could continue to occur but would not be expected to compromise the overall national register eligibility of the Glacier Bay Lodge Complex.

**Gateway Alternative.** Under the gateway Alternative, the National Park Service would undertake several measures to preserve the historical and architectural character of the Glacier Bay Lodge. As under the no-action alternative, increased documentation (e.g., completion of a national register nomination) and the recently completed historic structure report would help identify contributing architectural and historical features of the lodge and the lodge historic district and would guide appropriate preservation treatments. Efforts to expand public interpretation and promotion of the significance of the lodge would be expected to increase advocacy and broaden public support for its preservation. Completion of deferred maintenance with dedicated funding would help ensure preservation of the lodge by ensuring that important architectural features are protected from loss or deterioration. These measures would be expected to have beneficial impacts on the Glacier Bay Lodge and lodge historic district.

Restoration of historic district viewsheds and preservation of other contributing features of the district's cultural landscape (e.g., spatial organization, patterns of circulation, natural systems and features) would assist efforts to preserve the district's historic character and setting. Removal of hazardous or encroaching trees would help protect the integrity of the district's contributing buildings by abating the threats of structural damage resulting from falling trees and branches and by helping to preserve historic views. Through careful design, measures would be implemented to ensure that actions affecting the lodge and historic district would only minimally affect the scale and visual relationships among landscape features or circulation patterns and features. In addition, site topography and land use patterns would remain unaltered.

Upgrades to some lodge rooms and other functional/use alterations would be carried out in a manner that preserves character-defining architectural features. To the extent possible, proposed actions and alterations to the lodge and historic district would be undertaken in conformance with NPS policies and the Secretary of the Interior's Standards to minimize or avoid adverse impacts. However, there is a possibility that some actions (e.g., alteration of interior rooms and spaces to accommodate new or upgraded functional uses) may result in limited or moderately severe adverse impacts on the historic and architectural character of the lodge and district if these actions resulted in the loss or disturbance of historic fabric and contributing architectural elements. The National Park Service would therefore consult with the Alaska State Historic Preservation Office during project design development to assess the effects of project undertakings on historic properties in accordance with Section 106 of the National Historic Preservation Act. Any undertakings resulting in unavoidable adverse effects would require appropriate mitigation in consultation with the State Historic Preservation Office and other concerned parties.

**Destination Alternative.** The actions proposed under the gateway alternative are also included in the destination alternative; consequently, the impacts to historic structures under these alternatives are similar. Structural repairs and other measures to address deferred maintenance also would be carried out as under the no-action alternative. In addition to increased documentation of the lodge and efforts to expand public interpretation and promotion of its significance, the National Park Service would promote local sustainable tourism activities that would further build broad-based preservation advocacy for the lodge. Moreover, (as under the no-action alternative) documentation and information expanding understanding of the historical and architectural importance of the lodge complex (such as completed national register documentation) would provide the basis for future treatments and management of the complex. By helping to ensure that the management of the lodge is carried out for the foreseeable future in a fashion that preserves its historic character and ambience, visitors would be provided a more authentic lodge experience in keeping with its original design intent. These measures would have beneficial impacts on the lodge and historic district.

In addition to the impacts described under the gateway alternative, removal of NPS exhibits and restoration of the original architectural design above the dining area of the lodge would have beneficial impacts by returning the catwalk to its originally intended functional design and enhancing natural interior lighting and views. Other rehabilitation measures include removal of nonhistoric additions to the lodge (west of the main drop-off point and visitor entrance) and constructing a wrap-around deck with southern exposure and rain cover in keeping with the historic design intent. These above actions would have beneficial impacts on the integrity of the lodge by reestablishing important historic design elements.

To the extent possible, conversion/upgrades of lodge rooms and other proposed actions would be carried out in a manner that preserves character-defining architectural and cultural landscape features. Proposed actions and alterations to the lodge and historic district would be undertaken in conformance with NPS policies and the Secretary of the Interior's standards to minimize or avoid adverse impacts. However, there is a possibility that some actions (e.g., alteration of interior rooms and spaces to accommodate new or upgraded functional uses) may result in limited or moderately severe adverse impacts on the historic and architectural character of the lodge and district if these actions resulted in the loss or disturbance of historic fabric. The National Park Service would therefore consult with the Alaska State Historic Preservation Office during project design development to assess the effects of project undertakings on historic properties in accordance with Section 106 of the National Historic Preservation Act. Any undertakings resulting in unavoidable adverse effects would require appropriate mitigation in consultation with the state historic preservation office and other concerned parties.

### **Cumulative Impacts**

Related actions considered for potential cumulative impacts in this environmental assessment include construction of a new Gustavus Community Center by a local non-profit organization, planned for completion in 2019. The center is anticipated to become one of the most prominent public buildings in Gustavus, serving as a focal point to orient visitors and provide community information. Although no direct cumulative impacts were identified by construction of the community center with the objectives or preservation of the Glacier Bay Lodge and Historic District, there may be a potential for future collaboration in imparting information to visitors about the history of the lodge and its promotion as an important visitor destination. These

efforts would have beneficial impacts on the preservation of the Glacier Bay Lodge by enhancing public awareness and support for the historic building. Likewise, no direct cumulative impacts were identified by development of the Falls Creek Hydroelectric Project and the electrical intertie to the Bartlett Cove electrical grid. Beneficial impacts on the visual character of the Bartlett Cove and Glacier Bay Lodge cultural landscapes would be expected from efforts to place the electrical intertie cable underground. All areas of ground disturbance would be surveyed and assessed to ensure the avoidance of sensitive archeological and other cultural resources. The beneficial impacts resulting from actions proposed by the “no-action,” “gateway,” and “destination” alternatives, together with the beneficial impacts resulting from development of the Gustavus Community Center and the electrical intertie project, would result in overall beneficial cumulative impacts on the Glacier Bay Lodge and Historic District.

## Conclusion

In the no-action alternative, the Glacier Bay Lodge and associated resources contributing to the significance of the lodge historic district would continue to be at risk of loss of architectural and cultural landscape integrity primarily as a result of deferred maintenance and nonconforming alterations. Although the recently completed historic structure report would guide future treatments, limited to moderately severe adverse impacts on historic structures and associated resources would result from continued deferred maintenance and nonconforming building alterations.

Actions proposed in the gateway alternative would result in beneficial impacts to the Glacier Bay Lodge and lodge historic district through completion of documentation and treatment guidance for the historic lodge, contributing features of the district and associated cultural landscape. However, because some actions could result in limited or moderately severe adverse impacts, all proposed actions associated with the Glacier Bay Lodge would require project review and consultation with the Alaska State Historic Preservation Office during project design development to ensure avoidance or mitigation of potential adverse effects on historic properties.

Under the destination alternative, beneficial impacts to the Glacier Bay Lodge and lodge historic district would result from the completion of documentation and treatment guidance for the historic lodge, contributing features of the district, and associated cultural landscape. Actions that promote local sustainable tourism would further build broad-based preservation advocacy for the lodge. Actions affecting the lodge and district would be carried out in conformance with NPS policies and the Secretary of the Interior’s standards to avoid or minimize adverse impacts on character-defining features. Some actions could result in limited or moderately severe adverse impacts depending on the extent to which character-defining architectural or cultural landscape elements are altered. All proposed actions would therefore require project review and consultation with the Alaska State Historic Preservation Office during project design development to ensure avoidance or mitigation of potential adverse effects on historic properties. Prior to implementing proposed actions, the National Park Service will conduct Section 106 reviews (see “*Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps*”).

## **SOLITUDE AND UNCONFINED RECREATION IN WILDERNESS**

### **Affected Environment**

Glacier Bay has one of the largest wilderness areas in the country, containing 2.6 million acres of marine and terrestrial designated Wilderness environments, with excellent opportunities to experience solitude and primitive and unconfined recreation. The area is managed to protect the natural, untrammeled, undeveloped, scientific and cultural characteristics of wilderness, and preserve its specific qualities, as described in the Glacier Bay wilderness character narrative: <https://www.nps.gov/glba/learn/management/upload/GLBA-Wilderness-Character-Narrative.pdf>.

Roughly 1,300 acres of designated Wilderness are within the project area. This area includes 7.2 miles of trails in the project area. Although the majority of the project area is not within wilderness, signs of human activity can be seen and heard from adjacent designated Wilderness areas (i.e., Lester Island, some Beardslee Island locations) in the Park. The sights and sounds of administrative, commercial, and private vehicles, facilities, equipment, vessels, and aircraft collectively comprise the most perceptible and recurrent impact to a visitor's opportunity for solitude within the wilderness areas proximate to the frontcountry area. Because of the relative ease of access to the parts of the wilderness (when compared to the more remote wilderness areas of the Park), visitors have a different expectation of solitude here than they have in more remote backcountry areas. Encouraging visitor groups to participate in wilderness hikes in and around Bartlett Cove helps to protect a higher degree of solitude in the more remote wilderness areas of the Park.

Currently, visitors use the frontcountry area as a launching point for water-based trips into the designated Wilderness (both day trips and overnight) and to begin day hikes that cross into designated Wilderness areas (along the Bartlett River, to Bartlett Lake, and along the coast around Point Gustavus).

### **Environmental Consequences**

**The No-Action Alternative.** Activities described previously in the affected environment section would continue under the no-action alternative. There would be no new activities or changes to the opportunities for solitude and unconfined recreation in wilderness under this alternative.

**The Gateway Alternative.** Actions in the gateway alternative would result in impacts to the opportunity for solitude and unconfined recreation in wilderness similar to those described in the no-action alternative. New facilities and activities would likely minimally increase the noise carrying into wilderness, further impacting the opportunities for solitude. However, there would be no new actions that would directly impact the opportunity for solitude or unconfined recreation in the Park's wilderness.



**The Destination Alternative.** The development of the proposed Point Gustavus Route and the reroute of the Bartlett River Trail would result in approximately 4.4 miles of new trail, trail improvements, and installations within designated Wilderness near the frontcountry and the removal of 4.0 miles of trail from wilderness (along the Bartlett River and leading to Bartlett Lake). However, the majority of these new trails are replacing existing trail segments that are proposed to be closed and restored under this plan. Therefore, the total trail mileage in wilderness as a result of the plan actions is negligible.

The presence of trails in wilderness detracts from the opportunity for unconfined recreation by potentially limiting self-exploration, self-determination, and reliance on personal skills. Wilderness visitors using trails do not need to have the same skill set as the visitor who is entering wilderness without a trail to explore on their own. In this way, new trails impact the opportunity for unconfined recreation by changing both the skill level the visitor is required to have to encounter wilderness as well as how the visitor interacts with wilderness.

As described in the affected environment section, sights and sounds from the frontcountry carry into designated Wilderness, detracting from the opportunity to experience wilderness without the sights and sounds of humans, otherwise referred to as solitude. New facilities would likely increase the noise carrying into the wilderness, further impacting the opportunities for solitude. Additionally, this alternative is expected to result in a moderate increase in the number of days in which frontcountry visitors stay in the Park. This increased use of the frontcountry areas, in combination with additional trail access, would likely lead to increased visitor encounters on trails in wilderness areas adjacent to the frontcountry. Trail alignment would use topography and natural vegetative screening to minimize visibility of the trails and their users to other users. However, this increased encounter rate would likely detract from opportunities for solitude in wilderness adjacent to the frontcountry. Therefore, the visitor seeking a wilderness experience or solitude would have to travel deeper into the Park's wilderness and away from this area to encounter solitude. Nonetheless, the wilderness trails proposed under the destination alternative plus the actions described in the gateway alternative would impact a very small fraction (less than 0.05%) of the greater Glacier Bay Wilderness and does not meaningfully impact the opportunities for solitude found within this wilderness area overall.

## **Cumulative Impacts**

Past and present actions that impact solitude and unconfined recreation are the presence of existing trails in the wilderness areas proximate to the frontcountry (along the Bartlett River and leading to Bartlett Lake) and motorized vessels (along and around Point Gustavus). There are no reasonably foreseeable future actions that would impact solitude and unconfined recreation beyond the ongoing impact associated with the presence of trails.

Continuing to provide trail access to wilderness areas proximate to the frontcountry detracts from the opportunity for unconfined recreation by potentially limiting self-exploration, self-determination, and reliance on personal skills. The geographic scope of the impacts for unconfined recreation is along the current and proposed trail segments for the Bartlett River Trail. The temporal scope is for as long as the trails remain in place (likely 20+ years).

Allowing motor vessel access to Glacier Bay means that sights and sounds of motorized use will continue to carry into designated Wilderness, detracting from the opportunity to experience wilderness without the sights and sounds of humans, otherwise referred to as solitude along the proposed Point Gustavus Route. However, as vessels are required to navigate this segment of the bay at mid-channel and cannot approach closer than 1 nautical mile to the shoreline (because of critical wildlife habitat), the impacts to visitors are minimal. The geographic scope of the impacts for solitude along the section of trail is that within designated Wilderness. The temporal scope is for as long as motor vessel access is allowed for Bartlett Cove (likely 20+ years).

## **Conclusion**

Under the no-action alternative and gateway alternative, current operation and maintenance and visitor use activities would continue unchanged. These actions would result in a reduced sense of solitude in nearby wilderness areas. Actions proposed under the no-action and gateway alternatives would result in considerably fewer impacts on wilderness character than under the destination alternative.

The destination alternative would result in fewer opportunities for solitude or a primitive and unconfined type of recreation in wilderness and a greater potential for visible development and human activity, as well as increased prevalence of man-made noise (e.g., sounds of development, machinery, vehicles, inhabitants, or other visitors) to be heard in adjacent wilderness areas.

## **VISITOR USE AND EXPERIENCE**

### **Affected Environment**

This section describes the aspects of visitor use and experience that may be affected by the frontcountry management plan alternatives. The following topics will be discussed:

- Frontcountry visitor use characteristics and levels
- Access and orientation
- Recreation opportunities in the frontcountry

**Frontcountry Visitor Use Characteristics and Levels.** Glacier Bay National Park and Preserve offers visitors limitless opportunities to experience adventure and inspiration. As the sole developed area in the park, Bartlett Cove offers visitors recreational activities including ranger-led activities and programs, interpretive trails and exhibits, and visitor facilities and amenities that are not available elsewhere in the Park. Visitors to Bartlett Cove also have opportunities to participate in self-directed experiences and have access to park lands in the frontcountry to explore the wild coastlines and temperate rainforest. The visitor experience in the frontcountry is heightened when it progresses from enjoyment of the natural resources to a deeper understanding of some of the principal reasons for the park's establishment, science and exploration, and the significance of its natural and cultural resources that are part of its rich history.

From public use statistics, between 2006 and 2017, visitation at Glacier Bay National Park and Preserve ranged between 413,400 and 551,350, and the majority of visitors made their trips between May and September. In 2016, 516,400 of the visitors came between May and September, accounting for 99.3% of the Park's total visitation for the year. These numbers

represent visitors to all park areas. For example, this number includes campers on the Outer Coast, private river runners, up bay private boats, and visitors on the day use boat, among others.

Many visitors arrive to the park via cruise ships; while some do visit Bartlett Cove, most do not. In 2016, 485,282 of the 520,771 total visitors arrived by cruise ship. In 2017, 508,705 of the 547,438 of the total visitors arrived by cruise ships.

Visitors come to the park for a variety of reasons and to participate in many different activities, including boating, kayaking, observing wildlife and birds, sport fishing, backpacking, and photography. Some visitors come to learn about and explore the Park's natural, cultural, and wilderness resources. Others seek restorative experiences such as relaxation, observing the scenic beauty, time for self-reflection, and spending time in a natural setting away from the distractions of modern civilization. Additionally, some visitors come to connect with cultural resources such as the Tlingit Ancestral Homeland.

In the summer of 2015, the National Park Service conducted a visitor study at the park (NPS 2015). Of the 572 visitors who returned survey cards, 210 of them were surveyed while visiting Bartlett Cove either at the Dock / Visitor Information Station or at the Visitor Center. Of those surveyed in Bartlett Cove, the average group size was two people, with 83% of those visiting Bartlett Cove traveling without children (NPS 2015). Most visitors surveyed in Bartlett Cove (95%) had not visited Glacier Bay National Park and Preserve in the past 12 months. Eighty-eight percent of those surveyed arrived by cruise ship, 80% by plane, 63% by car, and less than one percent arrived by RV (note that some respondents checked multiple forms of transportation) (NPS 2015). Thirty-five percent of the visitor groups spent one or two days at the park, and 33% spent less than a day. Of those groups that spent less than a day at the park, 84% spent seven or more hours in the park. Sixty-seven percent of visitors stayed overnight in the park or in the nearby area (the adjacent community of Gustavus). The majority (69%) of those visitors who stayed overnight stayed on a cruise ship (NPS 2015).

From all visitors surveyed (including those surveyed in Bartlett Cove), the most important reasons for visiting Glacier Bay National Park and Preserve included viewing wildlife or natural scenery (66%) and spending time with friends/family (9%). The majority of visitor groups (52%) reported that viewing wildlife, natural features, scenery, wildflowers, or other aspects of natural scenery was their primary activity.

Eighty percent of visitor groups surveyed were from the United States, the highest represented being from California (20%), Washington (9%), Maryland (8%), and Alaska (6%), for a total of 43 states. Twenty percent of visitors were from outside the United States, with most being from Canada and Australia, and smaller proportions from 18 other countries. According to the results of the Southeast Region and Communities Survey (McDowell 2016), of those surveyed, roughly half of visitors to Gustavus were from the western United States.

The results of a 2015 survey show the vast majority of visitor groups (95%) reported that their visit to Glacier Bay National Park and Preserve met their expectations (NPS 2016). In addition, the majority of visitor groups (86%) indicated that visiting Glacier Bay National Park and Preserve was one of several equally important destinations on their trip away from home.

Fourteen percent of visitor groups indicated that visiting Glacier Bay National Park and Preserve was the primary purpose of their trip.

The community of Gustavus is approximately 8 miles from park headquarters and provides amenities, lodging options, a ferry terminal, and an airport. In 2016, the City of Gustavus conducted a community survey (Sentenium 2017), in which 439 surveys were mailed out to the residents. Of the 186 surveys returned, 42% suggested it was very important to them that Gustavus is a Glacier Bay National Park and Preserve gateway community. Residents also reported clean air and water as their primary reasons for appreciating the community. Other important reasons included scenic beauty, outdoor recreational opportunity, and pristine environment. The survey also asked residents to identify important issues facing Gustavus, and respondents listed frequency of regional air service, ferry service, and number of local jobs as the top three items that positively impact the community.

*Access and Orientation*—The shortened visitor season, May to September, and remote location can make it logistically and financially challenging to visit the park. The majority of park visitors come on cruise ships that leave from the Pacific Northwest and Canadian ports. According to the Southeast Region and Communities Survey, more than 90% of those 111 people surveyed that visited Glacier Bay did so by cruise ship (McDowell Group 2016). In 2018, 243 cruise ships visited Glacier Bay for a total of 565,488 cruise ship passengers. In addition, 12,041 passengers came on tour boats—boats that are smaller than cruise ships and can dock in Bartlett Cove and this number excludes the Glacier Bay Lodge day boat and charter vessels.

Visitors entering the park from the City of Gustavus typically arrive at the park along the main road by vehicle, bicycle, or a taxi from town. In the summer months, some visitors arrive in Gustavus by the commercial flight from Alaska Airlines. Typically, Alaska Airlines visits Gustavus from June to August with one flight daily and has averaged 3,100 passengers a year. According to the 2016 Alaska Visitor Statistics Program, when compared to other visitors in Southeast Alaska, visitors to Gustavus and the Park were much more likely to travel to and from Alaska by air and between communities by ferry (McDowell Group 2016).

Visitors also arrive on an Alaska Marine Highway System ferry. The ferry is a twice-weekly day boat service to and from Juneau and it is offered for most of the year. This ferry service affords visitors an opportunity to arrive in Gustavus by ferry, with a vehicle and the ability to bring larger outdoor equipment to the park and community of Gustavus. Over the past five years, the average number of passengers disembarking has been 4,042 per year, and the average number of vehicles has been 1,437 per year. In 2015, between the months of May and September (the Park's primary visitation season) an average of 162 vehicles per month and 472 people per month disembarked in Gustavus, with 715 people disembarking in the month of July alone. In the winter, the ferry also visits the port of Gustavus but less frequently; in 2015, 709 passengers and 392 vehicles disembarked in Gustavus between January and May.

Most visitors who plan to visit the backcountry of the park depart from the Bartlett Cove area and kayak or boat to the backcountry. Water corridors are the primary access routes to the Park's major scenic, biological, and geological features. The number of vessels the Bartlett Cove dock can accommodate varies because of the size of the vessel. The front dock length is approximately 300 feet, so it can accommodate several large vessels or a number of smaller vessels, depending on the length of the vessel and has a 3-hour docking limit. There are several vessel slips that are reserved for NPS use only, and the rest are open to the public. There is a 3-

hour use limit for the entire dock (May 1 - Sept. 15 per the compendium). Otherwise, there is a 14-day use limit outside of this period.

From mooring records, in 2016, between the months of May and September, the total number of boats in Bartlett Cove averaged 11 boats per day. In 2016, four vessels on average were moored per day, six vessels anchored, and one at the dock. *See table 1 for average number of vessels moored, anchored, and at the dock for 2012-2016.*

**Table 1. 2012-2016 Average Daily Number of Private and Commercial Vessels Moored, Anchored, and at the Dock (from mooring records)**

Time frame	Avg. number of vessels moored	Avg. number of vessels anchored	Avg. total vessel number
2016: May – September	4	6	11
2015: May – September	6	6	13
2014: May – September	4	8	13
2013: May – September	5	8	14
2012: May – September	4	9	14

When visitors arrive by boat, plane, or vehicle, there are navigational signs to direct visitors around Bartlett Cove. These signs direct visitors to the visitor center located at Glacier Bay Lodge and also park headquarters. Directional signage from the town of Gustavus to the park is limited, making it challenging for new visitors to easily navigate to the Park. In addition, orientation information is limited for visitors that arrive via boat to Bartlett Cove.

Currently, the unmanned visitor center (in the Glacier Bay Lodge) is open (24 hours) from May to early September. An associated information desk and bookstore are staffed infrequently. The visitor information station is open from May through September; however, the hours change throughout the season. Current schedules for both the visitor center and the VIS are updated on the Park's website. A visitor who arrives by boat could receive orientation and safety information from the visitor information station.

Current interpretive programs in the frontcountry are largely focused on natural and geological resources and processes, history and cultural resources, and wildlife. Daytime and evening programs are offered regularly during the summer season, and they include a variety of natural and cultural history topics. Guided walks are offered several times each week, and other guided walks and interpretive talks are offered when staff are available.



In addition to interpretive programs, there is an interpretive exhibit at the visitor center located in the historic lodge that provides visitors relevant park information. There are also wayside exhibits that present aspects of the cultural and natural history of the area along the Tlingit Trail and Beach Trail. There is also an educational video about the park shown on the second floor of the lodge for visitors.

Current visitor facilities and attractions in Bartlett Cove include the visitor information station; the lodge and associated cabins, visitor center, and auditorium; public support and safety services, including a public dock serving tour boats, private vessels, float planes and charter vessels; a 35-site, walk-in campground; and hiking trails (NPS 2011). There is also the Huna Tribal House, which is a gathering place where tribal members can reconnect with their treasured homeland through ceremonies, workshops, camps, tribal meetings and other events. It also provides park visitors with opportunities to learn about Huna Tlingit history, culture, and life ways.

*Recreation Opportunities*—Glacier Bay National Park provides a wide variety of recreational opportunities in the frontcountry, including kayaking, observing wildlife, overnight lodging, sport fishing, hiking, biking, and photography. Many visitors to the frontcountry area use it as a launching point for deeper excursions into the Glacier Bay Wilderness. The 2015 socioeconomic monitoring visitor survey results suggest the most important reasons for visitors to visit Glacier Bay National Park and Preserve included viewing wildlife or natural scenery (66% of visitor groups surveyed) and spending time with friends/family (9% of visitor groups). The majority of visitor groups (52%) reported that viewing wildlife, natural features, scenery, wildflowers, or other aspects of natural scenery was their primary activity. Nine percent reported that the cruise or boat tour used to access the park was their primary activity.

In the 2015 visitor survey, 67% percent of visitors surveyed identified that they stayed overnight in the park or in the nearby area. According to the Southeast Region and Communities Survey, for 2016 visitors to the Southeast region of Alaska, the main lodging used was a cruise ship (57%), followed by hotel/motel (37%), lodge (15%), visiting friends and relatives (15%), campground/RV (6%), B&B (4%), wilderness camping (2%), and state ferry (1%).

**Glacier Bay Lodge.** The lodge has been operating since 1966 and is eligible as a National Historic District under the National Historic Preservation Act. The lodge offers the only hotel accommodations in the Park. It has 56 overnight guest rooms; however, eight are used for employee housing, so 48 rooms are currently available for visitors. There is a restaurant, a gift shop, and laundry and shower services available, as well as marine vessel fueling, and an NPS visitor center. Guest rooms are priced differently depending on the view. The rooms are accessed from the lodge lobby by boardwalks. The Lodge Operational Statistic Report noted that the average occupancy rate for the lodge from May 27, 2016, to September 6, 2016, was 66% with a total of 7,670 guests during that time and an average of 32 occupied rooms per night. Further, the occupancy rate was 75% in 2017 and 69% in 2018.

**Water-based recreation.** Many visitors take the once-daily tour boat that departs from Glacier Bay Lodge and explores the bay for a full day tour. Visitors are also able to charter a vessel to explore Glacier Bay. Kayaking is also a popular way to experience the bay and there are multiple kayak guide companies that provide tours as well as a concessioner that rents kayaks. The day boat also provides a camper and kayak drop-off and pick-up service. In addition, there are also

many private boaters who dock in Bartlett Cove to explore the frontcountry, seek shelter from inclement weather, or seek information from the Park.

**Campgrounds.** There is one primitive campground that has 35 sites and is only accessible by foot. There currently are no RV facilities or vehicle camping areas in the Park. Visitors are also not permitted to camp in parking areas or along the road. In the 2015 visitor survey, 10% of those surveyed in Bartlett Cove reported camping in the designated campground. In 2016, 908 campers used the frontcountry campground.

**Recreational Fishing.** Recreational fishing constitutes another type of visitor opportunity within the Park. The vast majority of anglers target Pacific halibut, salmon, rockfish and lingcod aboard guided charter or unguided private vessels in the marine environment. Fishing within Glacier Bay occurs primarily within the lower reaches of the bay with some small component of effort occurring in Bartlett Cove. Recreational freshwater fishing for salmon and trout, primarily sockeye and coho salmon, occurs seasonally from July to the end of October on the Bartlett River, among several areas within the Park. Anglers target various reach locations along the Bartlett River, which is accessed along a 1.7 mile long, 1+ hour hiking trail. A much smaller component of Bartlett River anglers access the river by kayak along the “Cut” waterway around high tide between Lester Island and the mainland. The 2015 visitor survey indicated that 4% of respondents participated in fishing activity during their visit. The National Park Service has documented that 1,460 to 2,100 hikers used the Bartlett River trail seasonally between June and September between 2013 and 2015 (Murdoch and Soiseth 2018).

**Hiking trails.** Hiking in the park provides visitors opportunities to visit its many environments. Hiking opportunities in the Bartlett Cove area consist of the Forest Trail, the Bartlett River Trail, the Bartlett Lake Trail, the Tlingit Trail, and the Beach Trail. The Forest Trail takes visitors on a 1-mile loop through the temperate rainforest. The Bartlett River Trail meanders through spruce/hemlock forest parallel to a lagoon and along a terminal moraine before emerging and ending at the Bartlett River estuary. There is a short segment of boardwalk after the trail intersects with the estuary and an unmaintained trail for quite some distance up the river. The Bartlett Lake Trail is less developed and offers visitors opportunities to see the dense understory of the temperate rainforest before reaching the shores of Bartlett Lake. The Tlingit Trail provides popular access to the lodge, the visitor information station, the dock, the kayak rentals, the Tlingit canoe shelter, the Tribal House, and the whale skeleton shelter. The recently opened Huna Tribal House is also along the Tlingit Trail. The Beach Trail provides access to the campground, and currently ends at the westernmost point of the campground, at Halibut Point. According to the 2015 NPS visitor survey, walking/hiking was the most frequently mentioned activity in which members of visitor groups had difficulty participating. Trail connectivity and diversity can be an issue in Bartlett Cove.

The results of the 2015 visitor survey suggest that of the visitors who were surveyed in Bartlett Cove, 69% participated in short hikes (less than 1 hour) and 41% said they had participated in day hikes (1 hour or more) on their visit to Glacier Bay.

According to the 2015 visitor survey, the vast majority of visitor groups (96%) indicated that no one in their group had a physical condition that made it difficult to access or participate in activities or services during their visit. Of those visitor groups that did have a group member with a physical condition, the most commonly reported physical condition was a mobility-

related condition (81%); 56% of visitors groups agreed that Glacier Bay National Park and Preserve is accessible to persons with physical disabilities. There is currently a ramp that will support increased access to the Glacier Bay Lodge and an elevator that takes visitors to the upstairs; however, visitors must go outside to access the elevator. Currently, few trails are ABAAS accessibility. There is an ABAAS parking spot at the Huna Tribal House and the ability to drive a visitor to the Huna Tribal House.

## **Environmental Consequences**

**No-Action Alternative.** The no-action alternative would be the continuation of current management. Visitor use and characteristic trends, frontcountry access and orientation as well as recreation opportunities would also continue as described above in the affected environment. Under the no-action alternative, recreational opportunities would continue to be limited in the diversity and quality within the frontcountry. Visitors would have continued access to a variety of self-reliant activities and existing services and facilities throughout the Park.

**Gateway Alternative.** Under the gateway alternative, Bartlett Cove and the frontcountry would become a minimalistic gateway and launching point for excursions deeper into the Park. The focus of the frontcountry would be to provide facilities and services that prepare visitors for backcountry excursions, while also providing visitors opportunities to connect with the fundamental resources and values of the park in Bartlett Cove. Under this alternative, visitor characteristics including the number of visitors, purpose for visits, etc. as described in the Affected Environment section previously would likely remain the same since the frontcountry would remain rustic without notable changes to diversify visitor opportunities or accommodate ABAAS accessibility requirements.

Under this alternative, park visitors would have additional interpretive and learning opportunities through facility improvements such as the combined VIS/VC, new ABAASS bathroom, and a phased in public mooring facility. The park would become more accessible for different recreational users with the alternative and active transportation options, and the renovation of facilities for ABAAS accessibility and new overnight lodging opportunities. Under this alternative, visitors who are seeking a rustic experience that prepares the visitor for backcountry excursions may find the simplified operations sufficient and desirable. Others, who are seeking a destination atmosphere, with more amenities, services, and facilities may find the lack of those in the gateway alternative inadequate and undesirable. With fewer facilities and services than the destination alternative, the gateway alternative would also likely have fewer visitors and provide a more quiet experience with fewer light intrusions.

Overall, the gateway alternative provides fewer visitor opportunities than the destination alternative but highlights the frontcountry as a gateway and place to safely and effectively prepare for a trip to the backcountry. Overall, actions under the gateway alternative would have a beneficial impact on visitor use and experience.

**Destination Alternative.** Under the destination alternative, Bartlett Cove and the frontcountry would become a destination offering diverse experiences and new opportunities. The focus of the frontcountry would be to provide a cohesive, condensed experience within the development zone to support multi-day stays for frontcountry visitors and also for those visitors who are departing for deeper excursions into the backcountry. Under this alternative, the number of visitors and overnight stays are likely to increase. The types of activities in which visitors

participate and how visitors access and use the park will likely be more diverse than those described in the affected environment and continued under the no-action alternative.

Under the destination alternative, park visitors would have additional interpretive and learning opportunities through both facility improvements and park programs. The park would become more accessible for different recreational users with the addition of alternative transportation options, new trails, the renovation of facilities for ABAAS accessibility, and new overnight lodging opportunities as described under the destination alternative. The reroute of the Bartlett River Trail and the new Point Gustavus Route would cross into the Glacier Bay Wilderness and provide a unique opportunity for frontcountry visitors to experience a wilderness setting, also a fundamental resource and value of the park. Under the destination alternative, the 1.4 miles of new route would be built onto the Bartlett River; although the trail is longer (a potentially adverse impact for those who prefer shorter distances), access to the fishing locations may be easier as the trail would be maintained (a beneficial impact to visitors who struggle on the currently challenging trail).

In addition, under the destination alternative, a number of new facilities and improvements would shift the focus from a gateway location to a destination location. The proposed changes under this alternative would provide additional access and enhanced opportunities to connect visitors to the Park's fundamental resources and values through expanded educational, interpretation, hiking, wildlife viewing, and photography opportunities.

Some visitors may find the increased amenities, services, and opportunities within the frontcountry appealing and may extend their stay in Bartlett Cove. Other visitors may find that the increased amenities, services, and opportunities detract from the remote Alaskan setting. Visitors may be dispersed more widely throughout the Bartlett Cove area; therefore, visitors are more likely to encounter people in areas where they historically have found seclusion. The character of the existing campground, trails, and buildings will likely change from rustic and secluded to more developed and busy. Additional road access may expand how visitors may access the park, likely resulting in a change in how visitors access and use the park and how long they stay in the park. Overall, with more opportunities for overnight lodging, there would be more visitors visiting the park, and the more time each visitor spends in the frontcountry would result in more visitor hours in the park.

## **Cumulative Impacts**

Past, present, and reasonably foreseeable future actions that have impacted visitor use and experience include the Gustavus Community Center. This project is analyzed here because the project affects the frontcountry visitor use and experience. More development in town would impact the trip arrival and departure portion of the park experience as visitors have enhanced opportunities in the area. The geographic scope of the impacts for visitor use and experience is mostly access points to the park and the trip arrival and departure portion of the park experience. The temporal scope is the foreseeable future. Education opportunities and dissemination of safety and orientation information at the Gustavus Community Center could be related to the park and its fundamental resources and values.

The no-action alternative would continue to provide access to the Park's fundamental resources and values and opportunities in the frontcountry. The no-action alternative would not contribute to the changes that are already occurring.

The gateway alternative would provide some additional opportunities in the frontcountry beyond what is currently provided. When the effects of the gateway alternative are combined with other past, present, and reasonably foreseeable future impacts, visitors would have more opportunities in Gustavus as well as some additional opportunities in the frontcountry of the Park. The incremental impacts (as previously discussed) of the gateway alternative would contribute slightly to the changes that are already occurring.

Unique to the destination alternative, the past, present, and reasonably foreseeable future actions include the Discovery Center related action. The destination alternative would provide additional access and enhanced opportunities to connect visitors to the Park's fundamental resources and values through expanded educational, interpretation, hiking, wildlife viewing, and photography opportunities. When the effects of the destination alternative are combined with other past, present, and reasonably foreseeable future impacts, there would be many more opportunities for visitors to connect with the fundamental resources and values of the park in the frontcountry, and to some degree also within the gateway communities of Gustavus and Hoonah. The incremental impacts (as previously discussed) of the destination alternative would contribute to the changes that are already occurring, as there would be additional opportunities to draw visitors to the Bartlett Cove area and the area's gateway communities.

## **Conclusion**

Under the no-action alternative, visitors would continue to have the same opportunities and access described in the affected environment. The frontcountry would remain rustic with limited amenities and a place where most visitors spend only a short time. The gateway alternative offers some expanded opportunities by offering additional education and interpretation opportunities and lodging options, but the characteristics and overall atmosphere of the frontcountry would remain the same. The frontcountry would not have the amenities to support a diversity of visitors and would be limited in activities supporting multi-day stays. Under the destination alternative, the purpose of the frontcountry would change. New opportunities and development would provide the activities and amenities needed to support multi-day stays. Visitors would have more opportunities to understand and experience the resources of Bartlett Cove, providing additional opportunities for the visitor to connect with these resources. For visitors seeking the rustic, secluded wilderness experience, visitors would still be able to access the 2.7 million acres of the Park's backcountry.

## **SOCIOECONOMICS**

### **Affected Environment**

Socioeconomics is the social science of how economic activity affects social processes. This section describes the aspects of socioeconomics that may be affected by the frontcountry management plan alternatives. The following topics will be discussed:

- Local Socioeconomics
- Economic Contributions of Glacier Bay National Park and Preserve



**Local Socioeconomics.** The area surrounding Glacier Bay National Park and Preserve is rural, with a number of relatively small villages, native communities, and larger towns that rely on tourism; federal, state, and local government; and the fishing, forest products, and mining industries as a basis for their economies. The nearest community to Glacier Bay National Park and Preserve is Gustavus. As a gateway community to the Park, its economy is highly dependent on tourism activities and employment at the Park.

Bordered on three sides by the Park, Gustavus is a small town of approximately 544 residents (AKDLWD 2017). The town's economy is largely driven by its proximity to the Park, which in the last decade has attracted 400,000 to 500,000 visitors to the area annually. According to the latest available census data from 2016, the per capita income of Gustavus is \$36,746 and the median household income is \$57,019. During this same period, the per capita income in the United States was reported as \$26,829 and the median household income at \$55,322. Approximately 5.5% of residents were estimated as living in poverty in 2016. The civilian labor force is estimated to be 286 with 249 persons employed, which represents a 12% unemployment rate (2012-2016 ACS 5-Year Estimates).

Gustavus has 90 businesses registered within the city limits that include long-term rentals and real estate sales, transportation, professional services, construction, auto repair, commercial fishing, lumber milling, independent artists, retail services, restaurants, health services, and the many tourist related businesses. As of fall of 2018, and not counting the Glacier Bay Lodge, Gustavus had 13 lodges, inns, and bed and breakfasts with approximately 70 lodging rooms in total and a 230-bed night capacity. Employment in this sector is seasonal and many of these jobs are filled by local residents. Construction projects also have more recently contributed to the local economy. Gustavus, with its large base of private land, has benefited substantially from real estate sales in recent years, and many summer homes help support local businesses and maintain a steady construction industry.

*Economic Contributions of Glacier Bay National Park and Preserve*—A study of the economic contributions of units of the national park system, based on visitor origin, length of stay, type of overnight accommodations, and typical spending of park visitors, estimated total annual visitor spending of \$113,804 million associated with recreation visits to the Glacier Bay National Park and Preserve in 2017 (Cullinane, Koontz, and Cornachione 2018). Based on a 2015 socioeconomic study on the contributions associated with visitation at the Park, the bulk of visitor spending includes guides/tour fees, lodging, souvenirs, and specialty lodging (RSG 2016). The federal government is the largest employer in Gustavus, with the National Park Service employing 59 full time and 69 seasonal and term staff. Additionally, the Park's lodging concession operation supports 56 seasonal staff. The lodge currently has 48 lodging rooms available for visitors with a bed night capacity of 120. The walk-in Bartlett Campground contains 35 sites that can accommodate six-person groups and a group camping area for a total capacity of an estimated 210 visitors a night.

Visitor spending and jobs supported by park visitation are important to many of the businesses in Gustavus as well as to the concession operations and guides whose livelihoods are tied to the Park. Such services include kayak rentals, concession-managed lodge facilities, food and beverage sales, and souvenir/gift sales. The most recent economic study by the Alaska Department of Labor and Workforce Development (2014) suggests that the "[Glacier Bay] Lodge, along with the rest of Gustavus' inns, bed and breakfasts, restaurants, and travel and

transportation services, make up nearly two-thirds of private employment” in Gustavus and that nearly 75% of Gustavus jobs depend directly on tourism. The park recognizes the important contributions of recreational use in the park to the local economy, quality of life of residents, and to the attraction of the area to visitors.

### **Economic Impacts**

**No-Action Alternative.** Analysis of economic impacts under the no-action alternative was based on projected visitation to the park as well as estimated one-time capital expenditures due to construction activities. Because the no-action alternative would maintain the status quo, visitor spending and associated park contributions are estimated to remain as they are today. Currently, there are limited recreation opportunities within the frontcountry and limited business opportunities for the in-park lodging and food services. Under the no-action alternative, the room and bed night capacity at Glacier Bay Lodge and Bartlett Cove Campground would remain as they are today.

Because no new services or opportunities would be explored, visitors would be limited in the diversity and quality of recreation opportunities. Moreover, because there would be no new capital expenditures in the Park, local employment impacts would remain unaffected because there would be no need to hire labor for construction activity. The local housing market would also remain unaffected because employment levels, the primary driver of residential construction, would remain the same. Total sales of goods and services in Gustavus, as a result of visitor spending, would remain unchanged under the no-action alternative.

**Gateway Alternative.** In the gateway alternative, the improved access and orientation and changes to the visitor lodging options offered at the lodge, and new on-grade bike lane via the main access road would support a small increase in visitor length of stay. However, these changes in recreational opportunities are insufficient to have any noticeable effect on visitor spending patterns.

Additionally, capital improvements at Glacier Bay Lodge would provide the opportunity to offer visitors two additional levels of service (economy and luxury) not currently available at the lodge. The remodeling of four existing rooms to bunk/hostel style that could accommodate up to six visitors each would increase the bed capacity at the lodge from 120 to 134. The remodeling of four to six existing rooms (8-12% of current rooms) to luxury suites would not change the number of rooms or increase bed night capacity at the lodge. These changes would attract a new segment of overnight guests and enhance the appeal, profitability, and economic viability of the lodging and food services operations within the Park. Expanding the lodging options within the park may encourage visitors to stay within the park before exploring options in Gustavus or nearby communities like Pelican. The additional 14-bed night capacity at Glacier Bay Lodge would represent a 4% increase in bed night capacity in the area, a marginal increase in bed night capacity and too small to be perceived in the local economy.

The limited construction and renovation activities in the park under this alternative would generate a small number of temporary construction jobs, which would provide some beneficial effects to the local economy. However, local employment and the local housing market would remain largely unaffected because of the minimal new financial expenditures associated with construction activities under this alternative.

**Destination Alternative.** The destination alternative would have similar impacts to the local economy as noted under the discussion of the gateway alternative in the above section. The focus of the impact analysis will be on the actions that are unique to the destination alternative.

The considerable capital improvements at Glacier Bay Lodge paired with the expanded frontcountry trail system and new camping opportunities would attract a new segment of day and overnight visitors thereby enhancing the appeal, profitability, and economic viability of the lodging and food services operations within the Park. The addition of two public use huts and increase capacity at the lodge for up to 30 new visitors would result in an approximately 15% increase in bed night capacity in the immediate vicinity of the Park. *Refer to appendix C for further details on visitor capacity.* Because of this, the number of visitors and average length of visit would be expected to increase. Although this alternative proposes a noticeable increase in lodging within the Park, the variety of visitor use and experiences and improved programming, services and facilities under this alternative are expected to support an increase number of visitors and extended average length of stay. As such, socioeconomic impacts would be long-term and beneficial. Local businesses as well as the in-park commercial operators that rely on tourism would be expected to receive long-term benefits from longer visits and increased number of visitors.

Construction and renovation activities in the park would generate temporary construction jobs, which would provide some beneficial effects to the local economy. The addition of temporary jobs could translate into greater demand for housing if the additional employees come from outside the local area. Because of the already tight housing market in Gustavus, this could create a discernible impact on the short-term housing market at the local level. These impacts would likely be concentrated in the summer when Gustavus is more accessible and construction activity can take place. However, the facility improvements proposed under the destination alternative are not large enough to create a long-term impact on the housing market at the city or regional level. Consequently, the long-term impacts related to housing would be localized and neutral. There would be some adverse effects to visitor use and experience during construction that in turn could affect visitor spending patterns, but these would be mitigated to prevent an undesirable visitor experience. Mitigation measures could include, but are not limited to, phasing construction, temporary closures, noise abatement, visual screening, providing information to visitors on the purpose and need for construction, and directional signage to help visitors avoid construction activities.

**Cumulative Impacts.** The construction of the Gustavus Community Center has a strong likelihood of inviting visitors to spend more time in the community and at the Park. An increase in local visitation would translate into greater visitor spending in the area, resulting in positive long-term gains for Gustavus in terms of employment, housing, and taxable annual sale. However, relative to the economy of the entire Hoonah-Angoon area, long-term economic impacts would likely be minimal. Combining the likely effects of implementing the no-action alternative with the effects of other past, present, and reasonably foreseeable actions described above, the cumulative socioeconomic impacts would be localized, long-term and beneficial due to new interpretation and education opportunities at the Gustavus Community Center as well as additional access and orientation information before entering the Park.

The actions under the gateway alternative (alternative B) when combined with the cumulative impacts scenario would result in small beneficial effects to the local and regional socioeconomic environment and would support visitation that aims to provide an authentic, intimate, and remote Alaskan experience. The actions of alternative B that could enhance resource conditions, improve access and recreational opportunities and facilities, combined with the ongoing local efforts including new interpretation and education opportunities at the Gustavus Community Center as well as additional access and orientation information before entering the park would cater to a niche section of the tourism market that would result in slight beneficial impact to the regional socioeconomic environment.

The actions under the destination alternative (alternative C) when combined with the cumulative impacts scenario ensure Bartlett Cove is a welcoming, compelling destination that connects visitors to the fundamental resources and values of the park through relevant opportunities and supports tourism activities and local employment. The actions of this alternative have the potential to improve the local and regional recreational and service-related sectors by ensuring a quality visitor experience and satisfaction, especially related to nature viewing and other resource-based recreational activities resulting in a long-term beneficial impact to the regional socioeconomic environment.

## **Conclusion**

Because there would be no changes to visitor experience, spending, or construction activity within Gustavus under alternative A, impacts on the socioeconomic environment would remain the same. Local employment, housing, and sales would also remain constant. There would be some cumulative beneficial impacts because of increased additional visitor interpretation and education opportunities, orientation information, and programming provided at the Gustavus Community Center, which has the potential to increase a visitor's length of stay in the community and at the Park, which may result in higher visitor spending.

The gateway alternative (alternative B) would provide fewer visitor opportunities than the destination alternative and would highlight the frontcountry as a gateway to prepare for a trip to the backcountry. Overall, the quality and diversity of visitor access and opportunities afforded in the frontcountry would slightly improve under the gateway alternative, which would result in slight beneficial impacts to the local economy.

Actions under the destination alternative (alternative C) would provide beneficial impacts to the local economy because of the improved visitor services and amenities, and programming in the frontcountry would support increased length of stay and associated visitor spending. Broadening the appeal of Bartlett Cove as a day-excursion as well as a multiday destination would have long-term beneficial impacts on the economic viability of the Glacier Bay Lodge and associated food service from increased visitation and occupancy rate. There may be some temporary adverse effects to visitor use and experience during construction that could affect visitor spending and visit length, but mitigation measures during construction would be in effect.

## IMPACTS CONSIDERED BUT NOT CARRIED FORWARD FOR FURTHER ANALYSIS

Some impact topics have been eliminated from further analysis because the resources do not occur within the project area, the topics are not an issue for this project, or because the anticipated impacts would have no effect or an inconsequential effect on the topic. The following impact topics were considered but were then dismissed from further analysis for the reasons outlined below.

### Seafloor Resources

Benthic organisms in the nearshore subtidal habitat consist of sparse marine algae, bivalves, polychaete worms, chitons, shrimps, seastars, and Dungeness (*Cancer magister*), king (*Paralithodes camtschatica*) and Tanner (*Chionocetes bairdi*) crabs. Both action alternatives propose removing and relocating sediment from the lower portion of the public boat launch ramp, up to 1,875 square feet, every three years to enhance its functional tidal range and usability. Sediment relocation would impact benthic organisms present in the area where the sediment was relocated, as well as any phytoplankton present in the water. However, various studies of the effects of dredging benthic organisms found that recovery was relatively rapid, measured in months (Carter, Hague, and Floyd 2008; Rathod 2011; Wilber, Clarke, and Reese 2007). In addition, the installation of a mooring facility in Bartlett Cove would have some small temporary effects on the seafloor during construction because of the drilling required to place anchor points. However, this action would ultimately improve the protection of seafloor resources; disallowing independent anchorages for small boats would likely reduce the occurrence of poor anchoring and seafloor dragging. The installation of a mooring facility could also reduce the potential for introduction of invasive exotic species via use of anchor rode from visiting boats, as boaters would instead tie onto mooring buoys. Because of the relatively minimal impacts the action alternatives would be anticipated to have on seafloor resources, this topic was not carried forward for detailed analysis.

### Soils

Trail and facility construction under the gateway and destination alternatives would result in soil compaction, erosion, and disturbance across up to 4 acres of ground disturbance. Furthermore, the addition of impervious surfaces would increase runoff and the potential for localized soil erosion. However, implementation of construction best management practices would minimize erosion and soil loss during construction. Site-specific soil investigations would confirm soil-bearing capacity and drainage characteristics for any new facilities, and alternative sites would be selected if conditions were determined to be inappropriate for construction. Any impacts to geologic resources and soils from actions are expected to be minimal through implementation of mitigation measures and other best management practices. Therefore, this topic was not carried forward for detailed analysis.

### Rare plant species

In the Alaska Center for Conservation Science / Alaska Natural Heritage Program rare vascular plant database, the program has identified several plants known or suspected to occur in the Bartlett Cove frontcountry area that are rare or uncommon globally or rare or uncommon in



Alaska (AKNHP 2018). The two areas where rare species are most likely to be encountered in Bartlett Cove are the wet fens near the park boundary and beachfront meadows, but that does not exclude the possibility in drier forest understory (NPS staff, pers. comm., 11/14/18). Should rare plants be discovered in an area where ground disturbance is proposed, park staff would implement the mitigation measures outlined in appendix D. With implementation of these mitigation measures, actions proposed in the plan are not expected to have impacts to rare plant species at a population level, and therefore this topic was not carried forward for further analysis.

### **Federally Listed Threatened and Endangered Species**

There are no threatened or endangered species under USFWS jurisdiction that are present in the project area (USFWS 2018a). The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service identified two listed species present in the action area: the endangered western distinct population segment of the Steller sea lion (*Eumetopias jubatus*) and the threatened Mexico distinct population segment of humpback whale (*Megaptera novaeangliae*). In some years, humpback whales heavily use Bartlett Cove waters (Neilson et al. 2015). There have been few documented whale–vessel collisions in the project area. These collisions are infrequent and occur with kayaks, moving and anchored boats, and, once, the dock. Disturbance of whales by vessel traffic, including reduced ability to communicate in noisier underwater sound environments, have been documented in the park (Fournet et al. 2018; Gabriele et al. 2018). The park limits vessel traffic, prohibits vessels from approaching whales within ¼ nautical mile, and imposes speed limits to reduce these effects (36 CFR Part 13).

The gateway and destination alternatives both propose installing up to 40 boat moorings for both short-term and long-term use in Bartlett Cove (*see appendix C for management strategies regarding boat mooring*). Entanglement in fishing gear and marine debris can be dangerous for marine mammals like whales and sea lions, potentially causing decreased swimming ability, disruption in feeding, life-threatening injuries, or death. An important characterization of an entanglement event as defined here is that it typically involves one or more stationary sections of rope, line, or other linear structure such as a mooring or fishing gear. The last documented whale entanglement in the project area occurred in 2006 when a juvenile humpback whale became entangled with recreational crab pot line and gear.

From 2012 through 2016, an average of 10 to 13 boats were either anchored or moored in Bartlett Cove each day, and no entanglements related to moorings were observed. The plan would increase the number of moorings present in the bay; however, the moorings would be located in a consistent area over time, thus some animals may learn to avoid the area. Park staff would continue monitoring humpback whales and would document if whale or sea lion entanglements occurred at the mooring facility. If marine mammal entanglement were documented, park staff would consider additional mitigation measures, which could involve changing the number or spacing of moorings, using mooring systems with different properties, or experimenting with devices to alert whales to the presence of an obstacle.

Both action alternatives propose removing and relocating sediment from the lower portion of the public boat launch ramp every three years to enhance its functional tidal range and usability. Suctioning and relocating the marine sediment to a nearby seafloor location may damage any phytoplankton present in the water, with a minimal impact to the levels of prey available for

Steller sea lion and humpback whale. When the work occurs, any endangered or threatened individuals present in nearby marine waters may experience acoustic underwater disturbance, suspended sediment, and may interact with the diver and any submerged equipment such as hose lines. To reduce the expected level of disturbance to any endangered or threatened individuals present in nearby marine waters to a remote probability the park would:

- Use a submersible diver-operated dredge that uses minimally invasive suction and reduces the amount of sediment suspended in the water;
- Perform the work in the winter when humpback whale populations are not present and primary and secondary biological productivity in the water is presumed to be lower;
- Stop work if marine mammals enter the work area or are actively feeding nearby; and
- Locate the dredge power source (generator or hydraulic system) above water to reduce the overall underwater acoustic disturbance so that the main acoustic disturbance consists of the sound of the suction and the transport of materials through hoses (sediment, sand, small rock).

Therefore, the actions proposed under the gateway and destination alternatives may affect but are not likely to adversely affect humpback whales and Steller sea lions, and this topic was not carried forward for further analysis.

## Wildlife

According to the NPS *Management Policies 2006* handbook, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2006). Native wildlife in the project area includes many species of birds, mammals, and invertebrates. Common terrestrial mammals in the Bartlett Cove area include, but are not limited to, black bear (*Ursus americanus*), mink (*Mustela vison*), river otter (*Lutra canadensis*), porcupine (*Erethizon dorsatum*), red squirrel (*Tamiasciurus hudsonicus*), flying squirrel (*Glaucomys sabrinus*), voles (*Microtus spp.* and *Clethrionomys rutilus*), moose (*Alces alces*), and shrews (*Sorex spp.*) Forest, beach meadow, and tidal flats attract many bird species, particularly during migration, and more than 57 bird species have been identified in the Bartlett Cove area (NPS 1997). Western Toads (*Bufo boreas*) are the only amphibian in the area. The intertidal zone hosts a variety of invertebrates and fish species, and marine waters host multiple fish species and several marine mammal species. Shorebirds/waterfowl and salmon/anadromous fishes were carried forward as separate impact topics.

Construction noise and activity may alter wildlife use of the area if animals avoid the disturbed area. In particular, construction activities could alter use patterns associated with the nearshore travel corridor important to moose, bears, passerine birds, raptors, and resident species such as sooty grouse. Noise from construction and maintenance activities may adversely impact wildlife through impeding wildlife communication, courtship and mating, predation and predator avoidance, and effective use of habitat (Shannon et al. 2016). Vegetation clearing would be done outside the bird nesting season, so there would be minimal direct impacts to nesting birds; however, the loss of trees from site clearance would reduce the available nesting habitat.

Following construction, animals may return to the area depending on the level and frequency of human use of the new facilities. The permanent removal of between 3 and 4 acres of vegetation would reduce habitat available for species reliant on this type of environment. However, there is an abundance of similar habitat adjacent to the project area, so adverse impacts from habitat loss are not expected to affect wildlife population viability. Additionally, wildlife would be subject to long-term intermittent disturbance associated with increased human presence and activities in the project area.

The destination alternative, including actions in the gateway alternative, entails the greatest number and widest scope of activities under consideration in the plan. Increased human use in the area could reduce the suitability of adjacent habitat for wildlife and avian species. In particular, wildlife use of travel corridors along the tidal cut and other shoreline areas likely would be impacted by human presence on shoreline trails. Wildlife species that use the shoreline and lagoon regularly include, but are not limited to, black bears, porcupines, moose, and river otters. Some animals likely would temporarily or permanently relocate to areas outside the project area, but this would not be expected to have any long-term adverse effect upon local populations because of an abundance of similar habitat in the project area. Approximately 4.6 miles of shoreline in Bartlett Cove and more than 2,600 acres of similar Sitka spruce/hemlock forest would remain undisturbed from development. Although up to 6 miles of trails would be constructed or rerouted (as part of four different trails), this would not result in noticeable habitat fragmentation for most species. Therefore, the impact topic of wildlife was not carried forward for further analysis.

## **Air Quality**

Glacier Bay National Park and Preserve is designated as a Class II air quality area under the Clean Air Act. The project area is not located within a nonattainment area, meaning that the air quality meets the National Ambient Air Quality Standards and does not require further progress to be made toward attainment of the standards per the Clean Air Act. Project construction would result in a localized increase of vehicle exhaust and dust throughout the construction period. Power equipment, especially diesel-powered heavy equipment, would cause increased emissions during construction and maintenance. The operation of any new buildings would cause emissions, whether from oil, propane, or (off-site from) electric heating where electricity is generated by the burning of fossil fuels. These actions would result in very minimal air quality impacts that would not constitute violations of state or federal air quality regulations, so this topic was not carried forward for further analysis.

## **Night Skies**

The National Park Service recognizes the role that natural darkness plays in natural resource processes and visitor experiences, and it is NPS policy to preserve to the greatest extent possible the natural lightscapes of parks. Although Bartlett Cove is a developed area and 8 miles from the town of Gustavus, in spring, fall, and winter, there are opportunities to see the stars, moon, and planets of the night sky reasonably well on dark nights. Existing artificial light intrusion includes the lights of Gustavus and park facilities that may be directly or indirectly visible from some areas of the frontcountry, including campsites as well as from the bay. There is also a small amount of artificial light contributed by vehicles.

All actions and construction work proposed in this plan would occur during daylight hours. To prevent the loss of dark conditions and natural night skies, the park would minimize light that emanates from any new park facilities by designing and installing light sources that adhere to dark sky-conserving standard operating procedures and provide the minimum level of light sources needed for visitor and staff safety. None of the alternatives would be expected to have more than a negligible impact on the existing conditions of the natural lightscape of Bartlett Cove, so this topic was not carried forward for further analysis.

## **Acoustic Environment and Soundscapes**

In accordance with NPS Director's Order (DO) 47-Sound Preservation and Noise Management, an important part of the NPS mission is to preserve natural soundscapes and natural quiet associated with national park units. Predominant existing sound sources in the Bartlett Cove area (both human-caused and natural) consist of vehicles on the park road system; humans participating in a variety of outdoor activities, park headquarters and staff residences; the Park's diesel electrical generators; construction and maintenance activities; boat traffic; water (e.g., streams, waves, rain); wind; and wildlife. Natural wildlife sounds include birdsong, coyotes howling, marine intertidal sounds, whale respirations, harbor seal growls, great blue heron croaks, seabird calls, ice cracking, and migrating sandhill cranes, to name a few.

Trail realignments and proposed construction activities associated with the action alternatives may cause localized, short-term increase in human-caused sounds. In addition, an increase in facilities would require additional maintenance activities, further contributing to human-generated noise. The destination alternative calls for notably more trail and facility construction, resulting in more adverse impacts to soundscapes than under other alternatives. In addition, actions proposed in the destination alternative would likely result in higher numbers of visitors because of additional overnight options, resulting in a long-term increase in human-caused noise. New trails would increase human presence in areas outside the developed zone; however, through monitoring efforts the park would observe trail conditions and ensure desired conditions are maintained (*see appendix C for indicators and thresholds*).

The park has also identified related mitigation measures to reduce visitor related impacts to the soundscape (*see appendix D for mitigation measures*). The majority of the actions proposed in the alternatives in this plan would occur within the development zone established in the 1984 general management plan, which states that within the Bartlett Cove developed area visitors will frequently experience the sights and sounds of facilities, other visitors, vehicles, floatplanes, etc. Long-term noise would not be uncharacteristic of existing human-caused noise in the area and would not deviate from the type of noise expected within the Park's developed zone. Implementation of mitigation measures, such as restricting hours and seasons for maintenance activities, would help reduce impacts to the acoustic environment and soundscapes. Therefore, this topic was not carried forward for detailed analysis. Impacts of noise on visitor experience (*see environmental consequences for visitor experience*) and wildlife (*see wildlife discussion in this section*) are discussed in the analyses for those topics.

## **Undeveloped Quality of Wilderness**

The undeveloped quality of wilderness represents places where primeval character is retained and areas that are essentially without permanent improvements or modern human occupation. This plan includes proposals for new (Point Gustavus Trail) and rerouted trails (Bartlett River Trail) that would cross into designated Wilderness and would include sections of boardwalk or natural planking (which in this context would be considered an installation). The scale of this change to the undeveloped quality of wilderness is small (compared to the context of the Glacier Bay Wilderness) and all installations will be designed to be movable or removable, which means these impacts to this character of wilderness may not be permanent (and could be removed at any time). Additionally, the majority of these trail actions that involve boardwalks are relocations, where existing trails and their associated installations (mostly planks) are being removed from locations in wilderness where they have ongoing maintenance requirements.

Installations are prohibited under 4c of the Wilderness Act. Therefore, a minimum requirements analysis will need to be completed before a final decision is made on implementing this decision and included in the decision documentation.

## **Archeological Resources**

Archeological resources are dismissed as an impact topic in this environmental assessment because no known sites are at risk of being adversely impacted by proposed ground disturbing construction. All areas of proposed construction disturbance would be archeologically pre-surveyed and assessed as necessary to ensure that significant sites are accurately documented. Should sites be identified during construction, they will be clearly identified for avoidance by project redesign or other protection / mitigation measures. The National Park Service would follow all standard protocols and mitigation measures for the treatment of identified sites, including stoppage of work in areas of discovery until resources are assessed in consultation with the state historic preservation office and tribal representatives. Appropriate site protection or mitigation would be carried out before construction would resume. In addition, because of the destructive action of past glaciers in the Bartlett Cove area that scoured the ground surface and the young age of the landforms in the vicinity of Bartlett Cove, it is unlikely that the area has the potential to yield archeological evidence of Huna Tlingit occupations that predate the last ice advance. Prior to implementing proposed actions, the National Park Service will conduct the appropriate Section 106 reviews (see "*Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps*").

## **Cultural Resources associated with Park Headquarters Building**

Under alternative C, the park is evaluating the removal of the 1958 park headquarters building. This building was evaluated and determined ineligible for the National Register of Historic Places because of the lack of integrity of the remaining Mission 66-era resources (NPS 2006). Therefore, impacts associated with removal of this building are not carried forward for additional analysis as a cultural resource.

## **CHAPTER 4: CONSULTATION AND COORDINATION**

The National Park Service consulted with various agencies, tribes, organizations, and interested persons in preparing this document. The process of consultation and coordination is an important part of this project. This chapter summarizes the consultations related to this plan with federal and state agencies and tribes. Appendices F and G present additional details on the public engagement process and the organizations and agencies included in this planning process.

### **FEDERAL AGENCIES**

A letter was sent to the USFWS Alaska field office and the NOAA Alaska field office in March 2019, notifying them of the project, requesting their concurrence on the federally listed threatened and endangered species that may occur in the Park, and requesting their insights on the planning effort and future steps in consultation.

The National Park Service will provide copies of this frontcountry management plan to the US Fish and Wildlife Service and National Oceanic and Atmospheric Administration to consult under Section 7 of Endangered Species Act regarding the content presented in this plan and environmental assessment. Actions in the plan that require additional compliance and consultations, including compliance with the Endangered Species Act, Marine Mammals Protection Act, and National Environmental Policy Act, will be conducted when park staff are ready to begin implementing site-specific projects.

### **STATE AGENCIES**

The park provided the Alaska State Historic Preservation Officer with a copy of the frontcountry plan in March 2016 and invited participation in the planning process pursuant to section 106 as well as a broader consultation of the National Historic Preservation Act. The Alaska State Historic Preservation Office was provided copies of the documents and has been invited to attend public meetings or to meet with park staff regarding the plan.

Based on consultation with the Advisory Council on Historic Preservation and the Alaska State Historic Preservation Office per the National Historic Preservation Act, and with recommendations by the state historic preservation officer, this Frontcountry Management Plan, including the planning vision and environmental are currently not considered an undertaking under Section 106. As specific actions or locations are refined, the National Park Service will complete its efforts to identify and evaluate the potential effects to historic properties and consult with state historic preservation officer to avoid, minimize, or mitigate adverse effects prior to authorizing any final decisions. The Alaska State Historic Preservation Officer's recommendations have been incorporated into "Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps."

The park will keep the Alaska State Historic Preservation Office informed as the frontcountry plan progresses and will provide them copies of the document during a 30-day public review for comment.



## **ASSOCIATED TRIBES**

The park has notified tribal representatives of the Hoonah Indian Association regarding the frontcountry plan and has held periodic consultation meetings between 2016 and 2019 to inform them of the plan alternatives and actions that have particular bearing on issues and resources of tribal concern such as the Huna Tribal House. The park will continue to consult with the Hoonah Indian Association and other tribal representatives as the planning process proceeds to ensure that tribal perspectives and issues are adequately addressed. Copies of the document were provided for tribal review and comment in March 2019, prior to the 30-day public release.

## **FUTURE CONSULTATION AND COMPLIANCE**

The National Park Service would continue to consult with agencies, tribes, partners, stakeholders, and the public as actions identified in the frontcountry plan advance toward more detailed design development and implementation stages. As site designs are refined and the specific requirements for site development and construction are prepared, the park would complete any additional compliance and permitting requirements, including compliance with section 106 of the National Historic Preservation Act for project specific undertakings.

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## GLOSSARY AND ACRONYMS

### GLOSSARY OF TERMS

**Adaptive management:** A process that allows the development of a plan when some degree of biological and socioeconomic uncertainty exists. It requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on increased information and changing public expectations.

**Affected environment:** Existing biological, cultural, physical, social, and economic conditions of an area that are subject to change, both directly and indirectly, as a result of a proposed human action.

**Alternatives:** Sets of management elements that represent a range of options for how, or whether to proceed with a proposed project. An environmental assessment analyzes the potential environmental and social impacts of the range of alternatives presented.

**Archeological resources:** Historic and prehistoric deposits, sites, features, structure ruins, and anything of a cultural nature found within, or removed from, an archeological site.

**Area of potential effect:** The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effect is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

**Best Management Practices:** Effective, feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. BMPs may include schedules for activities, prohibitions, maintenance guidelines, and other management practices.

**CEQ Regulations:** The Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (*see NEPA*) and given the responsibility for developing federal environmental policy and overseeing the implementation of NEPA by federal agencies.

**Cultural landscape:** A geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

**Cumulative impact:** An impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

**Desired condition:** Statements of aspiration that describe resource conditions, visitor experiences and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area.



**Environmental consequences:** This section of an environmental assessment describes the impacts a proposed action will have on resources. Direct, indirect, and cumulative impacts, both beneficial and adverse, are analyzed. The context, duration, and intensity of impacts are defined and quantified as much as possible.

**Environmental Assessment (EA):** A public document required under the National Environmental Policy Act (NEPA) that identifies and analyzes activities that might affect the human and natural environment.

**Historic district:** A historic district is an area that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. To be eligible for the National Register of Historic Places, a district must be significant, as well as being an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values.

**Historic property:** A historic property is any prehistoric or historic building, site, district, structure, or object that is included in, or eligible for inclusion in, the National Register of Historic Places. Types of historic properties can include archeological sites, historic cultural landscapes, and traditional cultural properties.

**Historic site:** A historic site is the location of significant event, which can be prehistoric or historic in nature. It can represent activities or buildings (standing, ruined, or vanished). The location itself is of historical interest in a historic site, and it possesses cultural or archeological value regardless of the value of any structures that currently exist on the location. Examples of sites include shipwrecks, battlefields, campsites, natural features, and rock shelters.

**Historic structure:** For the purposes of the National Register of Historic Places, the term “structure” is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter. Examples of structures include bridges, gazebos, and highways.

**Indicator:** Indicators are specific resource or experiential attributes that can be measured to track changes in conditions so that progress toward achieving and maintaining desired conditions can be assessed.

**Mitigation:** Activities that will avoid, reduce the severity of, or eliminate an adverse environmental impact.

**National Environmental Policy Act (NEPA):** The federal act that requires the development of an environmental impact statement (EIS) for federal actions that might have substantial environmental, social, or other impacts.

**National Historic Landmarks (NHL):** Are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

**National Historic Preservation Act (NHPA):** In 1966, Congress established a program for the preservation of additional historic properties through the country. The NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects on historic properties through the *Section 106* process.

**National Parks and Recreation Act:** The 1978 law that establishes National Parks, Monuments, Recreation Areas and other recreation lands under the jurisdiction of the Department of the Interior. This law continues to be amended as new lands are acquired or boundaries of existing lands are changed.

**National Register of Historic Places:** As a result of the NHPA of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources.

**No-Action Alternative:** The alternative in a plan that proposes to continue current management direction. "No action" means the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.

**National Park Service Management Policies:** A policy is a guiding principle or procedure that sets the framework and provides direction for management decisions. National Park Service (NPS) policies are guided by and consistent with the Constitution, public laws, Executive proclamations and orders, and regulations and directives from higher authorities. Policies translate these sources of guidance into cohesive directions. Policy direction may be general or specific. It may prescribe the process by which decisions are made, how an action is to be accomplished, or the results to be achieved. The primary source of National Park Service policy is the publication *Management Policies 2006*. The policies contained therein are applicable Service-wide. They reflect National Park Service management philosophy. Director's Orders supplement and may amend *Management Policies*. Unwritten or informal "policy" and people's various understandings of National Park Service traditional practices are never relied on as official policy.

**Planning:** A dynamic, interdisciplinary, process for developing short- and long-term goals for visitor experience, resource conditions and facility placement.

**Preferred Alternative:** The preferred alternative is the alternative within the range of alternatives presented in an environmental assessment (EA) that the agency believes would best fulfill the purpose and need of the proposed action. While the preferred alternative is a different concept from the environmentally preferable alternative, they may also be one and the same for some EISs. (The NEPA Handbook, NPS 2015a)

**Pristine:** Unaltered, unpolluted by humans.

**Public scoping process:** Scoping is a formalized process used by the National Park Service to gather the public's and other agencies' ideas and concerns on a proposed action or project. In addition, although not required by the National Environmental Policy Act (NEPA) nor the

Council on Environmental Quality (CEQ) NEPA Regulations, public scoping meetings may be held and integrated with any other early planning meetings relating to the proposed project.

**Scoping:** See *“Public Scoping Process”*

**Superintendent’s Compendium:** Under the authority of 16 U.S.C., Section 3, and Title 36 Code of Federal Regulations, Chapter 1, Parts 1-7; the Compendium of Superintendent’s Orders was established for Glacier Bay National Park and Preserve. Each park superintendent has discretionary authority to regulate or limit certain uses, and/or require permits for specific activities within the boundaries of a national park.

**Threshold:** Minimally acceptable conditions associated with each indicator

**Traditional cultural resource:** Any site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

**Traditional cultural property:** Traditional cultural resource that is eligible for or listed on the National Register of Historic Places as a historic property.

**Visitor capacity:** A component of visitor use management. The maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining desired resource conditions and visitor experiences consistent with the purposes for which the area was established.

**User:** Visitors and employees in the park.

**Visitor experience:** The perceptions, feelings, and reactions a park visitor has in relationship with the surrounding environment.

**Visitor use:** Refers to the types of recreation activities visitors participate in, numbers of people in an area, their behavior, the timing of use, and distribution of use within a given area.

**Visitor use levels:** Refers to the quantity or amount of use a specific area receives, or the amount of parkwide visitation on a daily, monthly or annual basis.

**Wetland:** Wetlands are defined by the U.S. Army Corps of Engineers (CFR, Section 328.3[b], 1986) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

## **ACRONYMS AND ABBREVIATIONS**

ABAAS	Architectural Barriers Act Accessibility Standards
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DCP	Development Concept Plan
DO	Director's Order
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
FMP	Frontcountry Management Plan
GIS	Geographic information system(s)
GLBA	Glacier Bay National Park and Preserve
GMP	General Management Plan
HIA	Hoonah Indian Association
IVUMC	Interagency Visitor Use Management Council
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PEPC	Planning, Environment, and Public Comment
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VC	Visitor Center
VIS	Visitor Information Station

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**Glacier Bay National Park and Preserve**  
**Frontcountry Management Plan**  
**Part III - Finding of No Significant Impact**

**June 2019**



**Part III - FONSI**





National Park Service  
U.S. Department of the Interior

Glacier Bay National Park & Preserve  
Alaska

FINDING OF NO SIGNIFICANT IMPACT  
Glacier Bay National Park and Preserve  
Frontcountry Management Plan

Recommended:

Philip M. Hooge  
Philip Hooge  
Superintendent, Glacier Bay National Park and Preserve

Date

Approved:

Herbert C. Frost  
Herbert C. Frost  
Regional Director, Alaska, National Park Service

13 June 2019  
Date

# **1. INTRODUCTION**

In compliance with the National Environmental Policy Act, the National Park Service (NPS) prepared an environmental assessment to examine alternative actions and environmental impacts associated with the development of a frontcountry management plan for Glacier Bay National Park and Preserve. This plan is needed as it has been almost 20 years since the last frontcountry plan was completed and conditions have changed. Changes have occurred in the uses and access to Bartlett Cove, including the introduction of vehicle-transport and passenger ferry services, increased demand for access to Bartlett Cove water resources, and the construction of the new Huna Tribal house. Because of these changes, the park needs updated direction to support and guide management direction in the frontcountry. The frontcountry plan provides guidance intended to extend 15 years or longer. Because a number of implementation actions are dependent on funding, these actions will be carried out when they become feasible.

The statements and conclusions reached in this finding of no significant impact are based on documentation and analysis provided in the environmental assessment and associated decision file. To the extent necessary, relevant sections of the environmental assessment are incorporated by reference below.

## **2. SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION**

Based on the analysis presented in the environmental assessment, the National Park Service selected Alternative C: Destination Alternative (NPS Preferred Alternative). The following includes brief descriptions of selected alternative actions. For full descriptions, please see the environmental assessment, any changes to which have been noted in the errata located in appendix A.

Under the selected alternative, actions and strategies shall continue historic National Park Service management directions for this area so that the frontcountry becomes a welcoming destination that strengthens visitors' connections to larger park purposes. Development of Bartlett Cove will include expanding facilities, operations, and programs to engage broader audiences in the frontcountry for longer periods. In addition, development will allow more accessible and condensed experiences of park resources and values, as well as continue to provide foundational services to access the backcountry.

### **Alternative C: Destination Alternative (NPS Preferred Alternative)**

The selected alternative is Alternative C: Destination Alternative (NPS Preferred Alternative), which includes the following actions and strategies.

### ***Huna Tlingit Ancestral Homeland***

The Huna Tribal House will continue to serve as a gathering place for tribal members and an educational opportunity for visitors to learn about the Huna Tlingit ancestral homeland. Selected alternative actions will manage access to the site and its surroundings, including developing Architectural Barriers Act Accessibility Standard (ABAAS) access. Additionally, actions will be taken to accommodate larger outdoor public gatherings via limited site amendments and the construction of a retractable awning or permanent shelter within the existing disturbed footprint.

### ***Glacier Bay Lodge***

Actions related to the Glacier Bay Lodge will focus on restoration and rehabilitation to its period of significance (1965–1975), including the removal of non-historical additions and the restoration of historical and original design configurations, including the construction of a wrap-around deck. Steps will be taken to perform vegetation maintenance tasks that define viewscape intent, restore historic district viewsheds, and protect the integrity of the building's historic value. Finally, the National Park Service will convert lodge rooms to accommodate diverse user-types to broaden the visitor base and enhance the lodge's economic viability.

### ***Visitor Experience***

The selected alternative will include further development to the frontcountry trail network. Several existing trails will be rerouted or expanded and upgraded to meet sustainable trail standards, using natural modifications and materials. New proposed trails and trail segments will include elevated structures and routes that improve access for limited-mobility users. This upgraded trail system will support the park in ultimately reducing resource impacts to shorelines and vegetation, while providing greater opportunities and access for frontcountry visitors.

Additional visitor experience actions include widening the park entrance road, adding new and improved visitor facilities, including a new ABAAS restroom, new pavilion, covered picnic area, and public mooring. Changes to visitor services will include consolidating, moving, and developing commercial kayaking operations, including the development of up to two visitor shelters for kayaker lodging, developing a drive-in campground with associated facilities, and maximizing the use of disturbed footprints for expanding visitor and staff parking.

### ***Park Operations***

To address deferred maintenance and deficiencies, the 1958 park headquarters building will be replaced within the historic disturbance footprint and the existing headquarters building pad will be reconditioned for use as a multi-modal hub with trail amenities. As part of construction, the park headquarters road will be upgraded for safety and to enhance overall circulation, and the surrounding area will be actively managed for stormwater and dust control. Finally, additional housing and

associated facilities will be developed in the seasonal housing area, including a new dormitory or bunkhouse, RV pads, and a new rain shelter for park staff.

### 3. RATIONALE

Alternative C was selected because it best meets the project goal and purpose for the frontcountry to be a welcoming place where development, operations, and services promote the stewardship of park resources, serve the public, and provide opportunities for all to explore and discover the ever-changing natural and living cultural landscapes of the park.

**Purpose and Need.** Actions and strategies in this alternative best address the issues described in the need for action. This alternative updates management direction for this area to ensure its addressing current recreational use patterns, provides expanded opportunities to help support the economic viability of the lodge, and creates operational efficiencies for the lodge. This alternative also ensures that the frontcountry becomes a welcoming destination that strengthens visitors' connections to the park purpose and significance (as described in the park's foundation document).

**Responsive to Public Comment.** During the 2016 public scoping, the public expressed that they would like to see this area of the park be a place that emphasized serene and contemplative experiences with a focus on high quality interpretation of science and the environment. Major themes from the public comment included the desire for this area of the park to have easily accessible recreation for short duration activities in a quiet and rustic atmosphere. The public expressed that they saw this area as both a backcountry launching point and a place where some "creature comforts" could be provided. Some also suggested expanded recreational opportunities to ensure the park continued to provide high-quality visitor experiences. The selected alternative is the alternative that most comprehensively responds to these public comments.

**Enhancing Visitor Experiences.** The selected alternative provides the greatest opportunity for a diversity of visitor experiences and a diverse audience to experience the park and Bartlett Cove. To strengthen Bartlett Cove's appeal as a day-excursion destination and as a base for multi-day independent stays, this alternative redesigns and expands its frontcountry trail system and adds new amenities that enable visitors to enjoy Bartlett Cove. This alternative allows the National Park Service to continue to provide the foundational services to access the backcountry, while also expanding facilities, operations, and programming to engage broader audiences in the frontcountry for longer periods and to offer more accessible and condensed experiences of park resources and values.

**Supporting Economic Viability.** The selected alternative supports the economic viability of the lodge by broadening its range of accommodations and hospitality options and by strategic partnerships to support increased occupancy. This alternative supports the park's ability to strengthen local tourism and increase contributions to the local economy through enhanced visitor opportunities.

Protecting and Promoting Natural and Cultural Resources. This alternative provides the greatest opportunity for visitors to learn about and interact with the natural and cultural resources of the park. Many visitors do not have the time or skills needed to experience the backcountry of the park beyond the Bartlett Cove area. The expanded recreational and educational opportunities represented in the selected alternative give visitors the opportunity to connect with be inspired by the features, processes, stories, and attributes associated with the national significance of Glacier Bay—whether or not they are able to explore farther into the backcountry. This includes providing opportunities for the park to connect with a more diverse audience.

## **4. MITIGATION MEASURES**

The National Park Service places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources, promote biodiversity and ecosystem health, protect the safety of visitors, and help ensure quality experiences for visitors, a series of mitigation measures will be implemented as part of the selected action. These mitigation measures are listed in appendix C of the environmental assessment. Any changes to these mitigation measures as a result of public comment are noted in the errata sheet (see appendix A of this document).

## **5. OTHER ALTERNATIVES CONSIDERED**

### **Alternative A: No Action Alternative**

Under the “no-action alternative,” Bartlett Cove would continue to be managed under its current direction as prescribed in the 1984 General Management Plan and the 1998 Comprehensive Design Plan. Many of the major actions identified in these plans have already been implemented, and the zoning and other management directions defined in those planning documents would continue to guide the future development and management of Bartlett Cove.

### **Alternative B: Bartlett Cove as a “Gateway”**

Actions and strategies in this alternative would purposely change the fundamental National Park Service management direction for the frontcountry area (from a concentrated visitor use and development zone). The frontcountry would instead be managed as a minimalist gateway and launching point for excursions deeper into the park, with a focus on orienting and preparing visitors for meaningful backcountry experiences.

## **6. PUBLIC INVOLVEMENT/AGENCY CONSULTATION**

The National Park Service consulted with various agencies, tribes, organizations, and interested persons in determining the preferred alternative. The process of consultation and coordination is an important part of this project.



## **Federal Agencies**

A letter was sent to the US Fish and Wildlife Service Alaska field office and the National Oceanic and Atmospheric Administration Alaska field office in March 2019, notifying them of the project, requesting their concurrence on the federally listed threatened and endangered species that may occur in the park, and requesting their insights on the planning effort and future steps in consultation.

The National Park Service provided copies of this frontcountry management plan to the US Fish and Wildlife Service and the National Oceanic and Atmospheric Administration to consult under Section 7 of Endangered Species Act regarding the content presented in this plan and environmental assessment. Actions in the plan that require additional compliance and consultations, including compliance with the Endangered Species Act, Marine Mammals Protection Act, and National Environmental Policy Act, will be conducted when park staff are ready to begin implementing site-specific projects.

## **State Agencies**

The park provided the Alaska State Historic Preservation Officer with a copy of the frontcountry plan in March 2016 and invited participation in the planning process pursuant to Section 106 of the National Historic Preservation Act and related consultation. The Alaska State Historic Preservation Office was provided copies of the documents and was invited to attend public meetings or to meet with park staff regarding the plan.

Based on consultation with the Advisory Council on Historic Preservation and the Alaska State Historic Preservation Office per the National Historic Preservation Act, and with recommendations by the state historic preservation officer, this Frontcountry Management Plan, including the planning vision and environmental assessment are currently not considered an undertaking under Section 106. As specific actions or locations are refined, the National Park Service will complete its efforts to identify and evaluate the potential effects to historic properties and consult with state historic preservation officer to avoid, minimize, or mitigate adverse effects prior to authorizing any final decisions. The Alaska State Historic Preservation Officer's recommendations have been incorporated into "Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps" of the environmental assessment.

The Alaska State ANILCA office was provided with the newsletter and invited to provide comments in March 2016. In September of 2016 (in response to the newsletter) and May 2019 (in response to the plan and environmental assessment), the ANILCA program coordinator provided comments that represented the consolidated views of state agencies.

## **Associated Tribes**

The park has notified tribal representatives of the Hoonah Indian Association regarding the frontcountry management plan and has held periodic consultation meetings between 2016 and 2019 to inform them of the plan alternatives and actions that have particular bearing on issues and resources of tribal concern such as the Huna Tribal House. The park will continue to consult with the Hoonah Indian Association and other tribal representatives as the planning process proceeds to ensure that tribal perspectives and issues are adequately addressed. Copies of the document were provided for tribal review and comment in March 2019, prior to the 30-day public review period.

## **Future Consultation and Compliance**

The National Park Service will continue to consult with agencies, tribes, partners, stakeholders, and the public as actions identified in the frontcountry plan advance toward more detailed design development and implementation stages. As site designs are refined and the specific requirements for site development and construction are prepared, the park will complete any additional compliance and permitting requirements, including compliance with Section 106 of the National Historic Preservation Act for specific projects. For additional information, see Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps in the environmental assessment.

## **7. FINDING OF NO SIGNIFICANT IMPACT**

As described in the environmental assessment, the selected action has the potential to cause adverse impacts to Sitka spruce/western hemlock forest, coastal meadows and early successional forests, wetlands, salmon and anadromous fish, shorebirds and waterfowl, solitude and unconfined recreation in wilderness, Huna Tlingit Ancestral Homeland, Glacier Bay Lodge and Historic District, and visitor use and experience. However, no significant adverse impacts were identified.

### **Vegetation and Wetlands**

The environmental assessment found no significant adverse impacts to vegetation or wetlands. The action will result in approximately 4 acres of vegetation being cleared in Sitka spruce/hemlock forests and coastal meadows and early successional forests, which will not impact vegetation species at a population level because the species affected are common throughout the 7,120-acre frontcountry area. Trail construction will result in approximately 1.1 acres of wetlands being shaded by boardwalks and 0.07 acres of wetlands ground disturbance through placement of helical piers, which will not noticeably alter overall functions of the wetlands because of the small area of ground disturbance in relation to the total acres of wetlands present in the project area. No Wetlands Statement of Findings is needed because individual boardwalks with fill placement totaling less than 0.1 acres classify for exemption from the Statement of Findings and compensation per NPS Director's Orders #77-1 requirements (Section 5.2.3).

## **Fish and Wildlife**

No significant adverse impacts to fish and wildlife were identified. Vegetation clearing will remove or disturb up to 4 acres of wildlife habitat used by small and large mammals and avian species. Construction and visitor use of boardwalks along the shoreline and wetlands will likewise impact up to 1.3 linear miles of shoreline habitat used by small and large mammals and avian species. Some wildlife may temporarily or permanently relocate to areas outside the project area; however, because there is other similar habitat nearby local population size, survival rates and long-term viability are unlikely to be affected. Rerouting the Bartlett River Trail may potentially result in an increased harvest and mortality of individual fish; however, with implementation of mitigation measures, there will be no impacts to fish species at population levels.

## **Huna Tlingit Ancestral Homeland**

No significant adverse impacts will occur to resources contributing to the Bartlett Cove traditional cultural property or to resources having cultural importance for the Huna Tlingit and the Hoonah Indian Association. As described in the environmental assessment, there are many beneficial impacts to these resources that will result from the implementation of the selected action. Under the selected action, management actions will be taken to promote tribal access and cultural connections to the Bartlett Cove Area.

## **Glacier Bay Lodge and Historic District**

No significant adverse impacts were identified for the Glacier Bay Lodge and Historic District. As described in the environmental assessment, there are many beneficial impacts to these resources that will result from the implementation of the selected action. The National Park Service will undertake several measures to preserve the historical and architectural character of the Glacier Bay Lodge; these actions will be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Upgrades to lodge rooms and other functional/use alterations will be carried out in a manner that preserves character-defining architectural features to the extent possible. The National Park Service will continue to consult with the Alaska State Historic Preservation Office during project design development.

## **Solitude and Unconfined Recreation in Wilderness**

No significant adverse impacts to solitude and unconfined recreation in wilderness were identified. The presence of new trails in wilderness detracts from the opportunity for unconfined recreation and will increase noise carrying into the wilderness, further impacting the opportunities for solitude; however, these impacts will affect less than 0.05% of the greater Glacier Bay wilderness in areas directly adjacent to the frontcountry.

## **Visitor Use and Experience**

No significant adverse impacts to visitor use and experience were identified. Under the destination alternative, management actions will provide more opportunities for visitors to understand and experience the resources of the park.

## **Socioeconomics**

The environmental assessment found no significant adverse impacts to the socioeconomic environment. In the selected alternative, considerable capital improvements will be made at Glacier Bay Lodge and frontcountry facilities (trails, campgrounds, and parking lots) to welcome more day and overnight independent visitors and enhance the appeal, profitability, and economic viability of the visitor services and opportunities within the park and surrounding communities. Local businesses as well as the in-park commercial operators that rely on tourism would be expected to receive long-term benefits from longer visits and potential increases in number of visitors.

## **8. CONCLUSION**

There will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the NPS selected alternative will not violate any federal, state, or local environmental protection law. The National Park Service has prepared a Non-Impairment Finding that is included as appendix B.

The conclusion of no significant impact is based on the analysis compiled from a combination of scientific data and professional judgment from NPS staff and documented in the environmental assessment. As described previously, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement. The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of the National Environmental Policy Act.

# Appendix A. Responses to Concerns and Errata Sheet Indicating Text Changes to the Environmental Assessment

## Responses to Concerns

The Glacier Bay National Park and Preserve Frontcountry Management Plan/Environmental Assessment (plan/EA) was made available for public review during a 30-day period from April 9 through May 8, 2019.

Sixty-seven correspondences were received and documented on the NPS Planning, Environment and Public Comment (PEPC) website from individuals, organizations, federal and state agencies, and gateway communities, including comments recorded by NPS staff during the public meetings.

The following are NPS responses to concerns that were raised by commenters on the environmental assessment. Responses to all substantive comments are included here followed by minor edits to the environmental assessment, where appropriate, including representing some modifications based on review comments.

In addition, some non-substantive comments, identified as being of high importance to the public or needing clarification, are also responded to here. The page numbers referenced are from the April 2019 *Glacier Bay National Park and Preserve Visitor Use Frontcountry Management Plan / Environmental Assessment*.

Finally, as part of the decision record, the National Park Service will publish an updated Frontcountry Management Plan Preface and a refined and finalized Renewed Vision for Bartlett Cove (Part I) with minor narrative changes, clarifications, and additions based on input received during the public review process.

## **SCOPE, NEED, AND PROPOSED ALTERNATIVES**

**Comment Topic:** Several comments stated that the NPS frontcountry spatial extent was unclear and confusing, affecting their understanding of the planning proposal and the scope of the environmental analyses. Some also expressed concerns about why proposals for wilderness trails and marine excursions outside of the frontcountry boundaries were included in the plan/EA scope.

**NPS Response:** The NPS clarifies the plan extent and resolves these inconsistencies with the text changes to page II-1 represented below in “minor edits to the environmental assessment” located at the end of Appendix A.

**Comment Topic:** Commenters questioned the NPS “need for action” (page II-2) rationale of “increased demand for access to Bartlett Cove water access resources (dock, mooring, launches),” both given the lack of data to support this statement, and the presence of data that demonstrates the



opposite in Table 1 (page II-41) in terms of a decline in use from 2012 – 2016 on the Average Daily Number of Private and Commercial Vessels Moored, Anchored, and at the Dock.

**NPS Response:** The trends in table 1 represent declines, but declines of anchored boats, not boats in the bay or demand for access to Bartlett Cove. Further, the NPS seeks to be responsive to numerous requests to address Bartlett Cove boat access including:

- Requests heard by NPS staff (including during scoping) to make access to Bartlett Cove easier within existing VQOR permit capacities as the portal for private marine vessels initially entering Glacier Bay.
- Requests heard by NPS staff (including during plan scoping) to optimize the logistics and services that enhance a recreational boater's national park experience. Examples include:
  - More convenient shore access so boaters can easily spend as much time as they want hiking, participating in NPS programs, and eating at the lodge (currently a challenge given limited dock space/time limits and local anchoring conditions that can be challenging for those unfamiliar with Bartlett Cove).
  - Optimizing quick access to the permit center, especially given limited tide launching windows, and addressing parking for private boat trailers.
  - Anticipating the needs of cruising boaters on extended trips and offering some conveniences and easier access to amenities in the frontcountry (sundries, laundry, showers, communications) and in gateway communities, potentially with affordable ground transportation such as a shuttle to access supplies, mail, community businesses/ services/amenities, and cultural and recreational opportunities.
- Requests heard by NPS staff (including during plan scoping) to make accessibility upgrades particularly for visitors in wheelchairs arriving at the dock.

**Comment Topic:** Several commenters recommended a mid-level development alternative, or a hybrid version combining portions of Alternatives B and C.

**NPS Response:** The NPS considers the comprehensive package of proposals in the preferred Alternative C as best addressing broad park service planning goals and objectives (page I-14 to I-17).

**Comment Topic:** A commenter questioned why, in contrast to the 1998 Bartlett Cove Comprehensive Design Plan (CDP), this plan includes no major utilities projects (and whether these activities will be proposed later over the next twenty years).

**NPS Response:** Ample capacity exists in major utility systems in Bartlett Cove, including the water plant, wastewater treatment plant, and fuel systems to serve the proposed build-out at this time. Over the next 20 years, the NPS anticipates utility related needs as focusing mainly on upgrading and resizing utility distribution systems, efforts to increase energy and operational efficiency (including connecting to the Falls Creek Intertie), and upgrades to address deficiencies in remote communications (phone, internet).

**Comment Topic:** A few comments were received that the NPS should have highlighted in the public process that Alternative A included actions not yet implemented from the 1998 CDP. Comments also requested that and the NPS be specific about how the previous plan's decisions will be amended by this planning effort.

**NPS Response:** Pages I-3 and II-2 specify the NPS intent for the updated plan/EA to amend and fully replace 1998 Bartlett Cove Comprehensive Design Plan. Any actions carried forward (such as the new visitor Discovery Center project) from previous planning decisions are expressly identified in the plan/EA.

**Comment Topic:** A number of commenters proposed an alternative where the NPS would carry forward the 1998 CDP proposal to minimize, limit, or remove development from the Bartlett Cove shoreline edge east of the moraine due to environmental and visitor experience considerations.

**NPS Response:** During an internal planning workshop in 2017, the NPS considered removing and limiting shoreline development in Bartlett Cove. The NPS decided instead to retain the typical southeast Alaska settlement pattern of compact shoreline development at a walkable scale, and featuring scenic water and mountain views that reinforce connections with the marine environment for both visitors and park managers. At the same time, the NPS will seek to implement a high quality of design to stringent park service development standards to address commenters' coastal environment concerns, and will explore the feasibility of using alternative and active transportation modes that can help the NPS to minimize vehicular traffic and the footprint of vehicular parking in Bartlett Cove and along the shoreline.

## ***HUNA TLINGIT HOMELAND***

**Comment Topic:** Frank Wright, Hoonah Indian Association (HIA) Tribal Council President, proposed that in continued tribal consultation with the HIA, the NPS update frontcountry park entrance signs both within the park and in the Gustavus community to communicate to the visiting public that this area is the ancestral homeland for the Huna Tlingit people.

**NPS Response:** The NPS will incorporate this proposal into the planning vision (pages I-20 to I-21) as follows: “Update frontcountry park entrance signs to communicate to the visiting public that this area is the ancestral homeland for the Huna Tlingit people.”

### ***GLACIER BAY LODGE***

**Comment Topic:** Several commenters proposed that the NPS not include hot tubs as they are not necessary to a national park experience.

**NPS Response:** The NPS acknowledges this sentiment and will remove the hot tub proposal from the planning vision.

### ***VISITOR EXPERIENCE***

**Comment Topic:** Several commenters proposed that the NPS develop one consolidated visitor facility in Bartlett Cove, instead of upgrading both the existing Visitor Information Station facility plus constructing a new Discovery Center (each containing auditoriums and other elements that duplicate functions).

**NPS Response:** Two competing NPS proposals were included in the plan/EA to give managers the flexibility to phase implementation and/or respond to different funding scenarios. If at all feasible, however, the NPS prefers to construct one new consolidated Discovery Center and remove the existing Visitor Information Station. The NPS therefore has decided to eliminate the non-preferred proposal at this time (to invest in a modest Visitor Information Station upgrade, and then later build the Discovery Center as a phased addition or a replacement facility). This change to page II-7 is represented below in “minor edits to the environmental assessment.”

**Comment Topic:** A number of commenters suggested modifications to the NPS frontcountry proposals for new trails, relocated trails, and trail closures:

- Retain the existing Bartlett River Trail route as a shorter hike to sport fishing and berry picking destinations.
- Create a new loop trail by retaining the existing Bartlett River Trail while also building the new proposed route around the cut.
- Remove or reduce the extent of proposed coastline trails to reduce wildlife impacts along the shoreline and inside the tidal cut (to migratory shorebirds, mussels and intertidal life, and harbor seals who sometimes use sandy shoreline areas at the mouth of the Beardslee Island’s Cut to haul out).

- Remove proposed new trails along the Beardslee Island's Cut to reduce impacts to wilderness character (remove the sights and sounds of recreational hikers and constructed boardwalks for paddlers entering designated Wilderness).
- Retain the Bartlett Lake trail route (because of the decades of work invested, because users enjoy the existing system including loop hikes connecting with the Towers Trail, and to not preclude backcountry planning discussions about developing a campground at Bartlett Lake).
- Instead of closing any trails right now, explore strategies to address current NPS trail maintenance challenges (use TREX or other technologies, reduce maintenance and retain as a Trail Class 1, and wait on any decision until after the new trails are built and study use).
- Work with adjacent landowners, or on park land, to provide a dedicated public parking area to serve the Towers Trail.
- Remove the looping aspect of the Cooper's Notch proposal (end the trail at a destination point in the notch, and do not construct the moraine crest hiking segment)
- Locate and sign trails appropriately to avoid conflicts between different user types (national park visitors, Dude Creek Critical Habitat Area hunters, visitors and NPS operational areas).

**NPS Response:** The Bartlett River Trail route has been adjusted (as a shorter coastal and forest route); the Bartlett Lake Trail closure was reconsidered for now (and an overnight backcountry campsite proposal carried forward for backcountry planning consideration), and the coastal trail from Alder Creek to the northern edge of the Inner Lagoon was adapted to accommodate wheelchairs and to end at a new proposed 12-person overlook destination just outside the designated Wilderness boundary. Adjustments are represented in "minor edits to the environmental assessment:" Bartlett River Trail (pages II-10 and II-21), Bartlett Lake Trail (page II-10), and Inner Lagoon Trail (pages II-10 and II-21).

**Comment Topic:** Commenters proposed modifications to the NPS bike path proposal such as:

- Bikes should use the existing road with no new trail given existing low traffic levels.
- Install a bike trail just off the road shoulder, in the cleared zone, and over ground impacted by the electrical intertie.
- Build a short trail connection alongside the road shoulder to the existing Tlingit Trail (to avoid an Inner Lagoon bridge).

**NPS Response:** An upcoming NPS Multi-Modal Transportation Study will evaluate biking and vehicular traffic needs along the park entrance road and consider how to best prioritize NPS funding to meet active transportation and safety objectives. While the NPS considered a separate bike/pedestrian trail, based on maintenance and other objectives, it determined an

on-grade bike and pedestrian area along the road is preferable. Finally, the Inner Lagoon bridge route is preferred by the NPS to strengthen first-time visitor wayfinding, reduce the multi-use safety conflicts (primarily when larger hiking groups, bikes, and vehicles are all present), and to provide a high quality, accessible recreational and scenic experience for national park visitors.

**Comment Topic:** A number of commenters proposed a range of alternative actions to reduce diesel fuel uses associated with frontcountry operations (electric vehicles, electric vehicle plug ins, facility upgrades using green building technologies, shift away from burning garbage, and other sustainability measures).

**NPS Response:** The NPS will incorporate more detailed sustainability goals into the planning vision under Energy and Operational Efficiency (page I-34) as follows: "Explore opportunities to replace the park fleet and to operate visitor services (including the lodge dayboat) using electrical vehicles that maximize the use of local renewable energy sources and spread peak demand by taking advantage of night time low-energy use within the community. Also explore opportunities for electrical vehicle plug-in stations consistent with NPS policy."

**Comment Topic:** Commenters proposed that the NPS under-represented the magnitude of the potential parking proposed by using asterisks in the planning vision concept (pages I-39 to I-41).

**NPS Response:** An upcoming multi-modal study will help the NPS consider alternative transportation options that may reduce or eliminate the need for any parking beyond that analyzed in the environmental assessment. In the event that additional parking is warranted (as indicated by the asterisks), the NPS will complete tiered environmental analyses with new consultation and public review opportunities.

**Comment Topic:** One commenter proposed that Phase I public visitor parking remain in the current Visitor Information Station (VIS) lot area, configured around the new visitor facility, and that only overflow, overnight, and employee parking be shifted to the wastewater treatment plant pad within the existing paved footprint (which may not accommodate as many as 58 vehicles). Another commenter proposed eliminating active visitor uses like parking and RV camping proximate to the generator building, fuel storage, and solid waste management areas for security reasons, and to reduce the risk of damage to vital park infrastructure.

**NPS Response:** The NPS prefers to shift the bulk of public parking away from the existing VIS lot to support the construction of a new Discovery Center within the existing disturbance footprint, to reduce circulation congestion, and to enhance the visitor arrival experience and aesthetics. While most communities throughout Southeast Alaska concentrate sensitive utilities in nearshore areas accessible to the public and experience limited malicious damage, the NPS acknowledges the potential for risks to vital park infrastructure, and will consider

the level of security risk, and potential risk mitigating actions and policies prior to finalizing public parking designs near the generator building and other critical infrastructure.

**Comment Topic:** A few commenters proposed alternatives managing marine-access public uses (launch and trailer parking). These included not removing launch ramp sediment but instead rebuilding the facility deeper and steeper (recognizing that it was improperly installed), adding a parallel dock to the launch ramp for ease of launch and retrieval, and locating boat trailer parking near the dock (not in NPS operational areas) including perhaps by the generator building.

**NPS Response:** The NPS planning team considered each of these alternatives. Regarding an upgraded launch and parallel dock, the NPS instead has selected to retain the existing facility and offer only basic services that enhance local boater recreational visits. Additionally, the NPS is not seeking to compete with fee-based community and commercial marine facilities outside the park in gateway communities, but rather to retain the public dock area's primary focus of serving national park visitors arriving by water and road. Edits to the text (page II-8) represented below clarify this NPS intent.

**Comment Topic:** A number of commenters proposed an alternative to encourage car camping and RV overnight services outside the national park, in the gateway community of Gustavus—particularly given current Alaska Marine Highway System (AMHS) budget uncertainties that may disrupt service to Gustavus. Others questioned the NPS planning development without information such as projections for future motor vehicle numbers, and taxpayer investment risk.

**NPS Response:** Right now there are modest demands in Bartlett Cove for van/camper/RV overnight use that are not currently being met by businesses in the community (as indicated by attempts to park overnight in the VIS parking lot and requests for this service at the VIS). While the NPS is seeking to meet this existing need, it supports future expansions outside the park (as clarified by text edits to page II-11, below in “minor edits to the environmental assessment.” Regarding ferry service uncertainties, the NPS has not studied any projections associated with how any changes might alter visitation patterns and visitor numbers. As a contributing partner on the new AMHS ferry dock, the NPS views ferry service to Gustavus as being essential to the NPS meeting its mission, and more broadly, to the continuation of Southeast Alaskan communities. Therefore, the NPS is planning for its continued service over a longer timeframe, despite the current short term budget uncertainty and acknowledges that investment. Finally the targeted investments in development that serve only this population of visitors are modest, and lend themselves to being re-allocated and adapted for other visitor or NPS uses.

**Comment Topic:** One commenter proposed not adding new public use huts to the walk-in campground, and instead concentrating this new development in an already developed area such as adjacent to the RV area.



**NPS Response:** The NPS planning team considered locating the public use huts in several areas, including proximate to the RV sites. Because anticipated users are predominantly launching and returning from a backcountry sea kayak expedition, the NPS decided to propose locating the huts near the group sites in the campground to enhance the ease of water arrival, and make it convenient to participate in the non-motorized camping experience, including cooking in the intertidal zone and fire pit social uses.

**Comment Topic:** One commenter proposed the NPS not introduce food aromas and meal preparation along the shoreline with new pavilions, cooking shelters, huts, and RV sites as a nuisance that can habituate bears and other wildlife to human food. Instead, the commenter suggested to construct a hard-sided bunkhouse with a kitchen inside the forested canopy.

**NPS Response:** Proposed NPS pavilion/cooking shelter locations are specifically in the upper intertidal zone, with an elevated design so that food crumbs will fall through floor gratings and smells will be removed with changing tides. Cooking in new dry bunk/huts would be allowed indoors (within hard-sided structures) inside the forest canopy using camp stoves or a wood stove. These huts would also specifically include greywater systems to reduce the incidence of introduced smells from human food particles associated with dishwashing by visitors. Further, prior to deciding whether picnic tables or fire pits are appropriate to serve RVs and car campers, the NPS will consider updates to the Bear Management Plan to define prevention strategies for minimizing bear habituation and reducing human-bear conflicts.

## ***PARK OPERATIONS***

**Comment Topic:** A few commenters proposed not maintaining or using the Lagoon Island Cabin, and instead continuing benign neglect or removing the structure. Reasons include operational challenges for residents (tidal access, water, fuel, sewage disposal), deteriorating cabin conditions, the existence of similar representative WWII structures, and bear use of the island, particularly for access to strawberry patches.

**NPS Response:** For a few decades, NPS decisions about this cabin were based on a land status map error that identified Lagoon Island as being within designated Wilderness and subject to the GMP benign neglect policies for historical structures. Since the error was discovered, the NPS has been considering both its management responsibilities and the cabin's potential future uses. A historic structures report is currently under development, and recommendations are anticipated to emphasize adaptive reuse rather than full historical restoration, more practical "off-grid" utility systems, and NPS use of the structure more as a quiet retreat than as a standard housing unit (for example, featuring users like artists in parks who have the time and inclination to appreciate the natural and cultural values of the site).

**Comment Topic:** Some commenters proposed removing NPS park operations from the Inner Lagoon Area and repurposing the area for visitor use, including adapting the parking lot for RVs so they can enjoy the coastal views in an already disturbed location.

**NPS Response:** During an internal planning workshop in 2017, the NPS considered removing park operations from the Inner Lagoon area. The NPS decided instead to continue the NPS presence in this area (established in the 1950s) with its strong connections to the scenic coastal environment given that Glacier Bay manages one of the few marine parks in the national system.

**Comment Topic:** A few commenters proposed an alternative location for a new NPS park headquarters, east of the Bartlett Cove moraine (including near the existing NPS maintenance facility), because of concerns that the proposed location of the headquarters building may be within a tsunami/flood hazard area, citing Suleimani, E.N., Nicolsky, D.J., and Koehler, R.D., 2015, Tsunami inundation maps of Elfin Cove, Gustavus, and Hoonah, Alaska: Report of Investigation RI 2015-1, Alaska Division of Geological & Geophysical Surveys, Fairbanks, Alaska, United States. One commenter also raised concerns that the proposed location is located on fill that may not be stable during an earthquake.

**NPS Response:** The proposed location of the new headquarters building is at 22 feet elevation. Suleimani et al. (2015) computed that the extent of inundation and flow depth from hypothetical tsunamis was 2.5m (~8ft) in Bartlett Cove, which is below the elevation of the new headquarters building. Prior to construction of the new headquarters building, the NPS would perform a geotechnical investigation of the site of the proposed headquarters relocation to investigate the subsurface soil conditions and determine applicable foundation types as well as earthwork related recommendations, and detailed surveys will be conducted to confirm the proposed site elevation and mean low water benchmarks to ensure applicability of the 2015 geohazard modeling.

**Comment Topic:** One commenter proposed decommissioning the Inner Lagoon dock to reduce creosote pollution (while leaving a few floats for skiffs) and boat-related noise, and also recognizing its diminishing accessibility due to isostatic rebound at the Lagoon Island cut. Another requested private boat use of Inner Lagoon dock as a more protected and currently underutilized area.

**NPS Response:** The NPS planning team considered each of these alternatives. Case studies indicate that the act of decommissioning the Inner Lagoon Dock may add more creosote pollution than leaving it in place. Regarding isostatic rebound, the timing and duration of motorized noise from boats is likely to be limited during the life of this plan by short time windows when the tidal cut supports access. Further, the NPS views the Inner Lagoon Dock, with its limitations, as appropriate for staff and some administrative uses. Finally, the NPS acknowledges there may be special cases where public and concessions uses are consistent

with park mission (with explicit recognition of the inherent safety and equipment damage risks given tidal access limitations). However, the park is not seeking to compete with fee-based community and commercial marine facilities outside the park in gateway communities.

**Comment Topic:** One commenter proposed a new alternative for an NPS staff housing recreational and gathering area, carrying forward aspects of the 1998 Bartlett Cove Development Plan (CDP) and adding equipment and functions from the inner lagoon fitness facility with warm, indoor space and enhanced noise control.

**NPS Response:** NPS planning in 1998 (CDP) proposed a 2,000 square foot multi-use recreational facility for NPS staff in Bartlett Cove. For two decades this facility concept has not scored well within NPS funding parameters. Meanwhile, an existing visitor campground fire pit has attracted NPS staff seeking outdoor recreation experiences. This plan/EA proposes meeting this existing demand at a modest scale using an outdoor recreational feature. Finally, this proposal does not preclude design options that feature moveable walls and/or chimneys that allow users greater protection from the elements and reduce outdoor sound.

## ***ENVIRONMENTAL ASSESSMENT***

**Comment Topic:** Commenters questioned the methodology and findings of the environmental assessment because the document:

- Described disturbed areas relative to the entire park's acreage rather than the more limited frontcountry acreage.
- Did not analyze the potential for greater ecosystem disruptions if construction is simultaneous, rather than phased.

**NPS Response:** The EA "Chapter 3: Affected Environment and Environmental Consequences" discusses impact topics for each alternative that were assessed in terms of context, intensity, and duration to meet National Environmental Policy Act (NEPA) requirements for addressing direct, indirect, and cumulative impacts (as described NPS Council on Environmental Quality regulations, 40 CFR 1502.16).

**Comment Topic:** Concerns were raised that impacts to wetlands could be greater than those disclosed in the Environmental Assessment. One commenter suggested that the wetlands analysis should include impacts on species that use such habitat.

**NPS Response:** The "Wetlands" section of "Chapter 3: Affected Environment and Environmental Consequences" was based on National Wetlands Inventory data, the park land-cover type classification, and site-specific wetlands assessments and delineations for the Bartlett Cove developed area, including the suitability analysis for the 1998 Bartlett Cove

Comprehensive Design Plan. The National Park Service has determined that these sources are sufficient to analyze potential impacts to wetlands from the proposed action. The EA has been updated to say that wetlands delineations in the park are currently limited to a few project-specific areas. As noted in the EA, wetland conditions are still evolving because of isostatic rebound; as uplift occurs, some wetland areas are reorganizing into more developed stream systems, reducing the overall wetland area. Recognizing that wetland areas might shift over time, the NPS has included several mitigation measures related to inventorying wetlands and employing standard avoidance, minimization, and mitigation strategies. All facilities, excluding trails, would be sited to avoid wetlands or, if that were not feasible, to otherwise comply with Executive Order 11990, the Clean Water Act, and Director's Order #77-1.

This impact topic only includes an analysis of impacts to wetlands. Discussion of impacts to wildlife, including birds, from the proposed action are discussed under the 'Wildlife' discussion topic and 'Shorebirds and Waterfowl' impact analysis of "Chapter 3: Affected Environment and Environmental Consequences."

**Comment Topic:** Several commenters raised concern that construction, maintenance, and use of boardwalks along the lagoon and tidal cut would repeatedly disturb the wildlife, including shorebirds and waterfowl that rest, feed, and nest there. Commenters suggested alternate trail designs, including rerouting new trails away from shorelines, or not building new trails. One commenter suggested that the NPS should conduct an analysis of alternate suitable habitat for shorebirds and waterfowl. The same commenter also suggested that the NPS should include in the measurement of impact area the changes in habitat use that would result from increased visitor presence and acoustic disruption. Another commenter noted that the dates which the NPS would not conduct vegetation removal activities in order to avoid impacts to nesting birds, as noted in the plan, were inconsistent with US Fish and Wildlife Service recommendations for the region.

**NPS Response:** The NPS acknowledges these concerns. The EA acknowledges that facility construction and use could result in increased disturbance to wildlife, potentially leading to temporary displacement of individuals from the project area. These impacts are identified in the 'Wildlife' section and 'Shorebirds and Waterfowl' impact analysis in "Chapter 3: Affected Environment and Environmental Consequences." To reduce the level of impact to wildlife using the shoreline, the NPS has rerouted the Bartlett River Trail away from the mouth of the tidal cut and portions of the shoreline.

Where feasible, the National Park Service calculated total acreages of impacts, such as for vegetation clearing related to development. The responses of wildlife to these disturbance are variable, even within species, and related to a number of factors (i.e., disturbance type, intensity and duration, terrain, disturbance history, group size, age/sex, reproductive status, wind direction, loudness, distance between animals and disturbance, distance from

disturbance to secure cover, relative elevation, season, etc.), therefore it would not be feasible to calculate total disturbance areas.

While no formal studies have been conducted on the extent of suitable habitat for shorebirds and waterfowl throughout Glacier Bay, studies have been conducted to understand the distribution of ground-nesting marine birds along shorelines in Glacier Bay and have demonstrated that these species are found nesting throughout Glacier Bay proper, including the Beardslee Islands. The impact analysis has been revised to reflect this.

The mitigation measures have been updated and made consistent with US Fish and Wildlife Service recommendations for the region to state that vegetation removal would not be conducted during nesting times (April 15 to July 15). As stated in the mitigation measures, the National Park Service would also conduct surveys prior to vegetation removal to ensure that species of concern are not present.

**Comment Topic:** Concerns were raised over disturbances or displacements by visitor foot traffic to harbor seals that haul out on the sandy beach near the mouth of the tidal cut from rerouting the Bartlett River Trail.

**NPS Response:** The National Park Service annually reviews aerial photographic surveys conducted in June and August to count harbor seals; no harbor seal haul-out sites were observed in Bartlett Cove on a consistent basis. The NPS did observe harbor seals occasionally in the fall using an island north of the tidal cut, but the seals did not consistently use this site. The Bartlett River Trail has been rerouted to avoid the mouth of the tidal cut area closest to Lagoon Island, which should minimize possible disturbances to any harbor seals hauling out in that area. The NPS will continue to provide education to visitors on best practices for observing wildlife, including approach distance regulations and recommendations.

**Comment Topic:** Some commenters were concerned about potential off-site indirect environmental impacts from the construction of new trails (including to areas outside the Frontcountry area in designated Wilderness). These include the potential for construction spills/materials contamination; erosion, turbidity, and other water run-off impacts (especially to fish and drinking water); and concern about damage to mussels and intertidal organisms due to foot traffic into tidepools at low tide.

**NPS Response.** The NPS acknowledges these concerns. The EA acknowledges that the action alternatives would be anticipated to have impacts on water quality and seafloor resources outside the trail footprint, however these topics were not carried forward because they did not reach a threshold of impact concern. The NPS also proposes measures to reduce and mitigate these impacts in "Appendix D: Mitigation Measures and Best Management Practices." Further, the Bartlett River Trail has been rerouted to reduce the extent of public

access within the cut, and proposed boardwalks to provide access along a portion of the cut may discourage foot traffic into tidepools at low tide by providing alternative and easier footing. Finally, the NPS sees regular foot traffic in the Inner Lagoon Tidal Cut and populations of mussels and intertidal organisms there remain healthy. As a result, the NPS expects foot traffic damage within the Beardslee Islands Cut to be limited.

**Comment Topic:** Several commenters were concerned about wilderness character impacts from an increase in visitor activities proximate to the proposed Point Gustavus Route, and the entrance of the Beardslee Islands Tidal Cut Wilderness and marine Wilderness. The concern is that additional visitor demand from day trips will diminish wilderness character (the addition of kayakers on 2-5 hour kayak excursions through the time-limited tidal cut, the re-routing of the Bartlett River Trail that enables hikers to access the cut, and due to increased noise from non-wilderness visitor activities).

**NPS Response:** The NPS acknowledges these concerns. The NPS decision to enhance opportunities for day-use trips from Bartlett Cove into adjacent designated Wilderness is targeted to those who may not otherwise be able to access this experience (e.g., due to physical conditions or the lack of equipment, time, or backcountry skill). These new use patterns will affect the experience of more traditional wilderness users who are embarking on extended backcountry trips into the wilderness, particularly during high tides when kayaking becomes more concentrated near the Beardslee Islands Tidal Cut. While the frontcountry does not encompass any designated Wilderness, it supports the park as one of the largest units in the wilderness preservation system, encompassing more than 2.7 million acres—including around 53,000 acres of marine wilderness. The NPS sees day use hiking and kayaking as being consistent with the purposes of Wilderness, and proposes measures to reduce and mitigate social impacts to wilderness character, including specific to encounter rates in "Appendix D: Mitigation Measures and Best Management Practices." Therefore, this topic was not carried forward for detailed analysis in "Chapter 3: Affected Environment and Environmental Consequences."

**Comment Topic:** Several commenters were concerned about wilderness character impacts as a result of NPS trail construction, especially in the vicinity of the Bartlett River Trail and along the Point Gustavus Route. Some commenters also were concerned about wilderness character impacts associated with the new Cooper's Notch Trail (however none of this proposed route crosses into any designated Wilderness areas).

**NPS Response:** The NPS acknowledges these concerns and proposes measures to reduce and mitigate these impacts to wilderness character in "Appendix D: Mitigation Measures and Best Management Practices." Further, consistent with the Wilderness Act, the NPS is proposing trail construction only to the extent necessary to retain the natural quality of wilderness by mitigating trail tread damage, soil erosion and compaction, unsustainable routing and drainage impacts, and reducing the degradation of environmental conditions in



localized and sensitive areas. Thus, limited or no modifications are anticipated to be needed to accommodate public access on the Point Gustavus Route (it already meets Class 1 trail standards). Conversely, more extensive reroutes, upgrades, boardwalks, and spot modifications are anticipated to be needed to maintain the Bartlett River Trail as a Class 3 trail in designated Wilderness for public use due to its currently degraded condition, the challenges of maintaining trails in a succession landscape. Finally, the scale of this change to the undeveloped quality of wilderness is small (compared to the context of the Glacier Bay Wilderness) and all Bartlett River Trail installations will be designed to be movable or removable, which means these impacts to this character of wilderness may not be permanent (and could be removed at any time). Additionally, the majority of these trail actions that involve boardwalks are relocations, where existing trails and their associated installations (mostly planks) are being removed from locations in wilderness where they have ongoing maintenance requirements.

**Comment Topic:** Several commenters expressed concern that installing 40 permanent moorings would increase the risk of marine mammal entanglement. One commenter noted that 40 moorings is four times the average number of boats usually present (10-13) in Bartlett Cove. Another commenter noted that if whales became entangled with a mooring, they might drown because the mooring is permanently fixed to the seafloor.

**NPS Response:** Potential impacts to the two federally listed threatened and endangered species are discussed on page II-52. The National Park Service consulted with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) on potential impacts to threatened and endangered marine species from installation of permanent moorings in Bartlett Cove. NMFS concurred with the NPS conclusion that the proposed action is not likely to adversely affect Mexico Distinct Population Segment humpback whales (*Megaptera novaeangliae*) or Western Distinct Population Segment Steller sea lions (*Eumetopias jubatus*). A concurrence of “not likely to adversely affect” requires that all effects are beneficial, insignificant, or discountable. Insignificant effects include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. Entanglement would be a minimal concern as installation would occur in shallow water with adequate tension to allow the cable to resist forming loops and contour to the seafloor. Mooring lines would be pulled taut during installation, minimizing risks of entanglement.

If take of listed species occurs, or new information reveals that the action may affect listed species in a manner or to an extent not previously considered, NPS would re-initiate consultation with NOAA NMFS.

**Comment Topic:** Commenters raised concerns about impacts from increased marine vessel traffic (due to increased levels of activity generally, related to a tribal transportation ferry (page I-21), and

in response to the planning vision proposal (page I-33) to “utilize the flexibility afforded the superintendent in current law and regulation to optimize private vessel marine entries to the frontcountry . . . consistent with the park’s 2003 Vessel Quotas and Operating Requirement (VQOR) EIS ROD”). Impact concerns include potential vessel collisions with whales, greater underwater acoustic noise disturbances affecting marine wildlife, and engine noise as a detraction from the visitor and wilderness experience enjoyment. Commenters also proposed a range of mitigating actions to reduce motor vessel impacts (use of electric and quieter marine vessels, instituting a 13-knot speed limit for all vessels at all times in the lower portion of the bay as a scientific link has been shown between reduced vessel speeds and reduced chance of collisions, and installing a seasonal buoy 1 mile from shore off Lester Point to help boaters ascertain the legal distance for whale waters to help them avoid sensitive shelf feeding areas).

**NPS Response:** The NPS acknowledges that marine vessel traffic has effects on marine mammals in park waters, including collision and mortality risks for federally listed threatened and endangered species (discussed on page II-52), and broad acoustic noise disturbance effects to wildlife. The Frontcountry Management Plan is consistent with the 2003 Vessel Quotas and Operating Requirements (VQOR) EIS Record of Decision, therefore limiting the risks such as collision and underwater acoustic disturbances to sensitive marine mammals within acceptable, non-impairment thresholds. Further, the NPS proposed action does not intentionally increase the number of marine vessels in Bartlett Cove. Some visitors may find the increased amenities, services, and opportunities within the frontcountry appealing and may extend their stay in Bartlett Cove, while other visitors may find that the increased amenities, services, and opportunities detract from the remote Alaskan setting and spend less time. Finally, due to mitigation measures already in place in the park (existing VQOR quotas, operating requirements, and whale waters regulations), the interdisciplinary planning team did not identify the level of impacts to wildlife, visitor experience, and wilderness from these potential inadvertent changes in marine vessel use patterns as being such that it was pivotal for the overall process or of critical importance to the decision maker. Other impacts associated with greater levels of human activity in the frontcountry (noise, temporary displacement, etc.) are addressed in the portions of "Chapter 3: Affected Environment and Environmental Consequences" that address wildlife and visitor experience.

**Comment Topic:** Concerns were raised over the impacts to seafloor resources and other wildlife from installation of 40 eco-moorings. One commenter pointed out that no formal studies had been conducted regarding resource degradation in Bartlett Cove, nor had pilot moorings been placed to see how they perform for the long term and what maintenance will be required. Another commenter pointed out that impacts to benthic resources could have impacts further up the food chain.

**NPS Response:** While no formal studies have been conducted regarding the impacts of boat anchors in Bartlett Cove, a wide body of research has demonstrated that seafloor resources suffer from mechanical damage caused by boat anchoring, particularly in coastal areas

subjected to intense recreational activity. Park staff have observed boat anchors dragging in Bartlett Cove, particularly large boats anchored further from the shoreline that are subject to westerlies. In addition, park staff have observed boaters using batteries or other inappropriate materials as anchors, which could potentially leak contaminants into Bartlett Cove.

Environmentally sensitive moorings are widely used around the world and have become a generally accepted tool for managing anchoring impacts. The interdisciplinary planning team did not identify the level of impacts from permanent moorings as rising to the level of significance requiring a greater level of analysis.

**Comment Topic:** A commenter suggested that Bartlett Cove is a river estuary with a soft bottom, and that the regular deposition of mud from the Bartlett river and the high level of glacial silt in the waters of the bay make the sea floor a resilient environment, so that mitigations to protect the seafloor are not warranted (even with regular seafloor disturbances).

**NPS Response:** The NPS agrees that the soft Bartlett Cove seafloor is less prone to permanent damage from anchors as compared with substrates supporting rich biogenic habitat. While understanding that it might appear that Bartlett Cove is a main river estuary for silt deposits (isostatic rebound makes the sea floor consistently shallower and shifting marine sediment covers the floor), the NPS does not agree with this characterization based on Bartlett River flow patterns and other indicators. Further, the NPS often seeks to mitigate anthropogenic impacts in high use areas, even when habitats are more resilient or typical, and achieves multiple objectives through this action (e.g., reduce debris and pollution associated with inappropriate private mooring systems, enhance visitor safety and reduce the risks of oil spills and property damage from anchor failures, reduce multi-use conflicts such as between boats and float planes by concentrating the extent of the area used by small and medium boats).

**Comment Topic:** A commenter suggested that the mooring proposal will limit opportunities for arriving non-local visiting marine vessels by compressing the total area available for their use, by increasing competition during periods of peak demand, and by charging cost recovery fees (compared with opportunities to anchor at no cost).

**NPS Response:** The NPS believes that the proposal will increase opportunities in the most protected areas of Bartlett Cove through more efficient and concentrated use (and otherwise discourage anchoring for small and medium boats in the area). The management strategy is also expected to accommodate and more efficiently enable arriving park visitors to tie up. With adaptive capacity levels of up to 40 total moorings, the NPS anticipates ample opportunities, and acceptable cost-recovery charges as described following:

- 26 moorings (corresponding to VQOR marine vessel daily quotas) are the maximum capacity considered necessary for arriving non-local park visitors who previously would have been expected to use a private anchor. The cost recovery fees for these visitors who typically want

to few spend hours, or at the most a few days in the frontcountry, are anticipated to be nominal.

- 14 moorings for park visitors, including regional boat owners, park partners, and incidental NPS uses (based on the 2012 – 2016 demand levels in Table 1 of the plan/EA). Given the typical timeframes of a recreational park visit by a boat owner originating from nearby communities, cost recovery fees are anticipated to be nominal. At the same time, the NPS charging a fee by the day will serve as a disincentive to indefinite and derelict boat storage (activities more appropriately served by communities and private interests outside a national park).

**Comment Topic:** A commenter suggested that empty moorings will negatively impact the character of Bartlett Cove.

**NPS Response:** The NPS acknowledges this concern, however will seek to adaptively optimize the number of moorings provided (in terms of the number, location, design, and any seasonal adjustments).

**Comment Topic:** Some commenters were concerned about impacts to bears in Bartlett Cove due to shifts in visitor patterns that encourage food preparation and consumption in areas outside the intertidal zone (RV campground/picnic tables, huts, pavilions).

**NPS Response:** The NPS acknowledges these concerns and describes why this topic was not carried forward for detailed analysis in “Chapter 3: Affected Environment and Environmental Consequences.” Further, the NPS proposes measures to reduce and mitigate these impacts to bears in "Appendix D: Mitigation Measures and Best Management Practices."

**Comment Topic:** Concern was raised that increased road and vehicle traffic could result in an increased chance for vehicle collisions with wildlife, in addition to increased disturbance from traffic noise, and greater levels of human activity in the frontcountry.

**NPS Response:** The National Park Service does not currently regulate the number of vehicles in the frontcountry area, and the proposed action does not intentionally increase the number of small vehicles in Bartlett Cove. Some visitors may find the increased amenities, services, and opportunities within the frontcountry appealing and may extend their stay in Bartlett Cove, while other visitors may find that the increased amenities, services, and opportunities detract from the remote Alaskan setting. The interdisciplinary planning team did not identify the level of impacts to wildlife from potential vehicle collisions as being such that it was pivotal for the overall process or of critical importance to the decision maker. Other impacts associated with greater levels of human activity in the frontcountry (noise, temporary displacement, etc.) are addressed in the portions of "Chapter 3: Affected Environment and Environmental Consequences" that address wildlife.

**Comment Topic:** Concerns were raised that the Environmental Assessment characterization of light pollution does not adequately acknowledge the impacts from NPS facilities in Bartlett Cove.

**NPS Response:** The NPS acknowledges this concern in "Chapter 3: Affected Environment and Environmental Consequences" which states that sources of light pollution include "park facilities that may be directly or indirectly visible from some areas of the frontcountry." Further, the NPS has developed a project to perform a night skies audit of Bartlett Cove and develop comprehensive recommendations to improve the visitor enjoyment of night skies and the aurora, while still meeting safety and other lighting requirements.

**Comment Topic:** Concerns were raised that the Environmental Assessment did not analyze or recognize impacts to visitor experiences in designated Wilderness, or when participating in frontcountry interpretive experiences, from the sights and sounds of cell phone use.

**NPS Response:** The NPS acknowledges that increases in cell service and other modern communication tools in the park may create sights and sounds that detract from the visitor experiences and the remote Alaskan setting. The NPS does not have jurisdiction over airwaves, and independent communications interests may provide cell service within park airspace without consulting the NPS. Therefore decision-makers at the park decided to propose a pro-active approach that gives the NPS a greater role in defining how and where this use is appropriate, based on balanced public and conservation objectives.

**Comment Topic:** Concerns were raised that the Environmental Assessment did not analyze or recognize impacts to mobility challenged users' visitor experience from increased human-generated noise and activity in currently accessible areas (campground, Blackwater Pond, Tlingit Trail, etc.), and the resulting loss of accessible bird viewing areas.

**NPS Response:** The NPS acknowledges that increased frontcountry visitation may affect the experience of all visitors seeking a rustic, secluded, and contemplative experience in the frontcountry. The Environmental Assessment generally discusses this topic within the Visitor Use and Experience conclusions in "Chapter 3: Affected Environment and Environmental Consequences." Further, while the NPS proposals may alter the location of accessible bird viewing opportunities, the many ABAAS-related proposals in the plan (e.g., new trails, parking, facility upgrades, wayfinding and signage) are expected to substantially expand opportunities for accessibility-challenged visitors.

**Comment Topic:** Concerns were raised that the Environmental Assessment did not consider the impact of its proposals on independent visitors from adding and expanding the diversity of users to the frontcountry.

**NPS Response:** While the plan/EA seeks to increase visitor diversity and welcome new types of visitors (e.g., independent car/RV campers, Alaska residents, tribe-operated cultural

tourism visitors based from Hoonah), the NPS preferred alternative is specifically oriented to strengthening Bartlett Cove's appeal as a day-excursion destination and as a base for multi-day independent stays. Further, the Economic Impacts portion of "Chapter 3: Affected Environment and Environmental Consequences" anticipates that the NPS preferred alternative will "enhance the appeal, profitability, and economic viability of the lodging and food services operations," and enhance the economic viability of Bartlett Cove and gateway community based businesses that serve the independent visitor.

**Comment Topic:** Commenters asked how the park will protect park resources in the face of climate change, ocean acidification in Park waters, the loss of tidewater glaciers, ecosystem disruption from rainfall changes, the potential for spruce bark beetles due to warmer winter temperatures, biodiversity loss, and sea level changes.

**NPS Response:** The potential impacts of climate change and the dynamism of the Glacier Bay environment are well known by members of the planning team and were taken into account during this effort (to the limited extent that they have any bearing on specific NPS proposals).

**Comment Topic:** Concerns were raised that the Environmental Assessment did not analyze impacts to recreational berry picking (blueberries primarily) in Bartlett Cove or to Huna Tlingit gull egg harvest opportunities within their Ancestral Homeland.

**NPS Response:** The NPS does not see any potential for significant reduced opportunities for berry picking associated or in any mechanism by which these actions could affect gull egg harvests.

**Comment Topic:** Concerns were raised that the Environmental Assessment did not consider the impact of its proposals on resident hunting (moose and waterfowl) and sport fishing harvests.

**NPS Response.** In Appendix B of the plan/EA, the NPS analyzed potential regional subsistence impacts such as hunting on public lands outside park boundaries, as required under the Alaska National Interest Lands Conservation Act (ANILCA), section 810. The State of Alaska concurred with this analysis and EA wildlife related conclusions in "Chapter 3: Affected Environment and Environmental Consequences." A comment letter of May 8, 2019 prepared by Susan Magee, ANILCA Program Coordinator states: "We concur that these impacts [Wildlife and Hunting] will be minimal even in their cumulative effects and with the extensive habitat available to these species in the area." The NPS also acknowledges that residents in the region, including from the community of Gustavus, expressed concerns about new route longer trail distances to access the Bartlett River in order to participate in sport fishing harvests. This concern has been eliminated by NPS changes to the Bartlett River Trail proposal below (see edits for Page II-10 in the section below).



**Comment Topic:** Commenters are concerned that economic benefits associated with the preferred alternative will bypass Gustavus entirely because visitors' time is focused in Bartlett Cove, because the NPS will provide competing visitor services (RV campground, food, lodging, transportation) that take business away from local proprietors, and because lodge staff composition rarely includes any local residents. Commenters questioned why no projections are included on visitors and/or visitation days to gateway communities, and questioned why the socioeconomic analysis did not determine an adverse economic consequence for gateway communities.

**NPS Response.** The NPS acknowledges these concerns. Many visitors arriving by jet or ferry may be transported to the park without stopping or spending money in gateway communities. The NPS, business, and partners may offer visitor services or goods that compete with gateway community offerings, and may choose to hire individuals from outside the community rather than local residents. However, the NPS believes that even with no projections on visitation levels and/or visitation days to gateway communities in "Chapter 3: Affected Environment and Environmental Consequences," the level of economic impacts and visitor experience analyses are sufficient to determine a net long-term economic benefit to gateway communities that would result from the Glacier Bay Lodge being more operationally sustainable, and Bartlett Cove enhancements supporting increased day-excursions and multiday visits. Finally, the NPS plan/EA explores opportunities to engage regional residents, communities, and businesses in a higher degree of economic partnership actions, and multi-modal options to better integrate Bartlett Cove and Gustavus.

## ***VISITOR CAPACITY***

**Comment Topic:** Concerns were raised regarding the increase in visitor capacity identified in appendix C.

**NPS Response.** The updated social carrying capacity for the frontcountry (1000 people per day) is a maximum; the typical sustained level of visitation is substantially lower. As stated in the environmental assessment, visitor capacity is a component of visitor use management defined as the maximum amount and types of visitor use that an area can accommodate, while sustaining desired resource conditions and visitor experiences consistent with the purpose for which the area was established. The selected alternative includes many actions that would provide additional opportunities for visitors within the frontcountry and support multi-day stays. The environmental assessment notes that "Overall, with more opportunities for overnight lodging, there would be more visitors visiting the park, and the more time each visitor spends in the frontcountry would result in more visitor hours in the park (See chapter 4 of visitor use)." Further, Appendix C includes indicators and thresholds that would be used by the National Park Service to monitor desired resource and visitor experience conditions. Specifically, indicators for "encounter rates on trails" and "the number of times a boat is observed independently anchoring" will be monitored. This will alert park staff to changing

visitor experience conditions within the frontcountry at which time adaptive management actions could be implemented. In regards to staffing levels, operational issues are not required as part of a NEPA analysis. The environmental assessment acknowledges there is a need for increased staffing levels by providing increased staff housing.

**Concern Statement:** Commenters described concerns that the frontcountry becoming an off-vessel destination for cruise ship passengers is a reasonably foreseeable action that has not been taken into account (enabled by a tribal ferry from Hoonah to Bartlett Cove connected to tourism operations at Icy Strait Point) and that this new segment of visitors, given the scale of use typical in the cruise circuit in Southeast Alaska, would create unacceptable higher density social conditions in the park frontcountry.

**NPS Response.** Nothing in this plan provides services at a scale that can enable Bartlett Cove to regularly serve visitors delivered by cruise ships or expedition-class marine vessels with more than 400 passengers. Further, as currently proposed, the Hoonah Indian Association Tribal Transportation ferry has a capacity of under 100 passengers (a portion of whom would likely include tribal members and Hoonah residents). Beyond these routes of entry, any additional individual cruise ship passengers choosing to visit Bartlett Cove would be expected to rely on existing private or public regional transportation modes with timing or capacity constraints (such as small plane or boat charters or the Alaska State Ferry) so that their trip would become more consistent in scale and pattern with visitors in the independent visitor market. For these reasons, the NPS believes that the capacity description (Appendix C) characterizes an appropriate level of use for the frontcountry, and that environmental assessment cumulative analyses have addressed the reasonably foreseeable action.

#### **MINOR EDITS TO THE ENVIRONMENTAL ASSESSMENT**

This section includes minor edits and technical revisions to the environmental assessment that resulted as a response to comments received from general commenters and consultants during the public review period. Page numbers referenced pertain to the 2018 *Glacier Bay National Park and Preserve Frontcountry Management Plan/Environmental Assessment* (plan/EA). The edits and technical revisions did not result in any substantive modifications being incorporated into the selected action, and it has been determined that the revisions do not require additional environmental analysis.

This Errata, when combined with the April 2019 Environmental Assessment and its supporting appendices, comprises the only amendment deemed necessary for the purposes of completing the plan/EA. The FONSI and errata will be released as a final decision record that also includes:

- The previously released April 2019 Environmental Assessment and its supporting appendices (as amended by this errata).

- A June 2019 Preface and Part I of the Frontcountry Management Plan that are revised to incorporate minor edits, and to update non-substantive text and narratives. These fully replace their April 2019 draft versions. While these changes are not detailed in the errata, some changes of interest to the public are highlighted in the responses to concerns section above.

In reference to the FMP/EA, the page number and topic heading are provided. Original text from the FMP/EA is identified to allow for comparison to the text change. Removed text is shown in ~~strikethroughs~~ and new text is shown in underlines.

**Change.** Page II-1. “This environmental assessment (EA) informs the National Park Service (NPS) decision to update the visitor experience and management vision for the frontcountry area (see figure ~~16~~ 47 from part I) of Glacier Bay National Park (park), and consider visitor day-use excursions originating from Bartlett Cove (including into adjacent designated wilderness).”

**Remove.** Page II-7. ~~“Combine Visitor Center and Visitor Information Station activities to within a ~2,900 square foot, multi-story facility in the current VIS area, to include a 40-person capacity auditorium. The facility would serve as a hub to orient visitors and introduce park themes, in addition to supporting backcountry use, trip planning, and leave-no-trace principles. Parking efficiency enhancements would be included within existing disturbance and pavement footprints.”~~

**Remove.** Page II-8. ~~“Enhance the functional tidal range and usability of the public boat launch ramp by removing accumulated sediment; minimally invasive suction would be used to relocate sediment to a nearby seafloor location so it minimizes suspension in the water column.”~~

**Replace.** Page II-8. “Remove accumulated sediment from the public boat launch ramp to enhance the functional tidal range and usability for small recreational vessels (recognizing that gateway communities support this function for commercial and larger vessels). Use minimally invasive suction to maintain the ramp to its original constructed condition by relocating sediment to a nearby seafloor location while minimizing its suspension in the water column.”

**Change.** Page II-10. Action has been changed to reduce the extent of trail along the shoreline. “Bartlett River Trail: Approximately ~~1.4 miles~~ one mile of new route would be built on the shoreline and along the tidal cut (some portions in designated Wilderness), as a Class 3 ABAAS and narrower rustic boardwalk (up to 36” wide) on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs. This would include the minimum required site modifications (based on wilderness analysis during pre-design). The ABAAS boardwalk at a new 12-person overlook destination would be located just outside the designated Wilderness boundary in the northeastern Inner Lagoon. Approximately .6 miles of new and existing route within rainforest would be upgraded to meet sustainable trail standards as a durable soft-tread trail using native materials. The closed trail segment would no longer be

maintained and about ~~.75~~ 0.70 miles would be spot revegetated to discourage public access. All inner lagoon kayak operations (racks and launching) would be consolidated to a site at the end of an expanded park headquarters parking area with a connecting path to the boardwalk that enables launching and consolidates foot traffic to reduce shoreline vegetation impacts. A short spur connection (up to 300 feet) from the new Bartlett River Trail would be upgraded to support Bartlett Lake Trail use. After the new trails in this plan are constructed, consider closing this and the entire Bartlett Lake Trail (weighing maintenance costs and trail use levels) using minimal vegetation rehabilitation and large rock placement to deter use."

**Change.** Page II-10. *Inner Lagoon Trail*—It would be built as an ABAAS rustic boardwalk (~~up to 36" wide~~) on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs.

**Addition/Clarification.** II-11. "A small, drive-in campground would be developed that includes between four and six rustic, no-frills sites that could accommodate up to 30-foot-long RVs as well as other vehicles. Expanded future need for RV camping would be encouraged to occur in Gustavus by private enterprise or local government that could better provide for enhanced services such as hookups."

**Addition/Clarification.** II-11. The 1958 park headquarters building would be replaced to address its deferred maintenance and substantial deficiencies. ~~A replacement of up to 6,000 square feet would be constructed nearby within the historic disturbance footprint, while keeping with the original aesthetics and character/feel of the area.~~ A replacement would be constructed nearby within the historic disturbance footprint, while keeping with the original aesthetics and character/feel of the area. The facility would be built to replace in-kind administrative space (~6,000 square feet) scaled up as required to meet current NPS facility standards (ABAAS, telecommunications, utilities, etc.).

**Addition/Clarification.** Page II-12 "Public commenters requested access into designated Wilderness originating from non-NPS lands (including the Bartlett Lake/Towers Trail and Falls Creek areas in Gustavus) or backcountry areas of the park. Trails that originate within the frontcountry area for this plan (regardless of their destination), were included in this plan. Trails that originate in backcountry areas of the park will be addressed in a future backcountry planning effort. Additionally, because some of these trails ~~Because these~~ pose more complex jurisdictional, parking/vehicular access, and maintenance questions, the National Park Service decided to not include those actions in this plan and to wait to address them in the future backcountry planning effort. ~~Additionally, actions related to the Park's backcountry are outside the scope of this plan."~~

**Addition.** Page II-16. Constructing 0.6 miles of trail in forest for the Bartlett River Trail would require clearing 36" to 60" of vegetation along the path (up to 0.4 acres).

**Addition.** Page II-16. Hazard and windthrow risk trees would be removed in a half-acre area above the cut bank south of employee housing and north of the park entrance road.

**Change.** Page II-16. In total, ~~3 and 4~~ up to 4 acres of Sitka spruce/hemlock forest would be removed under the destination alternative because of vegetation clearing.

**Addition.** Page II-17. Construction of the Discovery Center would require clearing up to 22,000 square feet of vegetation on the southeast edge of the current visitor information station parking lot.

**Change.** Page II-19. ~~Several site-specific wetland assessments and delineations have been conducted for infrastructure-related projects in the Park. However, detailed wetland mapping of the proposed project area is currently limited.~~ National Wetlands Inventory mapping was completed by the US Fish and Wildlife Service and is available for the entire project area (USFWS 2018b). Additionally, the most recent park land-cover type classification (Boggs et al. 2007), which includes locations of vegetative cover types typical of wetlands in the project area, contributed to a preliminary assessment of wetland impacts. Wetlands delineations in the park are limited to a few project-specific assessments.

**Change.** Page II-21. *Bartlett River Trail*—The new route would cross through between ~~3,250 and 3,580~~ 1,410 and 1,550 linear feet of freshwater emergent wetland and between ~~7,280 and 8,020~~ 3,860 and 4,250 feet of estuarine intertidal wetland. The use of helical piers to support the boardwalk and overlook would affect between ~~0.08 and 0.09~~ 0.4 and 0.5 acres of soil. The total surface of the boardwalk and overlook would be ~~approximately 0.80~~ between 0.7 and 0.9 acres.

**Change.** Page II-21. *Inner Lagoon Trail*—The trail would cross through approximately 780 linear feet of estuarine intertidal wetlands and 440 linear feet of freshwater forested/shrub wetland. The use of helical piers to support the boardwalk would affect ~~428 to 470 square feet (0.01 acres)~~ less than 0.02 acres of soil. The total surface area of the boardwalk would be approximately 0.1 acres.

**Change.** Page II-24. If there were a noticeable change in angler harvest and associated catch rates, which may be predictive of harvest concerns and population viability, park staff would ~~consider implementing~~ consult with Alaska Department of Fish and Game (ADF&G) to determine whether there is a conservation concern and, if necessary, consider proposals to the Board of Fisheries to implement additional management strategies to reduce pressures on fish populations from recreational fishing, such as reducing daily bag limits, limiting gear types, or implementing temporary spatial or temporal closures.

The State of Alaska maintains management authority of fisheries resources. Under all alternatives, ADF&G would use its authority through an Emergency Closure or through the Board of Fisheries process to change sport fishing regulations if a conservation concern was present. Additionally, under the Master Memorandum of Understanding between the NPS and ADF&G, the NPS commits to using the State's regulatory process to the maximum extent allowed by Federal law in proposing changes in existing State regulations.

**Change.** Page II-26. Bird species are not expected to be affected at population levels because approximately ~~4.6~~ 5.0 miles of shoreline habitat in Bartlett Cove would remain undisturbed.

The impacts would be even less noticeable parkwide, since more than 700 miles of shoreline in Glacier Bay proper would remain free of development. ~~However, As~~ shoreline habitat in Glacier Bay varies in complexity and substrate type (Sharman et al. 2005) and habitat used for nesting varies by species (Arimitsu et al. 2007), not all undisturbed shoreline throughout the park would provide suitable habitat for the species found in Bartlett Cove. However, Arimitsu et al. 2007 surveyed the shoreline of Glacier Bay proper to locate ground-nesting marine birds and their nesting areas, including species seen in Bartlett Cove such as Black Oystercaster, Mew Gull, Glaucous-winged Gull, Red-throated Loon, Canada Goose, and Spotted Sandpiper, and demonstrated that these species are found nesting throughout many areas of Glacier Bay proper.

**Change.** Page II-27. The impacts would be even less noticeable parkwide, since more than 700 miles of shoreline in Glacier Bay proper would remain free of development. ~~However, As~~ shoreline habitat in Glacier Bay varies in complexity and substrate type (Sharman et al. 2005) and habitat used for nesting varies by species (Arimitsu et al. 2007), not all undisturbed shoreline throughout the park would provide suitable habitat for the species found in Bartlett Cove. However, Arimitsu et al. 2007 surveyed the shoreline of Glacier Bay proper to locate ground-nesting marine birds and their nesting areas, including species seen in Bartlett Cove such as Black Oystercatcher, Mew Gull, Glaucous-winged Gull, Red-throated Loon, Canada Goose, and Spotted Sandpiper, and demonstrated that these species are found nesting throughout many areas of Glacier Bay proper.

**Remove** “~~the combined VIS/VC~~” on page II-44. This action has been removed from this plan; however, there remain facility improvements and therefore the remaining sentence is still accurate.

**Remove** “~~1.4 miles of~~” on page II-45. The mileage of the trail has changed; however, the trail will still be a new route therefore the remaining paragraph is consistent with the change to trail mileage.

**Correction.** Page II-47. “\$113,804 million” should be “113.8 million”

**Change.** Page II-52. The plan would increase the number of moorings present in the bay; however, installation would occur in shallow water with adequate tension to allow the cable to resist forming loops and contour to the seafloor. Mooring lines would be pulled taut during installation, minimizing risks of entanglement. ~~the moorings~~ Moorings would be located in a consistent area over time, thus some animals may learn to avoid the area (NPS staff, pers. comm., 4/3/17).

**Addition** Page II-57. “Alaska State ANILCA office was provided with a copy of newsletter and was invited to provide comments. In September 2016, the ANILCA program coordinator provided comments that represented the consolidated views of state agencies.”



**Remove.** Page D-1 and D-3. ~~“Mooring buoys would be removed during the winter to protect character of adjacent wilderness and cultural resources (viewshed from the tribal house).”~~

**Change.** Page D-7. All ~~pathway construction facilities, excluding trails,~~ would be sited to avoid wetlands, or if that were not feasible, to otherwise comply with EO 11990, the Clean Water Act, and Director’s Order #77-1.

**Addition.** Page D-8. “Use quiet hours to manage visitor-created noise to reduce its impacts on other visitors.”

## Appendix B: Non-Impairment Determination

The NPS Organic Act of 1916 and the General Authorities Act of 1970 prohibit impairment of park resources and values. The NPS *Management Policies 2006* use the terms “resources and values” to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in the park’s establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically provided by statute. The primary responsibility of the National Park Service is to ensure that park resources and values will continue to exist in an unimpaired condition that will allow people to have present and future opportunities to enjoy them.

A determination of impairment is made for each of the resource impact topics carried forward and analyzed in the environmental assessment. Impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,
- key to the natural or cultural integrity of the park, or
- identified as a goal in the park’s general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

Impairment findings are not necessary for visitor use and experience, socioeconomics, and solitude and unconfined recreation because impairment findings relate back to park resources and values. These impact areas are not generally considered park resources or values according to the Organic Act and cannot be impaired in the same way that an action can impair park resources and values. After dismissing the above topics, the topics remaining to be evaluated for impairment include: Sitka spruce/western hemlock forest, coastal meadows and early successional forest, wetlands, salmon and anadromous trout, shorebirds and waterfowl, Glacier Bay Lodge and Historic District, and Tlingit Ancestral Homeland.

### VEGETATION

Vegetation is a component of the fundamental resources and values of Glacier Bay National Park and Preserve. In the selected alternative, up to 4 acres of Sitka spruce/hemlock forest will be removed

because of development of new facilities, including trails, buildings and structures, and parking lots. However, the actions proposed will not impact forest species at a population level because the disturbance will be localized to the construction sites, and the species affected are common throughout the 7,000-acre Bartlett Cove frontcountry area. Overall, the selected alternative will not result in impairment to this resource.

Less than 0.1 acres of coastal meadows and early successional forest will be cleared for construction of a Class 5 ABAAS trail and two, day use pavilions. The proposed actions represent an incremental addition to the existing development footprint and therefore will not impact native plant species at a population level through habitat loss. Additionally, the implementation of mitigation measures during and after construction activities will help reduce the establishment of spread and invasive species. Overall, the selected alternative will not result in impairment to the park's coastal meadows and early successional forests.

## **WETLANDS**

Wetlands are a component of the fundamental resources and values of Glacier Bay National Park and Preserve. Construction of new facilities will primarily occur on well-drained glacial outwash. Before any construction occurs, a soil investigation will be conducted to confirm soil-bearing capacity and drainage characteristics. If such an investigation reveals soil conditions indicative of wetlands, alternative locations will be assessed. Using a minimally invasive suction device to relocate sediment from the boat ramp to a nearby seafloor location is not likely to noticeably alter overall functions of shoreline wetlands because of the small area affected. Trail construction will result in approximately 1.1 acres of wetlands being shaded by boardwalks and 0.07 acres of ground disturbance through placement of helical piers, which will not noticeably alter overall functions of the wetlands because of the small area of ground disturbance in relation to the total acres of wetlands present in the project area. Overall, the selected alternative will not result in impairment to the park's wetlands.

## **FISH AND WILDLIFE**

Fish and wildlife are a component of the fundamental resources and values of Glacier Bay National Park and Preserve. Rerouting the Bartlett River Trail may potentially result in an increased harvest and mortality of individual fish; however, with implementation of mitigation measures, there will be no impacts to fish species at population levels. However, anglers will continue to be subject to State of Alaska daily recreational harvest limits. Overall, the selected alternative will not result in impairment to the park's salmon and anadromous trout.

Actions under the selected alternative will result in vegetation removal/alteration, permanent habitat loss, and visual and acoustic disturbances to and displacement of shorebirds and waterfowl; some individuals may temporarily or permanently relocate to areas outside the project area. Best management practices described in the environmental assessment will be used to reduce impacts to

the extent possible. Because there is other similar habitat nearby, survival rates, local population size, and long-term viability of these species are unlikely to be affected. The impacts will be even less noticeable parkwide. Overall, the selected alternative will not result in impairment to the park's shorebirds and waterfowl.

## **GLACIER BAY LODGE AND HISTORIC DISTRICT**

This resource is considered a fundamental resource of the park and is a component of the historic sites that contribute to the significance of the park unit. The National Park Service will undertake several measures to preserve the historical and architectural character of the Glacier Bay Lodge, an historic property eligible for the National Register of Historic Places. Actions will be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and a recently completed historic structure report for the Mission 66 lodge building. No significant adverse impacts are anticipated by project undertakings that include completion of deferred maintenance and other measures (e.g., restoration of the interior catwalk to its originally designed function, and removal of non-historic additions) to preserve the building's historic architectural character. Restoration of historic district viewsheds and preservation of other contributing features of the district's cultural landscape will assist efforts to preserve the district's historic setting.

Upgrades to some lodge rooms and other functional/use alterations will be sensitively carried out to minimize or avoid adverse impacts, although some actions may result in limited or moderately severe adverse impacts on the historic and architectural character of the lodge and district if these actions resulted in the loss or disturbance of historic building fabric and contributing architectural elements. Overall, the selected alternative will not result in impairment of the park's cultural landscapes and historic structures.

## **TLINGIT ANCESTRAL HOMELAND**

This ethnographic resource is integral to the legislated purpose of this national park unit and its significance. It is considered fundamental resources and values of the park unit. Under the selected alternative, no significant adverse impacts will occur to resources contributing to the Bartlett Cove traditional cultural property, or to resources having cultural importance for the Huna Tlingit and the Hoonah Indian Association. Beneficial impacts will result from NPS efforts to undertake proposed facility development and other actions in a sensitive manner that strengthens tribal and NPS relations, ensures culturally important resources are appropriately preserved and protected, and maintains tribal access to traditionally important resources and places. Through a variety of means (e.g., interpreting Tlingit history and culture), the park will work with the Hoonah Indian Association to recognize and perpetuate the enduring cultural connections that the Huna Tlingit have for their ancestral homeland in the Bartlett Cove area. Overall, the selected alternative will not result in impairment of the park's ethnographic resources and cultural landscape.

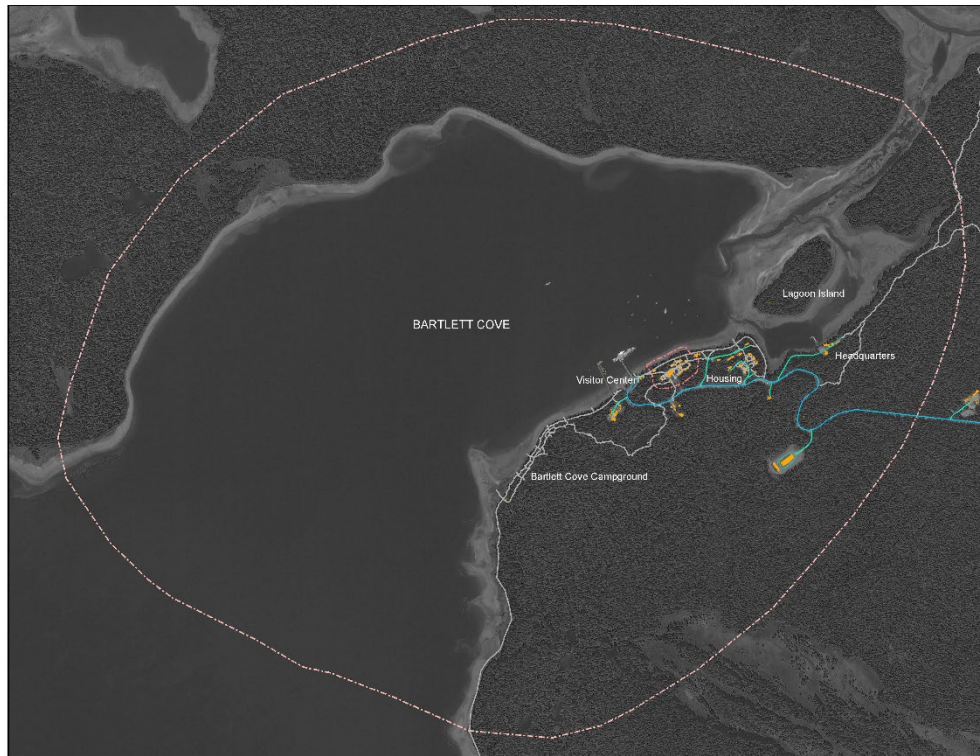
## **APPENDIX A: NATIONAL HISTORIC PRESERVATION ACT, SECTION 106 CONSIDERATIONS AND NEXT STEPS**

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects of projects they carry out, approve, or fund on historic properties.

While the proposed actions in the Frontcountry Management Plan and EA do not, yet, require Section 106 review, planning for its implementation is based on consultation with the Advisory Council on Historic Preservation and the Alaska State Historic Preservation Officer (SHPO), per the NHPA.

### **Purpose:**

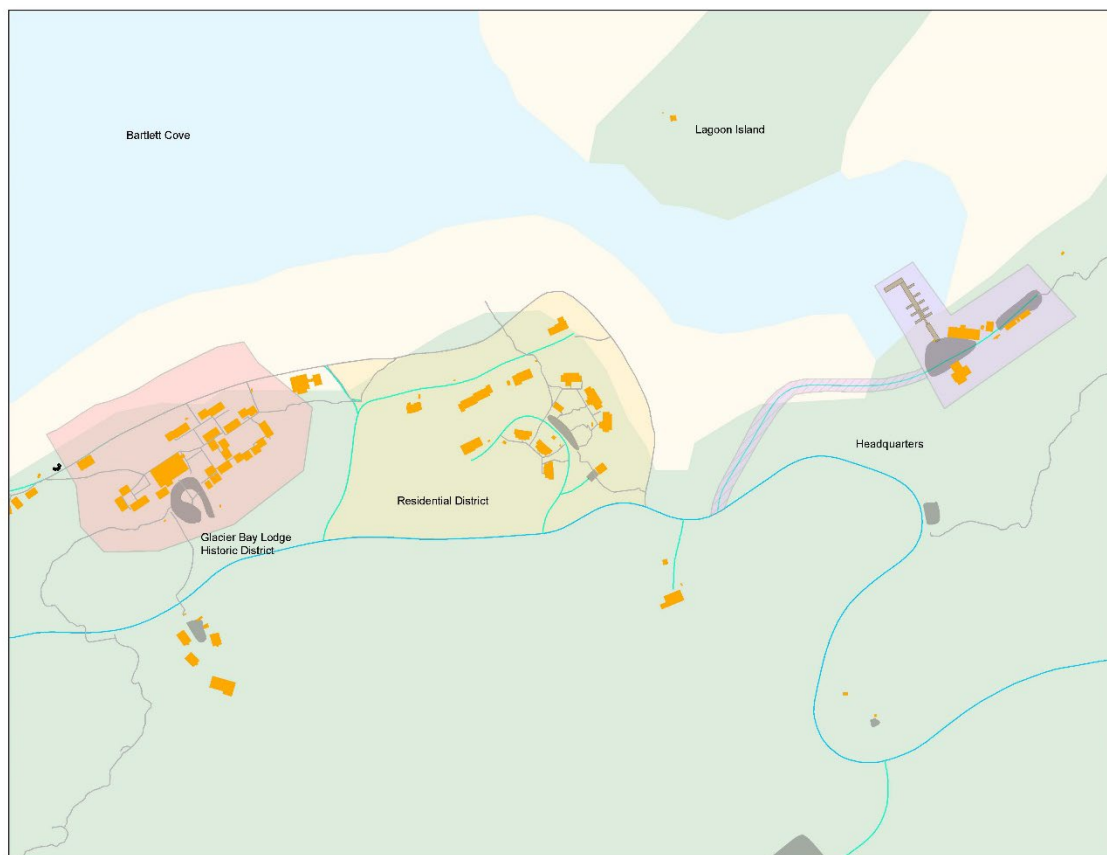
- To share with the public what is known about cultural resources and the Section 106 review process (54 U.S.C. §306108), which is a separate process from the NEPA analysis.
- To gather the initial information that will be needed for conducting Section 106 reviews for the 90+ proposed actions and to identify the historic properties\* that may potentially be affected (per the Section 106 process).



**Map shows the Bartlett Cove area within the dotted line that delineates the boundary of the Bartlett Cove Cultural Landscape/Traditional Cultural Property.**

**Some of the Historic Properties within the Plan (Bartlett Cove) Area:**

- Bartlett Cove Cultural Landscape Inventory/Traditional Cultural Property: all of the proposed actions identified in the tables are within this CLI/TCP, which was determined eligible for listing on the National Register and concurred with by SHPO in 2004
- Glacier Bay Lodge Complex Historic District and Cultural Landscape was determined eligible for listing on the National Register and concurred with by SHPO in 2011
- Historic properties that have been determined **not** eligible for listing on the National Register are within the Residential and Headquarters districts:
  - Glacier Bay Headquarters Compound, 2006 with update to include administrative road and parking area in 2018
  - Mission 66 Development within the Bartlett Cove Residential District, as identified on the map as the “Residential District”, was concurred with by SHPO in 2012
- Lagoon Island Cabin was determined eligible for listing on the National Register and concurred with by SHPO in 2018



**Map illustrates historic districts along the shoreline of Bartlett Cove. Seen on the far left is the Glacier Bay Lodge Historic District, in the center is the Residential District, on the right is the Headquarters area, and across the cove from the dock is Lagoon Island Cabin.**



**Next steps:**

When the park moves ahead to implement one or more of the proposed actions, the park Section 106 Coordinator will begin to review and identify historic properties that are within the Area of Potential Effect. This includes considering:

- if there are new or updated historic properties identified
- if a survey is needed to identify historic properties
- if the identified historic properties have been evaluated using National Register criteria and concurred with by SHPO
- the defining characteristics of the historic properties
- to consult with the Hoonah Indian Association and other interested parties
- to determine if there are potential adverse effects to historic properties, and to consider ways to avoid, minimize or mitigate
- in the process of determining potential effects to historic properties to include cumulative effects
- to follow the Section 106 process through to completion with applying the appropriate 106 pathway; either the streamlined process of the NPS 106 Programmatic Agreement of 2008 or the standard four-step process (following 36 Code of Federal Regulations Part 800)

**The following table includes:**

- proposed actions in the plan and EA (preferred alternative)
- historic properties that will be taken into consideration
- potential for archeological survey
- Note: table information may be incomplete with the proposed actions and identification information.
- Note: table page numbers for the plan and EA may slightly differ from the final documents

\*The Section 106 process uses the term “historic property”, which is defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. . . .” (36 CFR Part 800.16((l)(1)).

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**Table A-1. Planning for Section 106 — Proposed Actions in the GLBA Frontcountry Management Plan EA**

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
1	–	Retractable awning on backside of covered walkway.	Yes	No	Maybe
2	Yes	Retractable awning or permanent wood covered shelter for cultural demonstrations.	Yes	No	Maybe
3	–	Establish an area in front of Huna Tribal House to demonstrate traditional activities.	Yes	No	Yes
4	Yes	Provide ABAAS access to the beach.	Yes	No	Yes
5	–	Around Huna Tribal House, define vegetation clearing.	Yes	Maybe	Yes
6	Yes	In front of Huna Tribal House, prepare a 14,000-square-foot terrace to accommodate larger gatherings.	Yes	Likely Not	Yes
7	Yes	Install gate at top of Huna Tribal House driveway.	Yes	Maybe	Yes
8	–	Retain the ceremonial beach's natural character.	Yes	No	Yes
9	–	Maintain the 1987 Yuxch' canoe at its present site.	Yes	Maybe	No
10	–	Tribal transportation ferry between Hoonah and Bartlett Cove.	Yes	No	Yes
11	–	Address barriers to tribal members participating in Bartlett Cove.	Yes	Maybe	Maybe
12	–	Visibly celebrate the Park's Huna Tlingit homeland significance.	Yes	Maybe	Maybe
13	–	Implement the Huna Tribal House Strategic Plan.	Maybe	Maybe	Maybe
14	–	Accessible Ceremonial beach wayside.	Yes	No	Yes
15	–	Vegetation Management of the Lodge Complex.	Yes	Yes	Yes
16	Yes	Define viewscape intent and restore historic district viewsheds?	Yes	Yes	Yes
17	Yes	Develop defensible space and maintenance standards for managing vegetation?	Yes	Yes	Maybe
18	Yes	Remove nonhistoric additions to the lodge building. (Based off HSR recommendations).	Yes	Yes	Not likely
19	Yes	Remove NPS exhibits, and restore second floor to original design intent (as recommended in the HSR).	Yes	Yes	No
20	–	Feature select historic elements in the lodge and select cabins.	Yes	Yes	No
21	–	Install small kiosk for interpretation.	Yes	Yes	If inside then "No"
22	–	Complete Deferred Maintenance.	Yes	Yes	Maybe
23	–	ABAAS bathroom in the lodge.	Yes	Yes	No
24	–	ABAAS to the front door of the lodge.	Yes	Yes	Maybe
25	–	Install attractive entry features on the South and Northeast exteriors of the lodge.	Yes	Yes	Yes
26	–	Develop ABAAS Trail connecting lodge to Public Use Dock.	Yes		Yes

Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
27	–	Designate "Kids Corner" in the lodge.	Yes	Yes	No
28	–	Convert 2nd floor auditorium into a flexible multi-use space for internet and phone use.	Yes	Yes	No
29	Yes	Improve natural daylight, patio access, views and other functions such as a cafe in the 2nd floor auditorium.	Yes	Yes	No
30	–	Repurpose ground level area around north elevation for coffee shop, laundry, or flexible space.	Yes	Yes	Yes
31	–	Enhanced patio-overlook-terrace, with open-air seating around an amphitheater-style fire feature.	Yes	Yes	Maybe
32	Yes	Provide 4-6 upscale room offerings. "Combine two lodge units into one or build new; may include hot tub."	Yes	Yes	Maybe
33	Yes	Build new or remodel existing rooms to provide minimalist, year-round offerings with a kitchenette.	Yes	Yes	Yes
34	–	In a new or existing structure, consolidate camping services, public laundry, and showers.	Yes	Yes	Yes
35	–	Reduce parking at the lodge by providing alternative transportation.	Yes	Yes	Yes
36	–	Expand parking at lodge area to accommodate space for increased local use.	Yes	Yes	Yes
37	–	Remove Wi-Fi in lobby to provide improved visitor experience.	Yes	Yes	No
38	–	Look for opportunities to expand portfolio of room offerings.	Yes	Yes	No
39	–	Provide bar service with family-friendly atmosphere.	Yes	Yes	No
40	–	Look for opportunities to diversify food service.	Yes	Yes	Maybe
41	–	Provide a variety of eating experiences.	Yes	Yes	Maybe
42	–	Enhance ambiance; reduce use conflicts.	Yes	Yes	Maybe
43	–	Restore space uses and circulation to match the original architectural design intent.	Yes	Yes	No (assuming inside)
44	–	Improve lodge employee housing outside of the Lodge Historic District. Consider range or alternatives—total rehab, new modular and/or efficiency buildings or structures, yurt/wall tent options, buffer.	Yes	No	Maybe
45	Yes	Combine NPS visitor center and VIS to within a 2,900-square-foot, multi-story facility in the current VIS area.	Yes	No	Yes
46	–	Implement Discovery Center project—a signature new facility (up to 20,000 square feet) on the SE edge of the current VIS parking lot.	Yes	No	Yes
47	Yes	Discontinue maintenance on the 4-mile trail connector between Bartlett River Trail and Bartlett Lake. Perform minimal vegetation rehabilitation and place some large rocks on portions.	Yes	No	Yes

Table A-1.Planning for Section 106 – Proposed Actions in the EA

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
48	–	Incrementally construct new trail segments—add benches where appropriate, and design with "bump outs' and other approaches.	Yes	Maybe	Yes
49	–	Associated with trailheads, enhance trail network signage and wayfinding to support self-guided trail use.	Yes	Maybe	Yes
50	Yes	<b>Bartlett River Trail</b> —approx. 1.4 miles of new route would be built on the shoreline and along the tidal cut, as a narrower rustic boardwalk (up to 36" wide). The closed trail segment would no longer be maintained, and ≈.75 miles would be spot revegetated.	Yes	No (north of headquarters area)	Yes
51	Yes	All inner lagoon kayak operations—moved, consolidated site and boardwalk launch connector at the end of the expanded headquarters parking area.	Yes	Maybe	Maybe
52	Yes	<b>Inner Lagoon/Headquarters Trail:</b> Create a new trail (.5 miles). See document specific actions related to trail: i.e., Alder Creek footbridge, boardwalks, and helical piers. Mitigate for Historic Lodge Road considerations and to address resource concerns on the bridge and boardwalks.	Yes	Maybe (depending on where ends and Tlingit Trail begins)	Yes
53	–	<b>Tlingit Trail</b> —add new amenities that enable access-challenged visitors.	Yes	Yes	Maybe
54	Yes	<b>Forest Trail</b> - 1.5 miles. "new Shoreline Pavilion;" reroute portions for accessibility, interpretive overlooks, single lane soft tread trail; rerouting up to 800 linear feet of the existing trail. Rerouted sections would be constructed as 18" to 36" wide. Abandoned sections would be actively revegetated.	Yes	Yes	Yes
55	Yes	<b>Cooper's Notch Trail</b> (≈5 miles) new shoreline pavilion to the inner lagoon. Four miles of new trail would be created with tread ranging from 18" to 36" in width and include up to five hardened gathering and overlook points. Elevated boardwalk on helical piers would be used. An at-grade road-crossing feature would be prepared on the park entrance road.	Yes	No	Yes
56	Yes	<b>Point Gustavus Route</b> (5.5 miles) Minimalist, fully naturalized modifications (i.e., rock placement and spot planking) would be provided to help users navigate tides, water crossings, and sensitive habitat across 5.5 miles of shoreline.	Yes	No	Yes

Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
57	Yes	Consolidate and shift frontcountry kayaking commercial operations outside the Historic District to temporary/removable structures instead of permanent land assignments. Locate into a roughly quarter-acre area northeast of the fuel pier and southwest of the launch ramp. A shared, suitable place for group activities would be constructed under a new 200-square-foot rain shelter. A shared use area of up to 1,000 square feet with tree clearing ground hardening would be constructed to enable enhanced kayak launch access from the structures to the shoreline (short hardened single pathway, approximately 30 feet).	Yes	No	Yes
58	–	Up to 130 feet of pedestrian trail would be reconstructed and widened or newly built to support through traffic to the campground the expanded pedestrian circulation needs; kayaking commercial operations.	Yes	No	Yes
59	–	A portion of existing Beach Trail would be upgraded and extended with graded gravel or paving to support the vehicular access required to install and retrieve removable structures seasonally.	Yes	No	Yes
60	–	A space would be cleared for up to two small storage buildings (5' x 8') (concessioner provided) and kayak racks for rental.	Yes	No	Maybe
61	–	Increase the number of kayak racks in the frontcountry and consolidate to three locations: more specifics.	Yes	No	Maybe
62	–	Upgrade laundry and shower opportunities to serve backcountry users, campers, and private boaters.	Yes	No	Maybe - if new construction/soil disturbance
63	–	Adjust NPS public Wi-Fi coverage — i.e., "hotspots" for connectivity with plug-ins, seating, and congregation areas.	Yes	Maybe	Maybe - if new construction/soil disturbance
64	Yes	Rain Shelters: A 30' x 30' day-use pavilion for NPS demonstrations would be built on the beach and/or intertidal zone. Supporting access. See more specifics in plan.	Yes	Likely outside Historic District - confirm location	Yes
65	Yes	Build a 30' x 30' day use pavilion on the beach and/or tidal zone near the campground (clarify if same as above or new).	Yes	Likely outside Historic District - confirm location	Yes
66	Yes	A covered picnic area (up to 300 square feet) would be developed near the headquarters.	Yes	No	Yes



Table A-1.Planning for Section 106 – Proposed Actions in the EA

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
67	Yes	A small, drive-in campground would be developed that includes between four and six rustic, no-frills sites that could accommodate up to 30-foot-long RVs as well as other vehicles. The area could include picnic tables, fire pits, and tent sites. No utilities would be provided except a limited-service, small RV pump-out station and a nearby vermiculture composting toilet that also serves pavilion and parking area users). The campground would be located southwest of the expanded parking area, some vegetated buffers. Up to 1 acre of forest would be cleared during development.	Yes	No	Yes
68	Yes	Develop up to two, public use huts (260 square feet each) in the frontcountry. The huts would be connected to the existing campground group sites. Consider a multiple party use model with 12 bunds. No utilities would be provided except for but a bear-proof, gray water disposal, vermiculture leach system for cleaning dishes.	Yes	No	Yes
69	–	Relocate campers' storage shed in closer proximity to campground.	Yes	No	Yes
70	Yes	Phase-in a public mooring facility. Over time, this may include up to 40 boat moorings that would be installed to include float, rode, and helical fixed anchor at the bottom.	Yes	Maybe	TBD
71	Yes	Boat launch ramp, removing accumulated sediment.	Yes	No	TBD
72	–	Park entrance road—Provide wayfinding and/or signage in the park and in key town locations.	Yes	Maybe	Yes
73	–	Develop additional visitor parking capacity within walking distance of the VIS to facilitate access to Bartlett Cove.	Yes	No	Maybe
74	–	Phase 1) Use existing paved area and disturbed footprint near generator building public and staff parking. Up to 25,000 square feet of forest would be cleared with an expanded gravel pad and pavement installed to support up to 58 total parking spots and new ABAAS pedestrian connectors to the VIS and dock area. ABAAS accessible trail approx. 600 linear feet, up to 36" wide.	Yes	No	Yes
75	Yes	Widen the entire main access road up to 60" to support on-grade bike and pedestrian use on one side. The road would be constructed for year-round, active transportation (bike, pedestrian, and ski).	Yes	No	Maybe
76	–	Enhance pedestrian and bicycle connectivity and safety proximate to Bartlett Cove roads, facilities, and parking areas when physically feasible and cost effective.	Yes	Maybe	Yes
77	–	Provide a well-defined network of walkways.	Yes	Maybe	Maybe
78	–	Strategically locate trailhead parking to serve an expanded trail network.	Yes	Maybe	Maybe
79	–	Upgrade frontcountry facilities and operations for electrical efficiency.	Yes	Maybe	Maybe

Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
80	–	Intentionally link park housing, headquarters, and maintenance with footpath connectors.	Yes	Maybe	Maybe
81	–	Minimize the footprint of park operations and facilities by concentrating and consolidating park operations where possible and removing obsolete assets.	Yes	Maybe	Maybe
82	–	Consolidate emergency response equipment storage from four existing locations into one in the existing generator building with facility adaptations. Enhance operational capacity and efficiency by reprogramming emptied-out areas.	Yes	Maybe	Maybe
83	Yes	Replace the 1958 headquarters building to address deferred maintenance and significant deficiencies. Construct a replacement of up to 6,000 square feet nearby within the historic disturbance footprint, while keeping with the original character of the area.	Yes	No	Yes
84	Yes	Upgrade headquarters road—may include paving; redesign to meet staff parking demands.	Yes	No	Yes
85	Yes	Develop a new ABAAS restroom(s) near park headquarters that supports public access as a 400 square foot new structure located on the concrete pad of the existing headquarters building (after it is replaced). It would include multi-modal hub and trail amenities (covered area, ABAAS restroom, and wayfinding).	Yes	No	Maybe
86	–	Develop additional housing and associated facilities in the seasonal housing area off the existing service road. Total area of development would not exceed 0.5 acres.	Yes	No	Yes
87	Yes	Develop new dormitory-style housing or a bunkhouse (up to 2,000 square feet in size) in the seasonal housing area southwest of the existing duplexes for seasonal employees. May include additional parking for up to eight vehicles (up to 2,000 square feet in parking).	Yes	No	Yes
88	Yes	Construct three RV pads with electrical and water hook ups (totaling up to 8,000 square feet) at the end of the seasonal housing area service road to accommodate RV housing.	Yes	No	Yes
89	–	Buffer park employee housing from Tribal House use and associated activities.	Yes	No	Maybe
90	Yes	Develop a new rain shelter in a central open area between the park entrance road and the park seasonal duplexes. Construct outdoor area. New parking would be included in the vicinity for up to six vehicles, with boardwalks extended to link to nearby housing (up to 150 linear feet). May include clearing up to 1,500 square feet of forest. Retain vegetative buffers so the shelter is not visible from the main road.	Yes	No	Yes

Table A-1.Planning for Section 106 – Proposed Actions in the EA

Action ID	Analyzed in EA?	Proposed Action - Language from the Vision Plan (may differ in the EA)*	within CL/TCP	Within Lodge Historic District	Will need archaeological survey
91	Yes	Remove hazard and wind-throw risk trees in a half-acre area above the cut bank south of employee housing and north of the park entrance road. Actively manage for wind stability.	Yes	No	Yes - removing stumps?
92	Yes	Define vegetation management and clearing desired conditions for each park structure. Intentionally consider cultural landscape, protection of structures and assets, building use, visitor experience and landscape succession. Maintain defined conditions.	Yes	Maybe	Probably
93	–	Define vegetation management conditions for each road and trail, consider. Maintain defined conditions.	Yes	Maybe	Maybe
94	Yes	Electrical Intertie to Falls Creek Hydroelectric—a separate Section 106 review is already in process.	Yes	No	TBD

\*Summary description provided for reference. See plan for full description of proposed actions.

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## **APPENDIX B: ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT SECTION 810 ANALYSIS**

### **ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT 810 SUBSISTENCE**

#### **Summary Evaluation and Findings**

##### **I. INTRODUCTION**

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

##### **II. 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, Section 202 of ANILCA expanded Glacier Bay National Monument by the addition of an area containing approximately 523,000 acres. ANILCA re-designated the monument was as Glacier Bay National Park. Along the south bank of the Alsek River at Dry Bay, Alaska, approximately 57,000 acres was designated as Glacier Bay National Preserve.

ANILCA Section 202(1), created the park 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 Glacier Bay National Park only. However, ANILCA (Sections 1313) and Title 36 Code of Federal Regulations (CFR) (Section 13.41) authorize subsistence uses on federal lands in Glacier Bay National 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 Glacier Bay National 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 §810(a))

### III. PROPOSED ACTION ON FEDERAL LANDS

The plan is intended to update the vision for visitor experiences, facilities, and services, and to guide day-to-day NPS decisions and activities within a "frontcountry" planning area encompassing 7,120 acres of scenic rainforest and coastal waters in Southeast Alaska (*see figure 1 from Part I*).

Alternatives A, B, and C are described in detail in the environmental assessment (EA). Customary and traditional subsistence use on National Park Service (NPS) lands would continue as authorized by federal law under all alternatives.

The preferred NPS alternative (C) proposes to continue historic NPS management directions for this area as a concentrated visitor use and development zone, and expands offerings and operations to serve as a welcoming destination that strengthens visitors' connections to larger park purposes—whether or not they are able to explore further into the park.

### IV. AFFECTED ENVIRONMENT

Subsistence uses, as defined by ANILCA Section 810, means:

"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, and wood or other materials.

Subsistence uses, as defined by ANILCA, Section 810, means "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, and 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 rural communities of the region 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 544), Hoonah (773), Elfin Cove (14), Pelican (67), Excursion Inlet (11), Sitka (8,748) and Yakutat (552) engage in subsistence uses near the boundaries of Glacier Bay National Park (ADOL 2017). 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 with the exception of Glacier Bay National Park, Katmai National Park, Kenai Fjords National Park, Klondike Gold Rush National Historical Park, the “old” Mount McKinley National Park, and Sitka National Historical Park. ANILCA provides a preference for local rural residents over other consumptive users should a shortage of subsistence resources occur and allocation of harvest becomes necessary.

The main subsistence species, by edible weight, are salmon, deer, non-salmon fish, marine invertebrates, bears (black and brown) 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 (ADF&G 2012).

ANILCA and NPS regulations authorize subsistence use of resources in Glacier Bay National Preserve and prohibit subsistence uses in Glacier Bay National Park (Codified in 36 CFR, part 13). Legislation enacted in 2000 (P.L. 106-455) and a legislative environmental impact statement (LEIS) authorize the limited harvest of glaucous-winged gull eggs by the Huna Tlingit in Glacier Bay National Park under a management plan cooperatively developed by the NPS 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 prohibit it. Further, current U.S. 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 Glacier Bay National Park remain closed to all subsistence harvesting.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife and other renewable natural resources. A subsistence harvest in any given year may vary considerably from previous years because of such factors as weather, migration patterns, and natural population cycles. However, the pattern is assumed to be generally applicable to harvests in recent years with variations of reasonable magnitude.

## **V. 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 (a) reductions in numbers; (b) redistribution of subsistence resources; or (c) habitat losses;
- the affect the action might have on subsistence fishing or hunting access; and

- the potential to increase fishing or hunting competition for subsistence resources.

**1. The Potential to Reduce Populations:**

The implementation of the Frontcountry Management Plan alternatives is not expected to adversely affect or significantly restrict the distribution or migration patterns of subsistence resources. Therefore, no change in the availability of subsistence resources is anticipated as a result of the implementation of this proposed action.

**2. Restriction of Access:**

The proposed action 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 alternatives. Glacier Bay National Park is closed to ANILCA Title VIII subsistence uses.

**3. Increase in Competition:**

The proposed action is not expected to significantly restrict or 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 users groups.

**VI. AVAILABILITY OF OTHER LANDS**

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

**VII. ALTERNATIVES CONSIDERED**

The EA and this evaluation have described and analyzed the proposed alternatives. The proposed actions are consistent with NPS mandates, ANILCA, and the GMP for the park and preserve. No other alternatives that would reduce or eliminate the use of public lands needed for subsistence purposes were identified.

**VIII. FINDINGS**

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

## REFERENCES

Alaska Department of Labor (ADOL).

2017 Southeast Alaska Population by Age, Sex and Borough/Census Area, 2010 to 2017.

Alaska Department of Fish and Game (ADF&G)

2012 Community Subsistence Information System – All Years. Accessed April 2012 at [www.adfg.alaska.gov/sb/CSIS/index.cfm?ADFG=harvInfo.resourceRegionData](http://www.adfg.alaska.gov/sb/CSIS/index.cfm?ADFG=harvInfo.resourceRegionData).

Holleman, M. and J. Kruse

1991 Hunting and Fishing in Southeast Alaska. Alaska Review of Social and Economic Conditions, Institute of Social and Economic Research, University of Alaska Anchorage.

## **APPENDIX C: INDICATORS, THRESHOLDS, AND VISITOR CAPACITY**

This appendix provides additional information about indicators, thresholds, and visitor capacity as it relates to the Glacier Bay National Park and Preserve Frontcountry Management Plan. For additional resources in the framework, please visit the following web address: <http://visitorusemanagement.nps.gov/> for a full description of the Interagency Visitor Use Management Council (IVUMC).

Indicators translate the broad description of desired conditions into measurable attributes that could be tracked over time to evaluate change in resource or experiential conditions. These are a critical component of the visitor use management framework (the framework) and are considered common to all action alternatives. The planning team considered many potential issues and related indicators that would identify impacts of concern, but those described below were considered the most useful, given the importance and vulnerability of the resource or visitor experience affected by visitor use. The planning team also reviewed the experiences of other park units with similar issues to identify meaningful indicators. This plan seeks to expand recreation opportunities in a responsible and thoughtful way and these indicators will provide meaningful feedback that will continually inform management to ensure focused expansion and the desired conditions are being met and resources and experiential conditions are protected. The selected indicators are measures for success and were selected as top priorities. Other future indicators could be developed at a later time as additional planning and research is completed.

Thresholds that represent the minimum acceptable condition for each indicator were then established, taking into consideration the qualitative descriptions of the desired conditions, data on existing conditions, relevant research studies, staff management experience, and scoping on public preferences. Although defined as “minimally acceptable,” thresholds still represent acceptable conditions. In addition, establishing thresholds does not imply that no action would be taken prior to reaching the threshold. One goal of visitor use management is to strive to make progress toward desired conditions. Thresholds identify when conditions are about to become unacceptable and accordingly serve as a “line in the sand,” letting managers and the public know that corrective action must be taken to keep conditions acceptable so that progress toward desired conditions can be achieved over time.

Indicators and thresholds and associated potential adaptive management strategies that would be implemented because of this planning effort are described below. In this plan, thresholds and adaptive management strategies at times vary by alternative. These variations reflect the content of the management strategies ascribed for each alternative. For example, if access to a site is limited in one alternative, the threshold will be different than in an alternative where visitor opportunities remain the same or are expanded at that same site. Where actions across the alternative do not result in differences of visitation to sites, the thresholds do not vary.

Some management strategies vary across alternatives and would be implemented upon completion of the plan to ensure thresholds are maintained and desired conditions are achieved. Several of these strategies are currently in use at Glacier Bay National Park and Preserve and may be increased in response to changing conditions. If new strategies are needed, an analysis would be prepared to identify the most effective and feasible action for implementation.

Implementation of some of these management strategies and of new strategies in the future may require additional compliance and public involvement.

Visitor use management is an iterative process in which management decisions are continuously informed and improved through monitoring to determine the most effective way to manage visitor use to attain desired visitor experience and resource conditions. As monitoring of conditions continues, managers may decide to modify or add indicators if better ways are found to measure important changes in resource and experiential conditions. Information on the NPS monitoring efforts, related visitor use management actions, and any changes to the indicators and thresholds would be available to the public.

The adaptive management approach uses the precautionary principle that promote science-based decisions, helps the park deal with uncertainty, and promotes a culture of learning (DO #100, pg. 6). Adaptive management in the context of indicators and thresholds means the park will use information and experience learned from monitoring to evaluate and adjust methods of implementation and modify management objectives as needed to ensure it is making progress toward protecting the park's fundamental resources and values and achieving the desired conditions.

Indicators and thresholds were identified by the interdisciplinary team in December 2016. A list of indicators and thresholds was identified during the alternatives workshop when the group also reviewed the purpose of the Park, fundamental resources and values, and desired conditions as well as potential management actions that would be included in the frontcountry management plan. The interdisciplinary team discussed ongoing monitoring efforts, identified indicator topics, and then selected indicators and established thresholds. The selected indicators and thresholds were selected to support staff in assessing conditions and informing management actions in the future, if needed.

Lodge occupancy is an important measure of economic viability for Bartlett Cove. Although there is not an indicator and threshold related to lodge occupancy rates, the park will continue to monitor and record lodge occupancy rates.

### **Indicator: Trail condition in response to natural processes**

**Rationale for Indicator.** The visitor use, experience, and access desired condition for the frontcountry includes opportunities for visitors to experience different ecosystems, as well as opportunities to view wildlife and other natural processes and resources without interrupting natural pathways. It is important to note that ecological process and isostatic rebound are currently affecting trail conditions and subsequently changing visitor opportunities to have key frontcountry experiences.

This indicator will provide staff with information on trail encroachment from the dynamism and succession of the temperate rainforest (e.g., undergrowth). This indicator will also inform management of the extent of visitor-caused incision and widening of trails. By tracking changes over time, NPS staff can understand if natural changes that are occurring and if maintenance solutions are effective. Trail width and trail incision have long been documented in literature as measures of trail condition. Desired trail width is based off the location of the trail, and the thresholds express the desired trail width that is in response to natural processes as well as

visitor use and the management intent for the trail or trail segment. The park has also adopted the US Forest Service (USFS) Trail Assessment and Condition Survey to monitor trail conditions and inform future management (*see table C-1*).

Monitoring trail condition would inform park managers to reroute the trail; construct differently; or reinforce, widen, or change type of use. This information would provide two decision points for trail management; they are: 1) evaluate the trail class level, and 2) relocate or reroute the trail.

**Threshold:** 50% of trail is no longer meeting trail class description (*see table C-1*)

Adaptive management actions:

- Consider increased maintenance intervals.
- Pursue additional supporting partners and/or grants to help support maintenance of any new trails.
- Evaluate appropriateness of trail class.
- Reroute the trail and allow natural processes to take over.
- Trail use limits

Monitoring strategies: The National Park Service will continue trail condition assessments and make improvements or relocations as funding and staffing allow. The park could also install an infrared counter to monitor trail use levels.

Trail Classes are general categories reflecting trail development scale, arranged along a continuum. The US Forest Service identified the Trail Class Matrix as part of their Trail Assessment and Condition Survey User Guide. The trail class identified prescribes its development scale, representing its intended design and management standards.<sup>1</sup> Local deviations from any Trail Class descriptor may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class. The National Park Service has adopted the USFS Trail Classification and uses the Trail Assessment and Condition Survey User Guide (USFS TRACS 2011, pg. 33).



**Table C-1. US Forest Service Trail Class Matrix (FSH 2353.142, Exhibit 01)**

<b>Trail Attributes</b>	<b>Trail Class 1 Minimally Developed</b>	<b>Trail Class 2 Moderately Developed</b>	<b>Trail Class 3 Developed</b>	<b>Trail Class 4 Highly Developed</b>	<b>Trail Class 5 Fully Developed</b>
<b>Tread and Traffic Flow</b>	<p>Tread intermittent and often indistinct. May require route finding.</p> <p>Single lane, with no allowances constructed for passing.</p> <p>Predominantly native materials.</p>	<p>Tread continuous and discernible, but narrow and rough.</p> <p>Single lane, with minor allowances constructed for passing.</p> <p>Typically native materials.</p>	<p>Tread continuous and obvious.</p> <p>Single lane, with allowances constructed for passing where required by traffic volume in places where there is no reasonable opportunity to pass.</p> <p>Native or imported materials.</p>	<p>Tread wide and relatively smooth, with few irregularities.</p> <p>Single lane, with allowances constructed for passing where required by traffic volume in places where there is no reasonable opportunity to pass.</p> <p>Double lane where traffic volume is high and passing is frequent.</p> <p>Native or imported materials.</p> <p>May be hardened.</p>	<p>Tread wide, firm, stable, and generally uniform.</p> <p>Single lane, with frequent turnouts where traffic volume is low to moderate.</p> <p>Double lane where traffic volume is moderate to high.</p> <p>Commonly hardened with asphalt or other imported material.</p>
<b>Obstacles</b>	<p>Obstacles common, naturally occurring, often substantial, and intended to provide increased challenge.</p> <p>Narrow passages; brush, steep grades, rocks and logs present.</p>	<p>Obstacles may be common, substantial, and intended to provide increased challenge.</p> <p>Blockages cleared to define route and protect resources.</p> <p>Vegetation may encroach into trailway.</p>	<p>Obstacles may be common, but not substantial or intended to provide challenge.</p> <p>Vegetation cleared outside of trailway.</p>	<p>Obstacles infrequent and insubstantial.</p> <p>Vegetation cleared outside of trailway.</p>	<p>Obstacles not present.</p> <p>Grades typically &lt; 8%.</p>

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
<b>Constructed Features and Trail Elements</b>	Structures minimal to non-existent.  Drainage typically provided without structures.  Natural fords. Typically no bridges.	Structures of limited size, scale, and quantity; typically constructed of native materials.  Structures adequate to protect trail infrastructure and resources.  Natural fords. Bridges as needed for resource protection and appropriate access.	Structures may be common and substantial; constructed of imported or native materials.  Natural or constructed fords. Bridges as needed for resource protection and appropriate access.	Structures frequent and substantial; typically constructed of imported materials.  Constructed or natural fords. Bridges as needed for resource protection and user convenience. Trailside amenities may be present.	Structures frequent or continuous; typically constructed of imported materials. May include bridges, boardwalks, curbs, handrails, trailside amenities, and similar features.
<b>Signs<sup>2</sup></b>	Route identification signing limited to junctions.  Route markers present when trail location is not evident.  Regulatory and resource protection signing infrequent.  Destination signing, unless required, generally not present.  Information and interpretive signing generally not present.	Route identification signing limited to junctions.  Route markers present when trail location is not evident.  Regulatory and resource protection signing infrequent.  Destination signing typically infrequent outside wilderness areas; generally not present in wilderness areas.  Information and interpretive signing uncommon.	Route identification signing at junctions and as needed for user reassurance.  Route markers as needed for user reassurance.  Regulatory and resource protection signing may be common.  Destination signing likely outside wilderness areas; generally not present in wilderness areas.  Information and interpretive signs may be present outside wilderness areas.	Route identification signing at junctions and as needed for user reassurance.  Route markers as needed for user reassurance.  Regulatory and resource protection signing common.  Destination signing common outside wilderness areas; generally not present in wilderness areas.  Information and interpretive signs may be common outside wilderness areas.  Accessibility information likely displayed at trailhead.	Route identification signing at junctions and for user reassurance.  Route markers as needed for user reassurance.  Regulatory and resource protection signing common.  Destination signing common.  Information and interpretive signs common.  Accessibility information likely displayed at trailhead.

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
<b>Typical Recreation Environments and Experience<sup>3</sup></b>	Natural and unmodified.  ROS: Typically Primitive to Roded Natural.  WROS: Typically Primitive to Semi-Primitive.	Natural and essentially unmodified.  ROS: Typically Primitive to Roded Natural.  WROS: Typically Primitive to Semi-Primitive.	Natural and primarily unmodified.  ROS: Typically Primitive to Roded Natural.  WROS: Typically Semi-Primitive to Transition.	May be modified.  ROS: Typically Semi-Primitive to Rural  WROS: Typically Portal or Transition.	May be highly modified. Commonly associated with visitor centers or high-use recreation sites.  ROS: Typically Roded Natural to Urban.  Generally not present in Wilderness areas.

<sup>1</sup> For National Quality Standards for Trails, Potential Appropriateness of Trail Classes for Managed Uses, Design Parameters, and other related guidance, refer to FSM 2353 and FSH 2309.18.

<sup>2</sup> For standards and guidelines on the use of signs and posters on trails, refer to the Sign and Poster Guidelines for the US Forest Service (EM-7100-15).

<sup>3</sup> The Trail Class Matrix shows combinations of Trail Class and Recreation Opportunity Spectrum (ROS) or Wilderness Recreation Opportunity Spectrum (WROS) settings that commonly occur, although trails in all Trail Classes may and do occur in all settings. For guidance on the application of the ROS and WROS, refer to FSM 2310 and 2353 and FSH 2309.18.

## Indicator: Encounter rates on trails

This indicator measures the number of people trail users encounter per day as they are traveling along a trail and is related to hikers' perceptions of crowding along park trails in the frontcountry. The indicator would allow park staff to monitor the general type of experiences that users have along trails. Researchers and managers have historically considered encounters to be a primary measure of solitude.

**Threshold:** No more than four groups encountered every hour along designated trails, with 20% of observations allowed to exceed the encounter threshold.

Bartlett River Trail and Point Gustavus Route: No more than three groups encountered every three hours along designated trails, with 20% of observations allowed to exceed the encounter threshold. These two trails enter designated Wilderness.

**Rationale:** To ensure that desired conditions are protected, the National Park Service would immediately address early indications of unanticipated increases in encounter rates. More frequent monitoring will allow managers to identify permanent changes in use patterns and take appropriate actions.

Adaptive management actions:

- Develop and implement a public information effort about the desired conditions for the park and actions the National Park Service is taking to achieve those conditions. This information could be distributed through direct visitor contact, park publications (online and printed), and wayside exhibits. The goal would be to have visitors self-disperse or come during lower use times of the day or season to accommodate similar levels of trail use without concentrating use during peak periods.
- Provide visitor trend data on the website to allow park users to understand when they might be able to obtain a more desirable experience.
- Expand awareness and education on the variety of trail options and opportunities through multiple public information channels and by coordinating with local partners to help disperse NPS trail information.
- Operating plans for concessions would be revisited annually by NPS staff with concessioners to ensure desired conditions are maintained. *See visitor use and experience mitigation measures for more information (appendix D).*

**Monitoring strategies:** Conduct encounter rate monitoring on all frontcountry trails. Monitoring protocol will be developed in the future.

**Indicator: The number of times a boat is observed independently anchoring**

**Rationale for Indicator.** The fixed mooring system aims to reduce the scouring and other sea floor or safety impacts that result from improperly placed anchors or anchoring during rough seas. However, there are several uncertainties associated with the design and installation of the system that will be addressed during implementation phases.

Managing the efficient use of moorings can help the National Park Service right-size the number and spacing of moorings to meet changing demand patterns, support visitor safety, and simultaneously protect marine resources. Monitoring of this indicator will inform the park about relative demand for mooring use by observing the number of times independent anchoring occurs. The number of moorings could then be adjusted throughout the implementation of this plan, responsive to demand and consistent with the park purpose and significance.

The park will follow best management practices for mooring installation and maintenance. This indicator was informed by the “Water and Land Recreation Opportunity Spectrum, Users’ Handbook, Second Edition (WALROS 2011).

**Threshold:** No more than four observations per month of boats independently anchoring for more than 12 hours each.

**Adaptive Management Actions:**

- Pilot implementation in phases to study impacts and help the park better understand design performance specific to local conditions (NRSS 2015).
- Consider increasing the number of moorings or decreasing the number of moorings.
- Consider long-term and short-term mooring opportunities. If moorings are not meeting demand, consider reservation system for long-term (1+ day) mooring opportunities.
- Adjust the length and/or elasticity of the rode and the type of anchor (helical or deadweight) based on instances of dislodgement.
- Change the spacing and location of anchor points as necessary to minimize the risk of strong westerlies dislodging anchors.
- Switch to another type of mooring system.
- Increase number of signs and information related to mooring, including location, timing, and other use.
- Improve understanding of ocean floor resources.
- Increase efforts toward public education regarding pertinent park regulations.
- Increase enforcement of existing dock and mooring regulations.
- If there are challenges with use of the mooring system (e.g., increase in trash, damage to ocean floor, mooring failures), then the park could consider reducing the vessel size for boats allowed to anchor.

**Monitoring Strategies:**

- Continue to monitor law enforcement warnings and incidents related to unauthorized anchoring in Bartlett Cove.
- Periodic monitoring by park staff and volunteer observations of moored and anchored vessels.
- Tracking of complaints related to mooring opportunities along with existing tracking of visitor complaints.
- Daily monitoring of mooring usage.

- Establish a scuba diving program with contractors or NPS staff capable of periodically assessing mooring integrity on an ongoing basis, and improve knowledge of seabed resources to assess impacts.
- Record specific boat and mooring characteristics as well as environmental factors (i.e., current, tide, substrate, wind speed and direction, etc.) for all incidences / system failures.

## **VISITOR CAPACITY IDENTIFICATION**

### **Overview**

Visitor use management is the proactive and adaptive process of planning for and managing characteristics of visitor use and its physical and social setting using a variety of strategies and tools to sustain desired resource conditions and visitor experience. Visitor capacity is a component of visitor use management defined as the maximum amount and types of visitor use that an area can accommodate, while sustaining desired resource conditions and visitor experiences consistent with the purpose for which the area was established.

By identifying and implementing visitor capacities, the National Park Service can help ensure that resources are protected and that visitors have the opportunity for a range of high-quality experiences. The National Park Service is legally required to complete general management plans that include identification and implementation of commitments for visitor carrying capacities for all areas of the system unit (54 USC 100502) as outlined by the 1978 National Parks and Recreation Act. The environmental assessment contributes to meeting this legal requirement by providing additional detailed direction and analysis for visitor capacity that is consistent with or amends the Park's general management plan.

### **Process for Identifying Visitor Capacity**

The approach for developing visitor capacities is based on the framework and associated publications and is consistent with the literature and best practices on this topic (IVUMC 2016). Visitor capacities were identified using best practices, relevant research, professional judgement, and examples from other plans and projects across the National Park Service. Based on these best practices, the process for identifying capacity comprises the following four key guidelines: 1) determining the analysis area(s), 2) reviewing existing direction and knowledge, 3) identifying the limiting attribute(s), and 4) identifying visitor capacity.

**Guideline 1: Determine the Analysis Area.** The amount, timing, distribution, and types of visitor use in the frontcountry of the park influence both resource conditions and visitor experiences. Currently, there is moderate demand for recreational opportunities within the Park, particularly between May and September. The primary activities for visitors are hiking, bicycling, kayaking, camping, wildlife viewing, fishing, and foraging. Many visitors use the frontcountry to participate in water-based activities such as boating, and kayaking. Since the scope of the plan is to address the management of the frontcountry, the primary user groups that will be included in this capacity analysis are the hikers, bicyclists, kayakers. Further guidance for addressing visitor capacity will be found in subsequent implementation level plans such as site plans, a wilderness management plan, and a vessel management plan, among others.

Following guidance from the Interagency Visitor Use Management Council, the level of analysis that occurs during visitor use management planning and visitor capacity identification is based on a sliding scale depending on the complexity and context of the plan. The sliding scale includes criteria such as issue uncertainty, impact risk, stakeholder involvement, and the level of controversy. The frontcountry management plan is not highly complex, and after reviewing the previous criteria, the frontcountry management plan is on the lower end of the sliding scale spectrum. This lower level of complexity suggests this capacity identification could analyze one area of analysis, the frontcountry. Often times, the capacity identification is typically presented based on key areas; however, the key areas of the frontcountry have many overlapping uses. Thus, to prevent redundancy, this capacity identification has used the main visitor use types that occur in the frontcountry. The visitor capacity will be for the frontcountry area of the Park and will describe the various components that contribute to the frontcountry analysis area.

The identification of visitor capacity for the frontcountry is most meaningfully calculated by the mechanisms by which visitors access this area of the Park, recognizing that this area is not a closed system. For example, a portion of the overnight guests on any given day are going on the day boat up bay, a fishing charter, or are leaving the frontcountry for the day. Every day, visitors will engage in activities that are outside of the frontcountry and are, thus, not contributing to daily total usage of the frontcountry. In addition, some visitors are using frontcountry as a gateway to the wilderness. For example, campgrounds are often used by kayakers who are embarking or disembarking for their trip to Glacier Bay Wilderness. Major mechanisms that visitors use to access the frontcountry include the road (by vehicle, bicycle or transit), or by water (by private or commercial tour vessels). The visitor capacities do vary by alternative and are labeled as such.

Visitor use types described below will include an overview of the setting, relevant indicators, visitor use issues, current use levels, and visitor capacity identification. Future monitoring of use levels and indicators will inform the National Park Service if visitor capacities are encroached. If so, adaptive management actions as outlined in this plan would be taken.

**Guideline 2: Reviewing Existing Direction and Knowledge.** The planning team reviewed desired conditions and indicators and thresholds with particular attention to conditions and values that must be protected and are most related to visitor use levels. Current use levels have been informed by relevant data and studies. In addition, the actions contained in each alternative were considered during the visitor capacity process.

Previous planning also informed this capacity identification. For example, the 1989 wilderness visitor use management plan set the number of guided overnight kayak trips as well as the use limits for wilderness areas (i.e., group size, group spacing, etc.); however, it did not set the capacity for the Bartlett Cove area because it is not designated Wilderness, stating: “The NPS intends to evolve working carrying capacity figures for management units, beginning with those receiving heaviest use, employing the best data and management judgement available.” The 1998 comprehensive design plan for Bartlett Cove included a visitor capacity. The no-action alternative will carry forward the 1998 CDP visitor capacity. The 1998 comprehensive design plan determined the social carrying capacity for frontcountry estimated at about 230 visitors per day (1998 GLBA CDP).

The peak visitation season for the park is between May and September. *For a full description of visitor levels and frontcountry activities, see the affected environment in chapter 3.* In 2016, 516,400 visitors came to the park between May and September, accounting for 99% of the Park’s total



visitation for the year. For 2017, 544,227 visitors came between May and September, again 99% of the total visitation for the year. A large number of visitors arrive to the park via cruise ship and spend few hours in Bartlett Cove (passengers do not disembark the cruise ship within Glacier Bay National Park and Preserve). In 2009, visitation from non-major cruise lines was approximately 19,700 (Prizm 2011). The total Bartlett Cove visitation from 2009 comprises approximately 4.5% of overall visitation to the park. It is likely, that visitation to the park from non-major cruise lines has slightly increased along with the overall park visitation. In 2009, park visitation was 438,300 visitors, and in 2016, park visitation was 520,170. Thus, park visitation from non-major cruise (i.e., non-cruise ships) lines is estimated to be approximately 23,400 assuming the portion of non-major cruise line visitors has remained constant.

The pattern and level of visitor use is changing now that new options for reaching the park exist. Until recently, Bartlett Cove was not connected to the nation's road system. New service by the Alaska Marine Highway System now permits private vehicle, small RV, and motorcycle users to reach Bartlett Cove. Visitors may bring towable boats, bicycles, and their own kayaks or other watercraft with them instead of relying on local services. Currently, there are approximately 16 parking spaces near the Visitor Information Station; however, these spaces are also used as staging areas and for loading and unloading of boats at the dock.

Visitor opportunities to the frontcountry includes the visitor center, kayaking, and exploring one of the many trails such as the Bartlett River Trail. Visitors can also enter the frontcountry for the day via the park dock. There are a number of charter vessel and tour vessel concessioners and private boat operators who dock their boats for a period of time during the day and explore the frontcountry area trails and services. Currently group sizes range from 10 to 20 visitors and can be as high as 120 at one time when visitors and crew are combined.

Currently, the park daily vessel quotas for 25 private vessels, six charter, and three tour boats for approximately 350 visitors per day. NPS public use statistics assume that there are 2.5 people per private vessel, a maximum of 8 visitors on charters, and a maximum of 80 visitors on a tour boat. At this time, the dock is not being reconfigured and the amount of the visitor use is acceptable. Visitors arriving by boat typically disperse on guided hikes or to the visitor facilities provided near the dock. Under the destination alternative, there would be more trails, services, and other visitor opportunities for visitors to engage in, which will provide for increased opportunities overall for visitor use within the frontcountry.

Current overnight use opportunities in the frontcountry include tent camping at the walk-in Bartlett Cove Campground and overnight lodging at the lodge. The campground has 35 sites that can accommodate six-person groups and a group camping area. The campground sites are peaceful and the views are fantastic; visitors have opportunities to listen to songbirds and see whales feeding at the same time from their tents. In 2016, there were approximately 900 tent campers. Over the last 10 years (2007-2016), the average number of tent campers has been 658, ranging from approximately 390 campers in 2009 to 900 campers in 2016.

The lodge has 56 overnight guest rooms; however, eight are used for employee housing, leaving 48 rooms currently available for visitors. In 2016, there were approximately 11,000 visitors that stayed at the lodge. Over the last several years (2009-2018, excluding 2015), between 4,000 visitors and 7,700 visitors stayed at Glacier Bay Lodge. In 2018, the Glacier Bay Lodge had an average daily occupancy rate of 69% with 6,805 overnight guests. In 2017, there were 7,771 overnight guests with an occupancy rate of 75%. In 2016, the Glacier Bay Lodge had an average daily occupancy rate of 66% and 7,632 overnight guests. In addition, the Glacier Bay Lodge had zero visitors turned away in 2016.

**Guideline 3: Identify the Limiting Attribute(s).** In the frontcountry, the limiting attribute throughout the analysis area for all use types is the visitor experience. The visitor experience refers to the desired visitor experience on trails, in parking areas, in the lodge, and other key visitor experiences in the frontcountry. As the sole developed area in the Park, the frontcountry offers visitors recreational activities, including ranger-led activities and programs, interpretive trails and exhibits, and visitor facilities and amenities that are not available elsewhere in the Park. Visitor experience is a fundamental resource and value of Glacier Bay National Park and Preserve to provide diverse opportunities for visitors to experience a dynamic tidewater glacial landscape (Foundation Document 2014).

At this time, the frontcountry can accommodate increased visitor use under both action alternatives, but it is important to maintain the desired conditions and inspire people of many cultures and demographics to explore their connections to this dynamic landscape. Further, public commenters expressed concern about too much development, suggesting that although Bartlett Cove offers the majority of services and amenities to visitors, they are also afforded opportunities to connect with the Park's fundamental resources and values, many of which are natural processes.

**Relevant Indicator:** Encounter rates on trails.

**Guideline 4: Identify Visitor Capacity.** Given the influence of the management actions in the alternatives on the assessment of visitor capacity, the determinations vary between the alternatives depending on the management strategies.

*No-Action Alternative*—The no-action alternative will carry forward the 1998 CDP visitor capacity for Bartlett Cove “estimated at about 230” visitors per day (1998 GLBA CDP, pg. 57). *See the 1998 comprehensive development plan for full visitor capacity description.*

*Gateway Alternative*— The visitor capacity for the gateway alternative has been identified at 800 visitors per day. Under the gateway alternative, the Bartlett Cove Campground and vessel quotas would be maintained at current levels, as would current parking configurations, and the maximum lodge occupancy.

Under this alternative, there would be some no-frills lodging opportunities that could be bunk/hostel style, and this would increase the visitor capacity of the lodge. The same number of rooms would still be used for staff housing. Thus, assuming the lodge still offers 48 rooms to visitors with an average occupancy of 120 visitors and if the lodge had only 44 rooms for 110 visitors and four rooms with a bunk/hostel style room that slept six visitors, then the visitor capacity would be increased to 134 visitors per night.

*Destination Alternative*—The visitor capacity for the destination alternative has been identified at 1,000 visitors per day.

Under this alternative, the Bartlett Cove Campground and Vessel quotas would be maintained at current levels.

As described in chapter 2, there would be many new day-use opportunities in this alternative; for example, new opportunities at combined VIS/VC, picnic areas, future Discovery Center, and new trail opportunities such as the new scenic destination along the Inner Lagoon/Headquarters Trail, and the extended Cooper's Notch Trail. The extended and new trails proposed under this alternative would increase visitor capacity in the frontcountry because more space would allow increased use without overwhelming trail experiences or impacting resources.

The destination alternative also includes actions that would convert rooms into upscale offerings as well as remodeled rooms that would provide low cost bunkrooms. The converted rooms may not change the capacity of the lodge; however, remodeling lodge rooms to bunk rooms would increase the current capacity of the lodge.

Overall, the lodge occupancy rate could be increased and is supported by actions in this alternative, and the lodge visitor capacity could also be increased because of the modifications to the lodge including new bunk rooms. This would increase the pillow count at the lodge and open up rooms that were previously used for staff housing. These actions align with the goals and desired conditions for managing the frontcountry that suggests the Glacier Bay Lodge should meet the needs and expectations of visitors. The visitor capacity would be 150 visitors per night if 56 rooms were available for visitors and two rooms were converted to bunk rooms.

### **Special Event Capacity.**

*Location Overview and Current Use Levels*—In 2016, the park hosted the dedication ceremony for the Huna Tribal House. The Huna Tribal House is a gathering place where tribal members can reconnect with their treasured homeland through ceremonies, workshops, camps, tribal meetings and other events. Under all alternatives, it provides park visitors with opportunities to learn about Huna Tlingit history, culture, and lifeways. Management strategies related to the Huna Tribal House improve and increase opportunities at the Huna Tribal House but do not affect the ability of the area to accommodate increased use.

Like the other analysis areas, the limiting attribute for special events is the acceptable and desirable social conditions in and around the Huna Tribal House. However, visitor expectations change depending on the context. The Huna Tribal House is a gathering place intended to host ceremonies, camps, meetings and other events, which would result in a more social experience. In the future, the park will provide more events like raisings of Totem Poles to support the desired conditions of the frontcountry and continue to provide opportunities for all people to learn about the Tlingit Ancestral Homelands through ceremonies, workshops, and camps.

Approximately 800 visitors attended the tribal house opening in 2016. Because of this event, there were no observed lasting impacts to resources, and the nature of the event is such that visitors will tolerate higher density conditions. The low tide during this event supported the area's ability to accommodate a higher level of use than it could typically support. Many operational changes occurred prior to the opening of the tribal house that prepared the area for increased visitation. These included additional portable restroom facilities, prohibitions on parking near the visitor information station, and special transportation arrangements. Activities were highly concentrated in key areas and the open beach at low tide provided space for

pedestrians near the tribal house. An estimated 300 visitors attended the totem pole raising in May of 2017. Visitors at these special events tolerate higher density conditions; these are currently rare events.

*Gateway and Destination Alternatives*—Actions within this alternative such as the retractable awning or permanent wooden covered shelter and the established area proximal to the Tribal House for sponsored HIA activities would support an increased capacity. These actions also support the Tlingit Ancestral Homelands desired condition of the park, which includes opportunities for tribes to engage in appropriate traditional practices that reaffirm their connection to the park. The park could support the larger 800-person at one time events one time a year and could support 400-person at one time events two times a year because of increased visitor services within this alternative.

## References

### WALROS

- 2011 Water and Land Recreation Opportunity Spectrum. US Department of the Interior. Bureau of Reclamation. Policy and Administration 2011 Users' Handbook, Second Edition.

### TRACS

- 2011 Trail Assessment and Condition Surveys. User Guide. US Forest Service.

## **APPENDIX D: MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES**

To ensure protection of the park's fundamental resources and values, the following best management practices would be implemented under all action alternatives. These best management practices are grounded in National Park Service (NPS) *Management Policies 2006*, and they 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.

### **GENERAL CONSTRUCTION MEASURES**

- Locate equipment/materials staging and stockpiling areas in previously disturbed sites, away from visitor use areas to the extent possible, to minimize the amount of ground disturbance and visual intrusion. All staging and stockpiling 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 identified previously disturbed areas.
- Identify and fence construction zones with construction fencing, silt fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications, and workers would be instructed to avoid conducting activities, including materials staging and storage, beyond the construction zone as defined by construction zone fencing.

### **WILDERNESS CHARACTER**

The proposed Point Gustavus Route, which passes through designated Wilderness, would follow the forest-beach interface and would require no (or very minimal) signage for visitor wayfinding. This hike route is primitive in nature to align with the wilderness character and incorporates minor site amendments using natural elements (wood, stone) to the minimum extent required to enable visitors to cross streams and areas of tidal inundation and protect sensitive resources from impacts because of foot traffic. Any designed infrastructure such as bridges and boardwalks would be avoided if at all possible and, if deemed necessary, would be the minimum required for the administration of the area in compliance with the Wilderness Act and ANILCA.

Infrastructure that is necessary to protect wetlands, such as boardwalks, are considered installations under the Wilderness Act. Before boardwalks would be installed, a minimum requirements analysis (16 U.S.C.1133(c)) would be conducted.

Mooring buoys would be removed during the winter to protect character of adjacent wilderness and cultural resources (viewshed from the tribal house).

## CULTURAL RESOURCES

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect human occupation and historical events associated with the Bartlett Cove area of Glacier Bay National Park and Preserve. Specific mitigating measures include the following:

- 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 cultural landscapes. Park staff would conduct any needed archeological or other resource-specific surveys, 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.
- All projects with the potential for ground disturbance would undergo site-specific planning and compliance procedures. For archeological resources, construction projects and designed facilities would occur in previously disturbed or existing developed areas. Adverse impacts to archeological 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*.
- Known archeological sites would be routinely monitored to assess and document the effects of natural processes and human activities 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*, *NPS Museum Handbook*, and 36 CFR Part 79.
- As appropriate, archeological surveys or monitoring would precede any ground disturbance. Significant archeological resources would be avoided to the greatest extent possible during construction. If such resources could not be avoided, an appropriate mitigation strategy (e.g., the excavation, recordation, and mapping of cultural remains prior to disturbance to ensure that important archeological data is recovered and documented) would be developed in consultation with the Alaska State Historic Preservation Office, associated Alaska Native tribal representatives, and other concerned parties as necessary.
- If, during 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 Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 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 modern development, the National Park Service would use screening or sensitive designs that would be compatible with historic resources and cultural landscapes and not intrude on ethnographic resources. If adverse impacts could not be avoided, impacts would be mitigated through a consultation process with all interested parties. Mooring buoys would be removed in the winter to protect viewsheds from the Huna Tribal House at that time of year.
- 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.
- Prior to implementing proposed actions, the National Park Service will conduct Section 106 reviews (see "*Appendix A: National Historic Preservation Act, Section 106 Considerations and Next Steps*").

## **VISITOR USE AND EXPERIENCE**

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

- Phase construction, temporary closures, noise abatement, visual screening, providing information to visitors on the purpose and need for construction, and directional signage to help visitors avoid construction activities.
- Increase messaging to visitors regarding safe wildlife viewing practices and direct visitors to the best opportunities to view wildlife and find quiet areas where enjoying bird song and the natural sound environment is possible.
- Increase NPS presence including law enforcement if wildlife viewing incidents increase in frequency at specific locations.
- Continue to offer and provide relevant information to visitors arriving in the frontcountry. This messaging could be expanded to include:
  - Appropriate trail etiquette and leave-no-trace principles when visiting the park including frontcountry areas;
  - Being a good neighbor for campgrounds to ensure visitors still have a positive visitor experience that aligns with desired conditions; and



- Important information on human-wildlife interactions, including, but not limited to, topics such as safe food storage and traveling with pets.
  - Information to vessel operators on sensitive marine ecosystems.
- Partner with other companies, groups, entities, and access providers to connect with visitors before arriving at Bartlett Cove with relevant park information such as safety and orientation information (i.e., maps, leave-no-trace principles, etc.).
- Development and long-term operations of new and existing facilities would include dark sky-friendly lighting and other measures to protect the unique experience that Bartlett Cove offers visitors.
- Implement timely and accurate communication with visitors regarding programs, services, sites, and permitted activities via new releases, visitor contacts, web and social media, as well as signage.
- Pursue alternative and active transportation options to reduce vehicle traffic and noise for visitors and staff including to and within the park (e.g., electric vehicles, shuttle, non-tonal back-up alarms).
- Schedule construction, maintenance, and recurring vegetation management to occur outside the core visitor season—essentially the period when the Glacier Bay Lodge is open—Memorial Day to Labor Day.
- Operating plans for concessions would be revisited annually by NPS staff with concessioners to ensure desired conditions are maintained. Monitoring of the indicators and thresholds could result in changes to the timing, group size, and authorized areas for commercial tour operators in the Bartlett Cove area (*see appendix C*). For example, the park would review and revise requirements for the heavy use areas within the operation plan and communicate this with contract holders. Future prospectus development would include similar considerations and are also subject to change for locations and amounts of use to maintain high-quality visitor experiences. If changes were necessary, the park would consider the financial impact of any proposed change.

## VEGETATION

Mitigation actions would occur prior to, during, and/or after construction to minimize immediate and long-term impacts to vegetation. These actions would vary by specific project, depending upon the extent of construction and the types of species and habitat affected. Before ground disturbance or vegetation management could occur, qualified biologists would conduct studies to determine if rare, threatened, or endangered state or federally listed plant species were present to avoid disturbance and ensure appropriate locations and design of facilities. If present, park staff would first determine if protection zones or modifications to the planned facility location could be used to avoid disturbance of rare plants and would then implement those measures during construction. If disturbance could not be avoided, a botanist would transplant the plant to another area with similar habitat.

The project will comply with the Alaska Region Invasive Plant Management Plan Environmental Assessment and FONSI (NPS 2010):

- Equipment used in ground-disturbing operations will be cleaned of soil, mud, and debris and inspected by park personnel before it enters parks.
- Fill materials including gravel, crushed rock, topsoil, and stockpiled project materials will be acquired from sources identified as free of invasive plants.
- Equipment operators will avoid working in or moving equipment through infested areas. When this is not possible, equipment will be cleaned before leaving the area.
- Ground-disturbing projects will be monitored for invasive species for five years after project completion. *See the EA Restoration section (2.5.5) for post-project revegetation measures to minimize colonization success.*

Additionally, during all construction activities, best practices for invasive plants management would be employed, including:

- Minimize new soil disturbance, and select previously-disturbed areas for associated construction staging and stockpiling.
- Prior to necessary earthwork, carefully salvage topsoil and native vegetation from the construction footprint and store in another location; at that location stockpile the soil in a minimum-surface-area pile, and cover to prevent weed establishment; bed/care for the salvaged vegetation in mulch in such a way as to maximize survival.
- During construction, fence or clearly mark and enforce disturbance zones to prevent disturbances to vegetation outside construction limits.
- Ensure 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.
- Thoroughly pressure-wash equipment offsite to ensure all equipment and machinery are clean and weed-free before being brought into the park and secondarily the project area.
- Consider covering all haul trucks bringing materials from outside the park to prevent seed transport and dust deposition.
- Obtain all fill, rock, topsoil, or other earth materials from certified weed-free sites.

Immediately upon completion of construction activities, the following measures would be implemented to maximize the effectiveness of vegetation restoration efforts:

- Reapply the previously-salvaged topsoil onto disturbed surfaces. Immediately transplant the previously-salvaged native vegetation into the topsoil, and care for it in such a way as to maximize survival. Aim to revegetate to restore the natural spacing, abundance, and diversity of native plant species as closely as possible.
- Monitor for and control/eradicate invasive species within disturbed areas.
- Use weed-free erosion-control blankets and waddles to reduce erosion and encourage establishment of native seedlings.
- Monitor the restored area to ensure that revegetation is successful, plantings are maintained, and unsuccessful plant materials are replaced.

As feasible, areas used by visitors such as new trails and social gathering places would be monitored for signs of native vegetation disturbance and for the presence of exotic plants. The park would use a variety of mitigation tools such as public education, erosion control, and barriers to control visitor use impacts on sensitive vegetation if impacts persist.

Finally, managers will consider dynamic vegetation contexts during design, construction, and maintenance (isostatic rebound, succession, etc.). Vegetation-related activities in cultural landscapes will be managed according to treatment and preservation maintenance plans that define objectives (historic asset protection, historic viewshed preservation, forest health and age diversity, windthrow and hazard tree risk, firewise considerations, etc.).

## **FISH AND WILDLIFE**

Mitigation actions would occur prior to, during, and after construction to minimize immediate and long-term impacts to 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. Additional mitigation actions specific to wildlife and fish would include the following, as appropriate.

Mitigation measures to reduce impacts to fish and wildlife could include, but are not limited to:

- Conduct surveys prior to vegetation removal (including hazard tree removal) to ensure that species of concern are not present. Work would not be conducted during nesting times (April 15 to July 1) or migration periods if the project site harbors wildlife that could be adversely impacted by construction.
- In trail design, consider alignment and design to reduce potential impacts to wildlife movement and ground nests. Trails would be placed to minimize the need for elevated boardwalks that may impede wildlife movement. Where feasible, boardwalks would be designed with railing gaps for the safe passage of large mammals.
- Monitor the natural soundscape and implement mitigation measures and best management practices identified under ‘Soundscapes’ to reduce adverse impacts to 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 conflict including control of human food and attractants, enforcement of food and trash storage violations, visitor education, staff training, and use of deterrents such as bear pepper spray.
- Collect recreational fishing harvest data for the Bartlett River. If substantial changes in angler harvest and associated catch rates were observed, park staff would implement strategies to reduce recreational fishing pressure on fish populations, such as reducing daily bag limits, limiting gear types, or implementing temporary spatial or temporal closures.
- Continue to educate visitors about where they may encounter nesting birds, nest identification, nesting bird behavior, and appropriate responses (such as moving elsewhere) to encroachment upon nest sites or nesting behavior. If changes in nesting

success and survivorship because of trampling or disturbance were observed, park staff would implement strategies to reduce human impacts on bird populations, such as increasing signage, restricting off-trail travel, or implementing temporary spatial or temporal closures.

- Incorporate design features for the mooring facility that eliminate bottom chain scouring and minimize the contact footprint with the seabed and reduce impacts to wildlife living along the seafloor.
- Monitor the mooring facility for marine mammal entanglement. If marine mammal entanglement were observed, park staff would implement strategies to reduce risk of entanglement, such as changing the number or spacing of moorings, using mooring systems with different properties, or experimenting with devices to alert whales to the presence of an obstacle.

## **WETLANDS**

Mitigation measures would be applied to protect wetland resources. Once an alternative has been selected, a survey would be performed to certify wetlands within the project area and to identify locations of wetlands and open water habitat more accurately. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and marked before any construction starts. All pathway construction facilities would be sited to avoid wetlands, or if that were not feasible, to otherwise comply with EO 11990, the Clean Water Act, and Director's Order #77-1. Additional mitigation measures would include the following, as appropriate:

- Employ standard avoidance, minimization, and mitigation strategies.
- Avoid wetlands during construction, using bridge crossings or retaining walls wherever possible. Increased caution would be exercised to protect these resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands. Measures would be taken to keep construction materials from escaping work areas, especially near streams or natural drainages.
- Use elevated boardwalks over wetland sections where it is not feasible to avoid the wetland or apply feasible mitigation measures. Boardwalks along shorelines would be placed on helical piers or other elevated structures that can be periodically shifted toward the water to maintain the shoreline experience as isostatic rebound occurs.
- Design footbridges in such a way as to completely span the channel and associated wetland habitat (i.e., no pilings, fill, or other support structures in the wetland/stream habitat). If footbridges could not be designed in such a way as to avoid wetlands, then additional compliance (e.g., a Wetland Statement of Findings) would be done to assess impacts to wetlands and ensure no net loss of wetland area.

## **SOUNDSCAPES**

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

- Install and use next-generation broadband back-up alarms on park and construction contractor machinery to increase safety while minimizing human and wildlife disturbance and the effects on soundscape.

- Consider alternative and active transportation models that would reduce vehicular traffic and/or associated noise.
- Create interpretive materials that instill a culture of awareness of and respect for the value of natural soundscapes.
- Enforce existing noise ordinances (36 CFR §2.12). 36 CFR §2.12 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..."
- Work with boat operators to manage use of generators when at the dock or in Bartlett Cove. For commercial vessels (under contract or CUA), use of generators may be managed 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).
- Implement standard noise abatement measures during construction and maintenance 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 tools when feasible; the placement of stationary noise sources as far from sensitive uses as possible; and the use of noise-muffling, shielding, or fencing. Functioning mufflers would be installed and maintained on all motorized equipment. Engine idling would be reduced or eliminated.

## APPENDIX E - PLANNING PROCESS AND INPUT THEMES

The process for developing this plan is described briefly below, with milestones highlighted in *figure E-1*. Then, a brief summary of input themes follows reflecting some of the substantive comments received during the pre-planning process from the public, stakeholders, commercial partners, and tribal entities.

### NPS PLANNING ASSESSMENT (2015-2016)

In 2015 the NPS completed an assessment of planning needs for the park and identified the Frontcountry Management Plan as its highest priority. In March 2016, the park established an interdisciplinary team (*see appendix G*) who created a guiding vision for the planning effort.

#### Pre-Planning (2016 Summer)

In June 2016, public engagement began when the park asked the public to identify opportunities and concerns, and describe their own preferred future vision for Bartlett Cove. A newsletter and input form with prompting questions were broadly circulated to visitors, area residents, organizations, agencies, officials, and commercial partners.

To ensure that a variety of stakeholders and visitors could participate, the park accepted public comments between June and October, 2016. Outreach was integral to the process and included:

- three press-releases, social media notices, fliers and local newspaper articles
- outreach booths at public events (Gustavus 4th of July, Huna Tribal House opening)
- public meetings in Hoonah and Gustavus
- newsletters and input forms were mailed to local Gustavus residents and park partners
- phone, email, and outreach to potentially interested organizations, agencies, and elected officials



(above) To solicit public input, the park provided a range of participation options, including informal booths at public events such as the August 2016 Huna Tribal House opening.

## Planning Process & Timeline

2015 - Spring 2016	Pre-Planning	NPS staff conduct a planning needs assessment, and an interdisciplinary team is formed to define the plan's guiding vision, purpose, and need
Summer 2016	Public Input	Public comment spans from June through October 2016, supported by outreach activities and public meetings in Hoonah and Gustavus
2017 - 2018	Management Alternatives	NPS staff review all the input received, and the planning team develops and refines a range of management alternatives
Late Fall 2018	Draft Plan	NPS staff conduct a NEPA analysis on proposed alternatives, draft an EA for Public Review, and collaborate on integrating new NEPA guidance
Spring 2019		30-day public and agency comment period (April 9 - May 8)
June 2019	Final Plan	Finding of No Significant Impact and finalized plan incorporating input

FIGURE E-1. PLANNING PROCESS AND TIMELINE

- online outreach through the NPS Planning, Environment, and Public Comment (PEPC) website, including process announcements, a project web page, and a comment portal

Formal tribal consultation was initiated in 2016 with Hoonah Indian Association (HIA), a federally-recognized Tribe and continued during the planning process through ongoing communication, and focused work sessions with the tribal leadership.

The park also initiated consultation in 2016 with Cook Inlet Region Incorporated (CIRI), an Alaska Native regional corporation created under the Alaska Native Claims Settlement Act, with landholdings adjacent to park frontcountry.

In total, 66 individual correspondences were received with thoughts and ideas from individuals, organizations (Friends of Glacier Bay), and official representatives (State of Alaska, various entities). These were entered into the NPS PEPC website by NPS staff. A summary of the substantive issues and input themes are described on the pages that follow.

#### FRONTCOUNTRY PLANNING INPUT

The NPS received 66 pieces of correspondence during the public comment period, June 14 - October 14, 2016. These comments were submitted through the NPS planning website, or were written comments submitted to the park. Comments were from Alaska residents (64%), US visitors from across the country (24%), international visitors (3%), or unidentified (9%). Additionally, 171 comments were provided as verbal or written comments gathered at our public meetings in June (Gustavus and Hoonah), and informational booths in July and August.

#### *What did you say?*

We received some great feedback, representing varied ideas and opinions, including:

- you told us why you visit Bartlett Cove and what you value most about those visits
- you told us what you feel are the most important issues affecting the frontcountry, particularly related to future visitor experiences, access, and services
- you shared your thoughts on the fundamental resources and values of the frontcountry
- you let us know what management strategies and visitor experiences you would like to see continue, and those you would like to see change in the future
- you asked us to focus on resource protection while providing a range of visitor opportunities

Following is a summary of your input by theme, in response to the targeted input form questions:

**VISION . . . The NPS envisions the frontcountry as a destination that welcomes visitors to explore the park's ever-changing natural environment and living cultural connections. What is your vision?**

*A welcoming, high-quality visitor experience:*

- more of the same—good job!
- serve a wide diversity of visitors (tourists and locals)
- high-quality NPS ranger-led interpretation, guided walks, talks, trips, fireside chats
- expanded range of activities (more and better trails and easier recreation opportunities)
- strengthened Huna Tlingit tribal member connections to homeland, including Bartlett Cove
- a learning and science destination
- promote cultural heritage with expanded programming



- perform upgrades and maintenance—especially to the Glacier Bay Lodge and its historic viewscape
- reduce cost barriers, and enhance the value to cost ratio of visitor offerings
- make the park a model of low footprint and sustainable practices
- partner with and complement gateway communities

*A place where visitors can have memorable experiences and deeply connect to the place:*

- keep the scale small, intimate, and friendly
- balance welcoming visitors with retaining the untouched beauty and wild character
- help visitors feel like they are experiencing something amazing—whether they get to go out on the tour boat and see the glaciers or not
- reduce light/noise-pollution (generator, day boat, phones)
- some want total escape from devices (wi-fi, phones, TV)—both their own device **and** the sight and sounds of other users’ devices

**YOU TELL US. . . Do you have any other thoughts on visitor opportunities or the management of the Glacier Bay frontcountry that you think the planning team should consider?**

- visitors care deeply about Glacier Bay and want it protected in perpetuity
- partner with tribes, gateway communities, the private sector, and agencies for synergy and complementary offerings
- as tidewater glaciers melt, shift visitors’ attention from upbay to the mouth of Glacier Bay, and the story of its biologically rich waters and cultural connections—with the bonus of reduced fuel use/travel times
- the Beardslee Islands Tidal Cut is a premium wilderness portal—but it is becoming less open each year from isostatic rebound uplift
- be transparent on public costs
- do outreach to bring diverse audiences to the frontcountry

**EXPERIENCES . . . What experience(s) do you value or want to have in the Glacier Bay frontcountry? How are these unique from the rest of the park and/or other parts of Southeast Alaska?**

*Strengthen and retain the distinct, high-quality experiential attributes that differentiate Bartlett Cove and the park from other visitor experiences:*

- a beautiful natural setting where you are able to feel that you are on the edge of one of the wildest places in the world
- marine, beach, and intertidal experiences with scenic views
- incredible wildlife viewing
- connections to Huna Tlingit heritage and cultural traditions
- the ability to observe nature and learn about the landscape
- opportunities for peaceful, quiet contemplation in nature
- rustic recreation in a simple setting that conveys an Alaskan remoteness
- the ability to unplug is a selling point (no phones/internet/TV)
- access to quality recreation and services without the crowds, or intensely-developed “franchise feeling” often found in:
  - a growing number of NPS system frontcountry settings
  - Southeast Alaska cruise-tourism circuit destinations
  - road-based recreation sites



(above) **The Inner Lagoon tidal cut. Visitors want to enjoy the area's rich natural and cultural heritage and appreciate feeling like they are on the edge of one of the wildest places on the planet.**

*Provide easily accessible, shorter duration (2 - 5 hour) experiences for a wide visitor audience:*

- nature-oriented recreation: quality trails in a variety of ecosystems, tide-beach walks, paddling, biking, boating, flying, berry picking, picnics, fishing, etc.
- scenic views, overlooks, benches
- wildlife and bird viewing (trails, blinds, platforms, scopes, critter cams)
- update NPS exhibits, including dynamic and interactive elements to help visitors get to know the park
- NPS-guided field experiences so people understand what they are seeing: birds, plants, the post-glacial landscape, etc.
- native heritage interpretation and participatory activities
- multi-generational experiences
- talks and presentations in nice venues, indoors and outdoors
- positive social experiences and relaxation, indoors and outdoors (both in and out of the rain)
- quality excursions that add value and variety to visits (in the park plus nearby areas)

*Enhance Bartlett Cove as a remote and rustic backcountry portal:*

- provide only the core services and development required (keep it simple)
- retain the semi-primitive and rustic character
- provide minimalist options that enhance accessibility and affordability

**SCIENCE & LEARNING . . . What opportunities would you like to see Glacier Bay's frontcountry provide to help visitors learn about the ongoing science at the park?**

*Meaningfully interpret the park's extraordinary natural and cultural heritage and science as a living laboratory in the frontcountry*

- provide a high-quality and thought-provoking representation of the science relevant to the park
- interpret science to tell Glacier Bay relevant stories (climate dynamics, marine resources, cultural connections)
- create a Bartlett Cove learning center (re-purpose the lodge?)

*Based in the frontcountry, foster stewardship and science opportunities for deeper engagement:*

- encourage citizen science and welcome visitor participation in the continued park research, educational programs, and stewardship

- host science fairs, events, classes, workshops, and festivals
- encourage international scientific researcher projects and volunteerism
- kid-friendly places to learn
- youth outings/mentorships to promote science and place-based nature connections
- pilot a deeper interpretive model where visitors with personal knowledge and interests can create a meaningful place-based experience that draws on the following:
  - a high caliber of park interpretive staff
  - more than 100 years of active science in Glacier Bay
  - Huna Tlingit traditional ecological knowledge
  - Gustavus-based naturalists

**SERVICES . . . Are there additional visitor services you feel the Glacier Bay frontcountry should provide that would complement those already offered in Gustavus?**

*NPS-provided services:*

- generally, the NPS should continue providing quality services for tourists and locals
- help visitors get the most out of the time and money it takes to get here (including low /no cost activities and services and NPS logistics support like shuttles)
- a thoughtfully developed and more accessible frontcountry (rustic, but with creature comforts) that is complementary to and distinct from the vast park backcountry that demands self-sufficiency and connection to nature, with minimal, if any, development
- expand land-based recreation opportunities in the frontcountry that welcome commercial groups and excursions (in contrast with designated Wilderness areas with commercial tour guest restrictions and wilderness character impact concerns)
- provide a high-quality network of frontcountry trails ranging from:
  - quiet meditative walks that deeply connect individuals to the place
  - easy and accessible social promenades with interpretation panels that enable groups to walk and talk
  - aggressive hikes that offer physical challenge and cover/interpret a variety of landscapes
  - active transportation options for biking and walking in the frontcountry and user-friendly gateway community connections (recognizing that for most people the quality of the journey, even along the entrance road is the a big part of the experience);
- some say accommodate more users by expanding NPS infrastructure and services and make the frontcountry more welcoming to a wider public
- some say the NPS should keep services simple and limited given the relatively small number of visitors (who do not have high expectations given the remote setting)
- some say NPS improvements in recent years are adequate to meet needs into the future
- partner with the tribe for active, varied Huna Tribal House use
- remove the NPS from lodge upstairs (poor access, dark)
- add a larger auditorium for programs
- some want better frontcountry communication service to aid in logistics, safety, and to support self-guided tours (NPS content)
- some oppose visitor cell phone and internet service in the park, and visit a national park to escape the ubiquitous noise and distractions of modern life and communications devices
- NPS slow/quiet/inexpensive boat with a ranger aboard (for tours, backcountry drop-offs)
- minimize the NPS operational footprint and fossil fuel use
- multi-lingual NPS materials for self-guided experiences

- self-guided “hand lens” moss-lichen interpretive trail (along the existing Forest Trail)
- current campground users want it kept beautiful, quiet, semi-primitive, walk-in, and no-fee
- if walk-in camping use grows, add reservable camping options users can count on (it is a long way to travel and not have an overnight spot)
- there is a desire for a covered camper cooking/eating shelter near the campground
- upgrade old toilets/outhouses in the campground
- some want new low-cost, dry overnight options (hut, platform, covered areas, etc.)
- some want car camping and RV overnight services (others think this should be located in Gustavus)

*Glacier Bay Lodge services (provided by a private company under a concessions contract):*

- the lodge’s social atmosphere and creature comforts are a nice contrast to the rest of the park
- redefining and retaining the lodge is crucial as an economic anchor to the Gustavus tourism future
- some say the lodge would be more economically viable if the NPS would maintain/upgrade the facility (removing concessioner from these responsibilities)
- some say the NPS needs to hire a hotel management specialist to improve operations, service, consumer value for price, and create a nicer atmosphere
- the food service needs more options and a makeover (coffee shop, bar, alternatives to sit-down dining, memorable food that highlights the place, more of a price/choice range)
- the lodge facility needs a makeover, especially the front, top floor, viewscape, and other areas
- differentiate all the retail options in Bartlett Cove (with pricing consistency)
- upgrade laundry/showers
- add a few elegant/upscale rooms with appropriate tariff
- provide a concierge at the lodge to assist with activities, logistics, and trip planning
- designate wi-fi areas that help the ambiance (not in lobby/entry/fireplace area)

*Other private concessionaire and NPS partner-provided services:*

- visitors highly value existing services (day-boat, rentals, charters, guides) but there is a desire for greater affordability
- guided day trips and equipment rentals are a big plus for enjoyment of the great Alaska outdoors
- at peak visitor season, kayak rentals are not always available
- there is a desire for new equipment rental options: paddle boards, row boats, sailing skiffs
- create economic opportunities for gateway communities (independent tourism, art, food)

**ACCESS . . . Do you see any issues regarding access to the Glacier Bay frontcountry? How are you currently arriving at and moving around in Bartlett Cove? Does this differ from how you would prefer to be arriving at and moving around this area?**

*Air access (Gustavus airport, lodge bus):*

- jet service is vital to frontcountry visitation and Gustavus tourism
- float plane anchorages are exposed during westerly wind conditions
- create a dedicated float plane landing and take-off area to reduce conflicts with boaters

*Water access:*

- actively manage the dock to enhance efficiency/capacity
- expand dock time allowances to enable visitor excursions

- improve the dock for mobility-challenged users
- partner to support and promote state ferry service
- new passenger-only ferry
- safety concerns in Gustavus waters (ferry, limited private boat infrastructure)
- safety concerns in Bartlett Cove (westerly winds, tides, mooring)
- some want easier, enhanced private boat access: no NPS permits, restore transit access, public inner dock use, expanded public dock, new infrastructure (e.g., mooring, launch, and trailer parking)
- quiet motor boat allowances in permit system?
- some support existing private boat use and are not in favor of unrestricted marine access from Icy Strait to Bartlett Cove
- enhance kayak storage, loading logistics, and launch
- expand equipment rental (new options, high-demand capacity)

#### *Road, vehicular, and bike access:*

- some want the NPS to scale up frontcountry infrastructure to accommodate increased vehicle access and parking demands
- some want viable alternative transportation instead (NPS bus/shuttle, bike, pedestrian) that decrease fuel use, traffic noise, and parking demands
- more affordable transportation options to and from town, and to road accessible trailheads
- easier logistics, wayfinding, and arrival for 1st time visitors (signs, NPS booth in town?)
- some want to add public parking at NPS maintenance (don't build any more)
- address Visitor Information Station area circulation chaos
- dedicated boat launch staging and trailer parking areas
- carpool/ride share program
- bike path/lane (park to town) plus bike-borrowing program
- maintain roadside vegetation for driving/wildlife safety

#### *Pedestrian and trail access:*

- existing hiking trails lack variety, are in poor condition
- desire for high-quality trails covering diverse terrain/park experiences, with longer loops
- additional frontcountry trails needed given Glacier Bay commercial group restrictions
- pedestrian safety issues: Alder Creek area, VIS parking area
- sustainable trail maintenance
- consider skiing opportunities
- revisit where dogs can go
- enhance opportunities for mobility challenged users/visitors



(above) **Bartlett Cove access was a topic of public interest ranging from public dock considerations (wheelchair accessibility and space management), to moorage and water access, to parking and car camping/RVs, to interest in stronger gateway community connections to better serve visitors and locals (active transportation, shuttles, ferry).**

## APPENDIX F - SELECT LAWS AND POLICIES

As an agency, the NPS 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 its implementing the Frontcountry Management Plan, the NPS reaffirms its enduring commitment to implement the laws and policies that will conserve Glacier Bay as a national treasure for future generations. Selected policies and laws by topic area include:\*

### AESTHETICS

NPS Organic Act  
Park GMP

### AIR QUALITY

Clean Air Act  
NPS Organic Act

### AQUATIC AND MARINE RESOURCES

Anadromous Fish Conservation Act  
Clean Water Act  
Endangered Species Act  
Fish and Wildlife Coordination Act  
Marine Mammal Protection Act  
Marine Protection, Research, and Sanctuaries Act  
North Pacific Halibut Act  
Secretarial Order 3356  
Water Resources Development Act

### CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES

Archaeological Resources Protection Act  
Director's Order 28  
National Historic Preservation Act  
NPS Organic Act  
Glacier Bay Lodge Complex Historic Structures Report  
Glacier Bay Lodge Complex Vegetation Treatment Plan

### ECOLOGICALLY CRITICAL AREAS

Endangered Species Act

### ENERGY REQUIREMENTS AND CONSERVATION

Energy Policy Act  
Energy Independence and Security Act  
Executive Orders 13031, 13123, 13149

### FLOODPLAINS

NPS Director's Order 77-2  
Executive Order 11988  
NPS Floodplain Management Procedural Manual

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

Alaska Native Land Claims Act (ANCSA)  
Executive Orders 13007 and 13175  
DOI Policy on ANCSA Corporation Consultation for actions substantially affecting their land, water areas, resources, and programs  
Native American Graves Protection and Repatriation Act  
DOI Secretarial Orders 3206, 3175, 3342  
NPS Director's Orders 66 and 71B  
Park Huna Tribal House EA, Interpretive Plan, Facility Use Plan)

### NATIVE SPECIES AND EXOTICS MANAGEMENT

Alaska Region Invasive Plant Management Plan  
Executive Order 13751  
National Invasive Species Act  
Noxious Weed Control and Eradication Act  
Plant Protection Act

### NOISE

Director's Order #47  
Noise Control Act

### PARK OPERATIONS

Occupational Safety and Health Act  
NPS Organic Act  
Park GMP  
Pollution Prevention Act  
Resource Conservation and Recovery Act  
Toxic Substances Control Act  
Secretarial Order 3110

### PUBLIC HEALTH AND SAFETY

Pollution Prevention Act  
Resource Conservation and Recovery Act  
Toxic Substances Control Act  
Secretarial Order 3110

### SOCIOECONOMIC RESOURCES

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

### SOILS, GEOLOGY, TOPOGRAPHY

Clean Water Act  
National Cooperative Soil Survey Standards  
Erosion and Sedimentation Control Act

### THREATENED AND ENDANGERED SPECIES

Endangered Species Act  
National Environmental Policy Act  
NPS Endangered Species Reference Manual 77-8  
NPS Organic Act

### VISITOR USE AND EXPERIENCE

NPS Director's Order 12  
NPS Organic Act  
Park Foundation Statement  
Park GMP

### WATER QUALITY, HYDROLOGY

Clean Water Act  
Executive Order 12088

### WETLANDS

Clean Water Act  
Executive Orders 12088, 11990  
NPS Director's Order 77-1  
Rivers and Harbors Act

### WILDERNESS

NPS Director's Order 41  
NPS Wilderness Stewardship Reference Manual 77-8  
Park Wilderness Character Narrative  
Park Wilderness Visitor Use Management Plan  
Wilderness Act

### WILDLIFE AND HABITAT MANAGEMENT

Migratory Bird Conservation Act  
Migratory Bird Treaty Act  
Park Bear Management Plan

*\*This list was prepared in 2018 and is included for planning reference only. The NPS 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 G - 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  
 Albert Faria, Chief Ranger  
 Lisa Etherington, Chief of Resource Management  
 Jacob Ohlson, Safety Manager  
 Joni Seay, Chief of Commercial Services  
 Lini McCarthy, Administrative Officer  
 Kenneth Grant, Management Assistant  
 Kenneth Hutchison, Chief of Maintenance  
 Tom VandenBerg, Chief of Interpretation  
 Sara Doyle, Outdoor Recreation Planner

#### NPS EXPERTISE

Rachel Collins and Aleksandra Pitt, Denver Service  
 Center Visitor Use Project Specialists  
 Tatiana Marquez, Environmental and Natural Resource  
 Economist  
 Steve Whissen, Cultural Resource Specialist  
 Danielle Lehle, Natural Resource Specialist  
 Guy Headland, Landscape Architect  
 Brooke Merrell, Alaska Region Environmental Planning  
 and Compliance Team Lead  
 Sarah Conlin, Alaska Region Planning Portfolio Manager

#### GUIDING POLICY

*The **Frontcountry Management Plan** is part of an NPS planning portfolio with individual plans, studies and inventories that together guide park decision-making. The overall plan was developed using these key resources:*

*NPS Management Policies (2006)*

*Interagency Visitor Use Management Council  
 Visitor Use Management Framework (2016)*

***The environmental assessment** was developed consistent with National Environmental Policy Act (NEPA) of 1969, and its implementing regulations:*

*40 CFR Parts 1500–1508*

*The Alaska National Lands Conservation Act*

*Secretarial Order 3355 (DOI 2018) EA page limits and required content*

*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

#### ALASKA NATIVE INTERESTS

Alaska Native Voices  
 Cook Inlet Region Inc. (Gustavus landowner)  
 Huna Totem Corporation  
 Icy Strait Point (Alaska Native-owned)  
 Sealaska Corporation

#### GATEWAY COMMUNITY INTERESTS

City of Gustavus  
 Gustavus School  
 Gustavus Visitors Association  
  
 City of Hoonah  
 Hoonah City School Cultural Leadership Club

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 Army Corps of Engineers  
 US Fish & Wildlife Service  
 Alaska Department of Fish and Game  
 Alaska Department of Natural Resources,  
 ANILCA Program  
 National Oceanic and Atmospheric  
 Administration (NOAA)  
 National Marine Fisheries Service

#### ELECTED OFFICIALS

Lisa Murkowski, United States Senator  
 Dan Sullivan, United States Senator  
 Jesse Kiehl, Alaska State Representative  
 Sara Hannan, Alaska State Representative  
 Jonathan Kreiss-Tomkins, Alaska State Representative  
 Sam Kito, Former Alaska State Representative



# Frontcountry Management Plan

*A Renewed Vision for Bartlett Cove*

*Environmental Assessment*

*Finding of No Significant Impact*

Glacier Bay National Park and Preserve  
P.O. Box 140, Gustavus Alaska 99826

Produced by the National Park Service