

Mendenhall Glacier Master Plan



February 12, 2019



US DEPARTMENT OF AGRICULTURE



FOREST SERVICE | ALASKA REGION |
TONGASS NATIONAL FOREST



Mendenhall Glacier Master Plan
Partial Content Revisions Until: February 2019

This document was produced by Corvus Design for the US Forest Service.

USDA is an equal opportunity provider, employer, and lender.



Table of Contents

1 Mendenhall Glacier Recreation Area	1
Our Place	2
Vision, Mission, Goals	4
Master Plan	6
2 Visitor Center Zone	9
Trailheads	12
Expanded Parking and Improved Access	14
Welcome Center Complex	16
Visitor Center Expansion	18
Steep Creek Realignment & Boardwalk	20
Steep Creek Bridge & Pedestrian Underpass	22
Steep Creek Fish Viewing Window	24
Lakeshore Trail	26
3 Glacier Access Zone	29
Docks & Support Facilities	32
Remote Glacier Facility	34
4 West Glacier Zone	37
5 Dredge Lakes Zone	41
6 Fifty Year Vision	45
Our Future	46



Photo by Laurie Craig

1

**MENDENHALL
GLACIER
RECREATION
AREA**

Our Place

A trip to Alaska for many people is the 'Trip of a Lifetime' and Juneau's Mendenhall Glacier is on the 'Must See' list. Despite not being on the linked interstate highway system, the Mendenhall Glacier Visitor Center is the most visited attraction in Alaska by summer visitors, with one in every three visitors to the state visiting here. Added to local visitation, the area saw an estimated annual visitation of nearly 700,000 people in 2017. If the Mendenhall Glacier Recreation Area (MGRA) were a National Park, this visitation rate would place it within the top 100 National Parks visited in the United States, comparable to Crater Lake National Park (OR) and Denali National Park (AK). The main draw to the MGRA is the opportunity to see one of the nation's most accessible glaciers, the ability to safely interact in close proximity to Alaskan wildlife, and the accessibility of a variety of recreation activities.

Within the MGRA, the United States Forest Service (USFS) manages the visitor center and interpretive programs. These programs are being delivered within facilities designed to accommodate 485,000 visitors a year. Demand exceeds capacity; congestion, long waits,

under-capitalized opportunities, and inadequate visitor facilities result in a degraded visitor experience. Visitation to Juneau is expected to grow 2-4% annually, with the potential for periods of much higher growth. This continues to increase the pressure on facilities and further impacts the visitor experience.

The Mendenhall Glacier is rapidly receding, and the terminus of the glacier is expected to recede from view (from the existing visitor center) by 2050. While the glacier is receding and the landscape naturally changing, there are also positive effects as well. New ecosystems are emerging and salmon, bears, and other wildlife are becoming more predominant within the MGRA. Through this plan, the MGRA will respond to these changes and capitalize on new opportunities, providing exceptional visitor experiences worthy of a key Alaskan attraction.

The USFS will build on the changes happening within the MGRA and provide upgrades necessary to its continued success. This document presents the short and long-term vision for the Mendenhall Glacier Recreation Area that is essential to ensure that current and future demands are met.



Mendenhall Glacier Recreation Area

Vision

The Mendenhall Glacier Recreation Area will continue to provide recreation experiences that highlight the natural, historic, and cultural resources to local, national, and international visitors.

Mission

To continue to provide sustainable recreation experiences that interpret glacial features in a changing environment.

Goals

Touch the Glacier

Both visitors and residents have the opportunity to experience glacial ice, either up close or from afar, as their abilities and time allow. We will offer opportunities to “Touch the Ice” in ways that people desire.

View the Scenery and Experience the Wildlife

Whether living in or traveling through Alaska, people value expansive, rugged landscapes and the opportunities to see wildlife, wild salmon, and nature. We will provide the best facilities to protect these opportunities into the future.

A Place to Walk and Understand Our Forests

The MGRA serves as a local park to many Juneau residents, a place to walk their dog or ride their bike, or seasonally to photograph a black bear or ski on the lake surface. To many visitors, it may be the only place in the Tongass National Forest where they meet a ranger and learn about a temperate rainforest growing in the shadow of a glacier. We will satisfy this multitude of desires by providing facilities for all.

Each Experience a Timeless One

Visits to the MGRA vary in length and frequency, but each is memorable and fulfilling. A variety of self-led and guided activities of varying lengths and levels of difficulty will be possible with the facilities we provide.

Innovation Made Visible

Our facilities both protect and access sensitive resources such as wild salmon runs, bird nesting areas, or glacial environments. They will model sustainable development and highlight renewable energy systems as examples from which to learn.

Experiencing a Changing Landscape

In the face of a receding glacier, and its changing landscapes, the visitor experience will adapt over time. This flexibility is needed to provide the experiences and sharing of stories for years to come.

Understanding Human Impact

Visitors will learn the Forest Service is sustaining our National Forests in practical ways that benefit future generations. Juneau residents will appreciate local leadership in renewable energy and practical solutions that accommodate large numbers of visitors sustainably for the long term.

Master Plan

The Mendenhall Glacier Master Plan represents a twenty-year development plan within a larger fifty-year vision. This plan comes from public working sessions, innovation workshops, and input from Forest Service specialists with one goal in mind: to improve visitor experiences at the Mendenhall Glacier Visitor Center and within the larger Mendenhall Glacier Recreation Area.

The common themes throughout the project were the need to protect the spaces that Juneau residents use, and to develop the facilities needed to accommodate the increasing number of summer visitors that are arriving.

The master plan balances these two user groups by focusing development at the existing Visitor Center area and preserving the Dredge Lakes area for more traditional local activities. West Glacier area remains as the place for more adventure-focused activities. The new development of infrastructure near the glacier becomes a terminus for both the adventure seeker and those who want to touch the ice and expands the ability of the area to accommodate significant increases in visitors.

The vision for twenty years is expansive and depends on partners to help achieve the experiences that will leave visitors and locals both with a deeper understanding of the local ecology within a larger changing environment.

As is shown in the illustration to the right, this document focuses on four zones of use: Visitor Center, Dredge Lakes, West Glacier, and Glacier Access. These zones are described in more detail within this document, with a higher level of detail provided for specific development that is expected to occur within the next ten years.

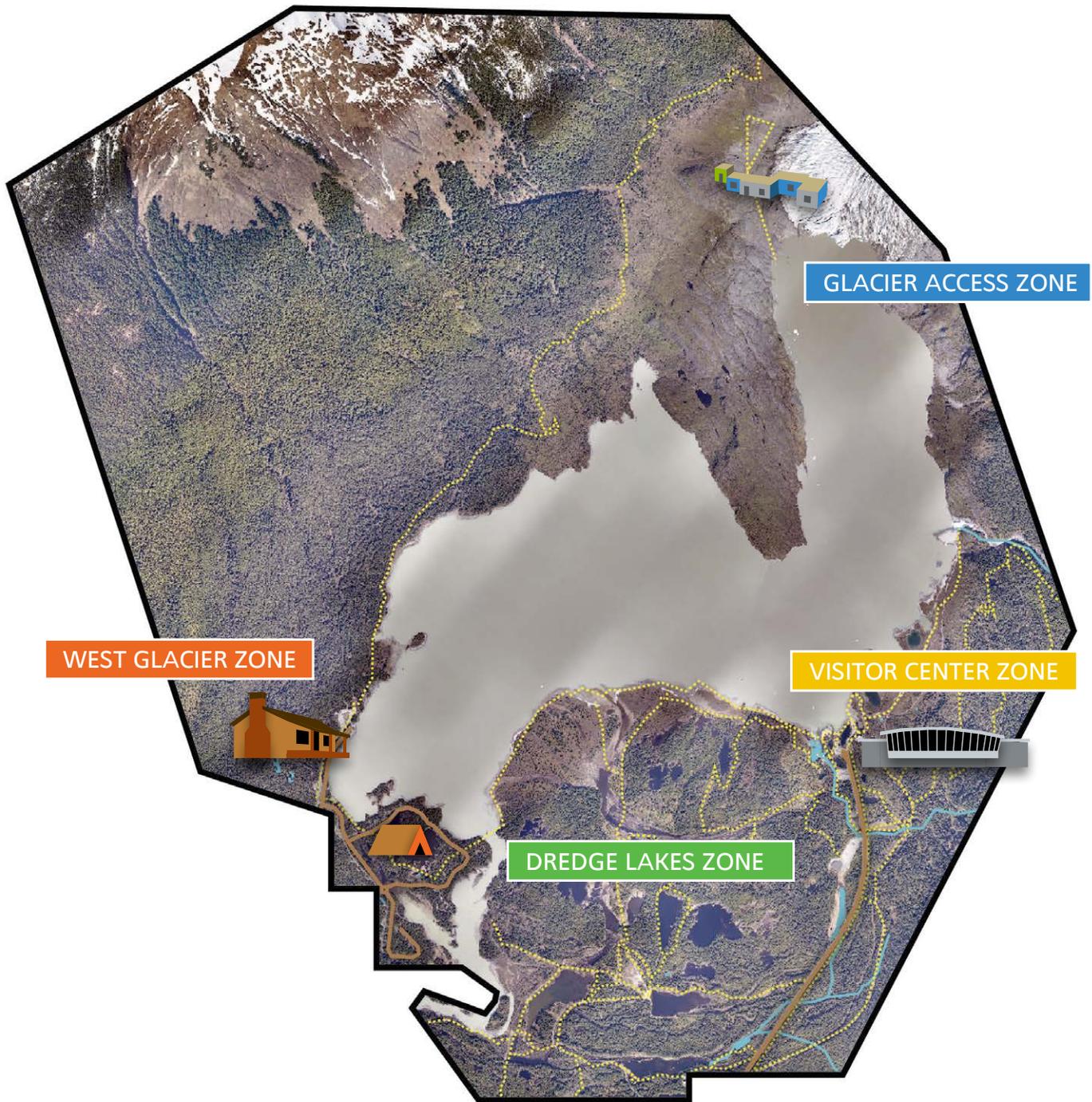




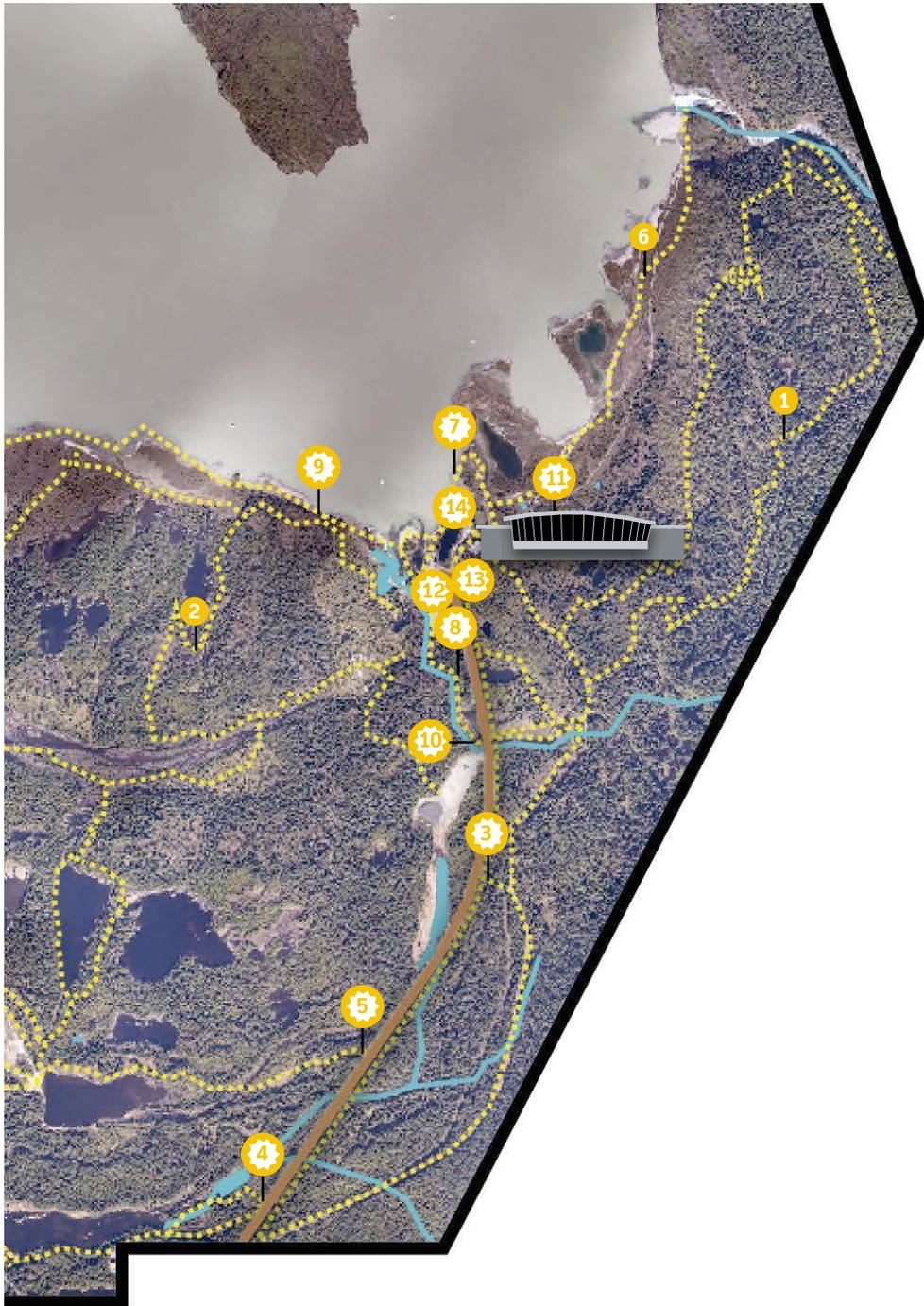
Photo by DeAnna Perry

2 VISITOR CENTER ZONE

Visitor Center Zone

The Visitor Center Zone is the primary hub for most visitors. The improvements planned in this area are highly developed to accommodate visitation as high as 4,000 persons within a typical ninety-minute visit. The construction of more (and improved) trailheads will allow visitors the option to access trails without entering the area of highest development. The main visitor area for the MGRA will be within the Glacier Spur Road corridor up to the Welcome Center Complex, and beyond into the adjacent trail systems.

The illustration to the right depicts existing, improved, and new facilities. The following pages provide additional information on the planned developments.



- 1 East Glacier Trail
- 2 Moraine Ecology Trail
- 3 *IMPROVED* Power Line Trailhead
- 4 *IMPROVED* Dredge Lakes Trailhead
- 5 *IMPROVED* Crystal Lake Trailhead
- 6 Nugget Falls Trail
- 7 *IMPROVED* Photo Point Trail
- 8 *IMPROVED* Steep Creek Elevated Boardwalk Trail
- 9 *NEW* Lakeshore Trail
- 10 *NEW* Underwater Creek Viewing Facility
- 11 *IMPROVED* Visitor Center
- 12 *IMPROVED* Expanded Parking
- 13 *NEW* Welcome Center Complex
- 14 *NEW* Interpretive/ Learning and Viewing Area

Trailheads

Purpose and History

Three new trailheads and parking areas will increase trail access convenience from the Glacier Spur Road. These will help to relieve congestion at the Visitor Center Complex by allowing trail users to avoid the areas of highest development.

Two of the trails (Crystal Lake Trail and Powerline Trail) are currently accessible from Glacier Spur Road, and the third (Dredge Lakes Loop Trail) comes near the road without direct access. This area now has no formal trailheads for Dredge Lakes Loop and Crystal Lake Trail. Powerline Trail has access at each end, but not toward the middle. These locations do not have formal parking, trailhead kiosks, or trail identification signs along the road.

The nearest existing parking area is an 8-20 minute walk to reach these trails. Users currently park on the shoulder of Glacier Spur Road (signed at 40 mph), creating safety concerns as vehicles are parked close to the fog line of the road. The proposed trailhead locations are at or near where users are currently accessing the trails.

These new trailheads will meet existing needs and likely result in increased trail use. These trailheads will be used predominantly by Juneau residents. In addition to enhancing safety, this additional parking will reduce pressure on existing parking areas, which are often filled to capacity.

Design Summary

Each trailhead will be paved and will provide parking for between 12 and 20 vehicles. They will include a trailhead kiosk with map and regulatory notices, and directional signs within the road corridor.





Upper Image: Bird's eye view of overall trailhead.

Lower Image Left: Winter view of the trailhead from within the parking area.

Lower Image Right: View of the trailhead from within the parking area.



Expanded Parking & Improved Access



Purpose and History:

This project will expand the current facilities and provide improved access to the Welcome Center Complex. Existing facilities located at the Visitor Center cannot adequately manage the number of visitors arriving on their own or by motorcoach during peak periods in the tourist season. With the continued growth of tourism predicted in the coming years, this problem will continue to escalate and directly impact the experiences at the Mendenhall Glacier Visitor Center (MGVC).

Today, a majority of commercial visitors arrive and depart the MGVC via motorcoach (approximately 500,000 in 2018). The number of commercial vehicles entering during peak periods in the summer visitor season exceeds parking availability resulting in vehicle and pedestrian congestion. Minimal permanent pedestrian facilities and staging information adjacent to the loading/unloading areas result in the current use of temporary shelters. These shelters are undersized and add to congestion and confusion in the area. The lack of well-designed commercial facilities and circulation create safety issues and diminishes the visitor experience.

Direct access facilities will: provide more efficient pedestrian and vehicle flow, increase safety on site, help meet coach demands, and improve the visitor experience at the MGVC.

Design Summary:

A reconfigured and enlarged paved commercial drop-off and pick-up facility will be located in the vicinity of the Welcome Center Complex (see page 16) and existing Visitor Center. The new facility provides expanded capacity for commercial vehicles and separates the drop-off and pick-up areas, reducing confusion and congestion in these spaces. Pedestrian areas will be accessible and include a shelter to accommodate people at the pick-up area, site furnishings (benches, etc.), and wayfinding. Commercial vehicles will stage at the existing gravel bus lot (with after-hours RC airstrip remaining in operation). The use of electronic message boards will relieve visitor anxiety over returning to their bus.

Non-commercial parking will be improved and located along Glacier Spur Road. A drop-off roundabout is located near the current parking lot closest to Mendenhall Lake. Paved accessible sidewalks and plazas are located along the perimeter of the parking.



Upper Image: Bird's eye view of parking lot and motor coach (un)loading areas.

Middle Image: Bird's eye view of parking lot and motor coach (un)loading areas and visitor plazas.

Lower Image Left: Coach pick-up and shelter.

Lower Image Right: Coach drop-off area.



Welcome Center Complex



Purpose and History:

The existing Visitor Center is not visible from the commercial drop-off area, and the lack of a welcoming facility at the main visitor staging area leads to confusion and diminished visitor experience. The MGVC lacks a dedicated outdoor interpretive facility, using the existing pavilion and temporary structures for this purpose. Much of the summer, visitors find many areas congested. This problem is exaggerated by the 'up and back' pedestrian circulation. Visitors have created social trails, and gathering areas have expanded into sensitive habitat areas within the Visitor Center Zone.

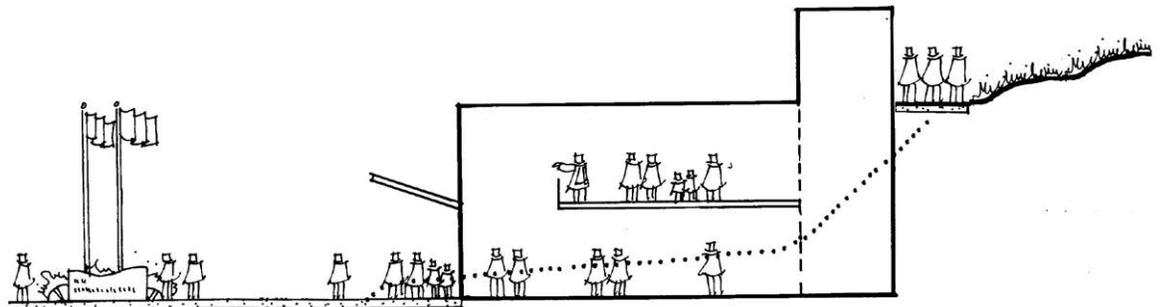
Developing a formal Welcome Center Complex will help to provide needed visitor facilities, an outdoor interpretive area, larger gathering areas, and a more extensive network of looped trails.

Design Summary:

An updated Welcome Center Complex will include a new Welcome Center, formal entry plaza, larger gathering spaces, site-related interpretive facilities, and a more extensive network of looped trails with linkages to existing trails.

Around the Welcome Center is an accessible pedestrian plaza that disperses visitors, and links to other destinations within the MGVC. An outdoor exhibit and activity area will include a shelter within a paved plaza, and covered terraced seating that will allow interpretive programming. Wayfinding throughout will guide visitors to their destinations.

Providing facilities in destination areas will improve safety and reduce impacts on the environment. Visually and physically linking these facilities will enhance the visitor experience, add efficiencies, and reduce congestion.

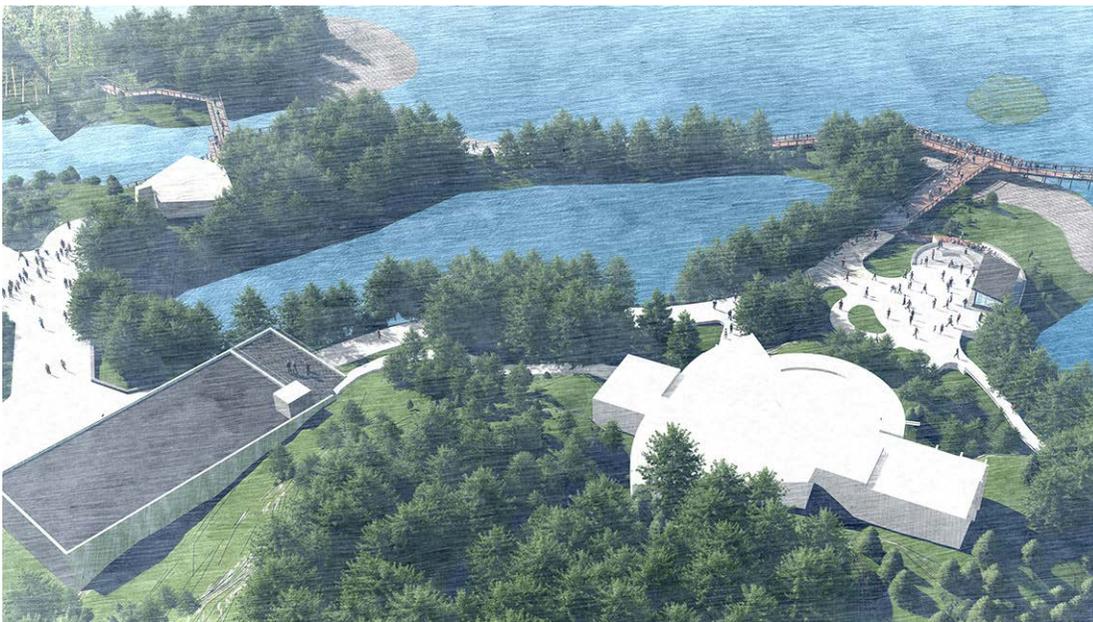




Upper and Middle Image: Bird's eye view of Welcome Center Complex

Lower Image Left: Bird's eye view of Welcome Center Complex

Lower Image Right: Birds Eye View of Lower Plaza



Opposite Page Bottom: Section through Welcome Center to show internal connection through top floor to access existing Visitor Center.



Visitor Center Expansion

Purpose and History:

The existing Visitor Center is currently the primary facility for visitor services and the main building within the MGRA. The main floor - the visitor space - has an entry, USFS contact desk, interpretive displays, large glacier observation area, retail space, restrooms, and a theatre. As increasing numbers of people visit the MGRA, visitor experience is becoming hindered by congestion, conflicting circulation patterns, and long waiting times. These create confusion and impacts the valuable time visitors spend within the MGRA.

The building is not meeting demand, and the expected increase in visitation will further impact the existing Visitor Center facilities. By relocating the bookstore into the new Welcome Center, it will help to provide additional movement within the current Visitor Center and improve circulation. By creating a more cohesive flow in the Visitor Center, it will allow visitors to access all areas comfortably, decrease wait times, and enhance the visitor experience.

Design Summary:

The existing Visitor Center will continue as an interpretive facility, with a focus on ranger talks and interpretive programs. The proposed improvements are: add additional space onto the public floor of the Visitor Center, create additional seating capacity within the existing theater, expand the restrooms, and define a space for theater queuing.

These improvements to the Visitor Center will focus on internal reorganization to create a more cohesive circulation pattern within the interpretive display area and to separate this space from line-up areas. Additional space will allow for this separation and provide a more established circulation pattern within the interpretive display area.



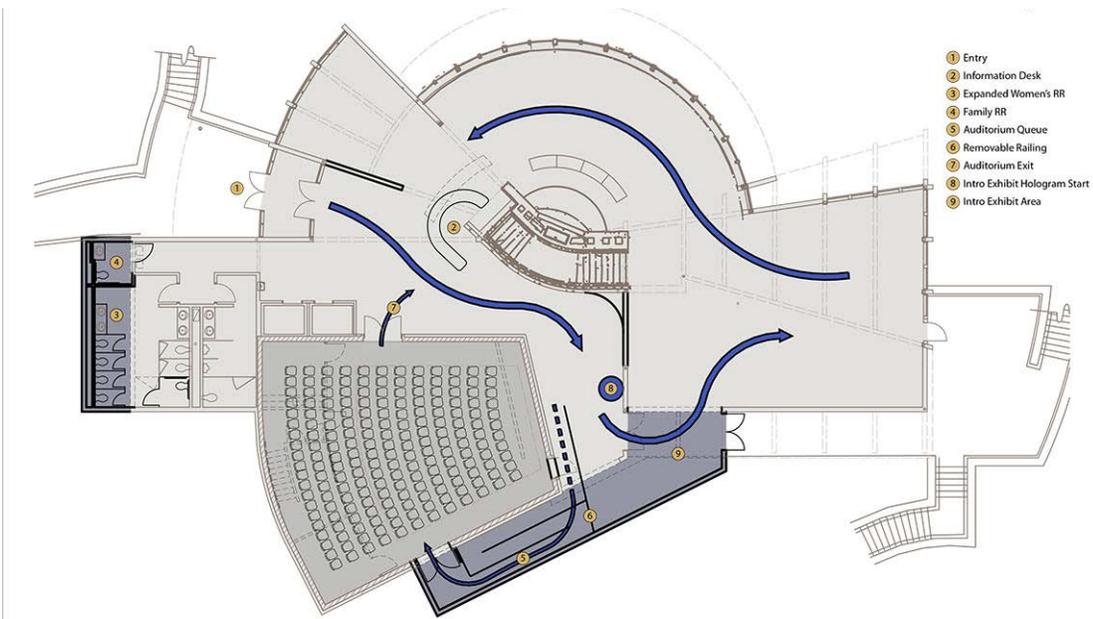


Upper Image:
Theater example

Middle Image Left:
Image of existing
back entrance to the
Visitor Center.

Middle Image Right:
Image of existing
theater in the Visitor
Center.

Lower Image:
Proposed floor plan



Steep Creek Realignment & Boardwalk

Purpose and History:

Steep Creek is an anadromous stream that is a favorite fish and bear viewing area from July through October. This wildlife viewing and elevated boardwalk trail provide an outstanding visitor experience within the MGRA.

Currently, a stretch of Steep Creek is considered to be poor to moderate spawning habitat. Steep Creek Trail is a combination of at-grade and elevated trail and provides access to the portion of the creek closest to the Visitor Center. During periods of high bear activity, the at-grade paved part of the trail is closed to reduce bear and human conflicts. Closing the trail increases congestion and confusion, and decreases the quality of wildlife viewing.

Restoring the lower portion of Steep Creek and moving it away from Glacier Spur Road will provide opportunities to enhance salmon spawning habitat, and improve wildlife viewing. Extending the elevated boardwalks and minimizing at-grade portions of the trail will improve safe separation between wildlife and humans. Expanding the trail and creating additional looped trails will help disperse visitors, reduce trail congestion, and develop this popular experience.

Design Summary:

A portion of Steep Creek will be realigned and restored, improving salmon spawning habitat and providing more separation between Steep Creek and Glacier Spur Road. The creek is restored with pools, riffles, and meanders, and a wide creek floodplain that allows for natural movement of bears within the corridor.

Portions of the paved at-grade Steep Creek trail will be removed, and the existing elevated boardwalk system will be extended. This expansion connects to the Trail of Time via a grade-separated pathway below a new vehicle bridge on Glacier Spur Road (See page 22). The elevated boardwalk extends to the north of the existing boardwalk, connecting to the new Welcome Center and includes new observation platforms and interpretive signs. The proposed alignment will provide better separation of humans and bears, and avoid the need for pathway closures.

This project will: restore and enhance areas of Steep Creek, reduce bear and human conflicts, expand the elevated Steep Creek boardwalk to provide additional loop trails, and decrease congestion within this area.





Upper Image:
Looking across
Steep Creek from an
observation deck.

Lower Image
Right: View of
the boardwalk
observation deck
from Steep Creek.

Lower Image Left:
Guardrail and view
across creek.



Steep Creek Bridge & Underpass

Purpose and History:

Glacier Spur Road is currently a barrier for fish and wildlife. Two existing culverts allow Steep Creek to flow below the roadway; however, these culverts restrict fish passage. The section of Steep Creek to the east of Glacier Spur Road is prime spawning habitat and will be of benefit to salmon within this creek.

The purpose of this project is to provide fish, wildlife, and pedestrian passage under Glacier Spur Road by building a new bridge structure to span Steep Creek. These will allow free passage for fish, provide an opportunity for the creek to establish a natural creek bed, and improve the riparian ecosystem. It will also minimize conflicts for wildlife and provide safe passage for visitors under the roadway to access the Trail of Time while using the Steep Creek Boardwalk.

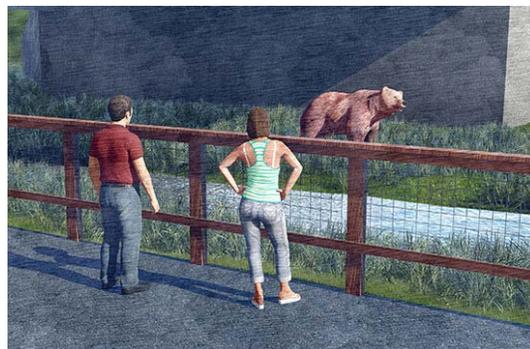
Design Summary:

The two Steep Creek culverts under Glacier Spur Road will be replaced by a bridge that will span the creek and allow passage of fish, wildlife, and pedestrians below the road. The span will be long enough to allow for creek changes over time, and human and bear travel. The widened passageway will facilitate natural movement of streambed materials downstream, improving fish habitat. Pedestrian use will be created as part of the Steep Creek Realignment and Boardwalk (See page 20) and will require barriers that separate visitors from bears that are using the underpass.





All Images: Looking east along Steep Creek to grade separated crossing.



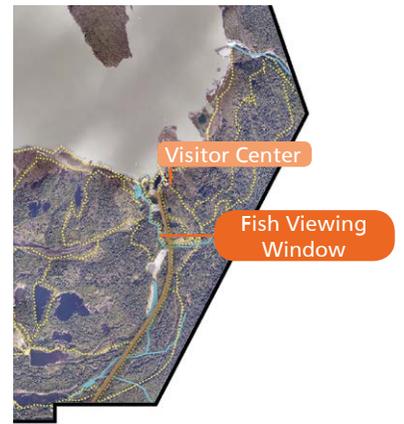
Steep Creek Fish Viewing Window

Purpose and History:

The ability to see salmon at 'eye level' is an excellent interpretation opportunity and learning experience. Initially proposed in 1994 (but not constructed), the USFS plans to develop an underwater salmon-viewing facility, with the potential to view salmon as they spawn. The facility will have many success criteria, including: level of accessibility, separation between visitors and wildlife (including bears), waterproofing and drainage for a facility located below the water table, the type(s) of adjacent riparian habitat to allow for the kinds of salmon behavior desired for viewing, and potential to be a multi-level facility.

Design Summary:

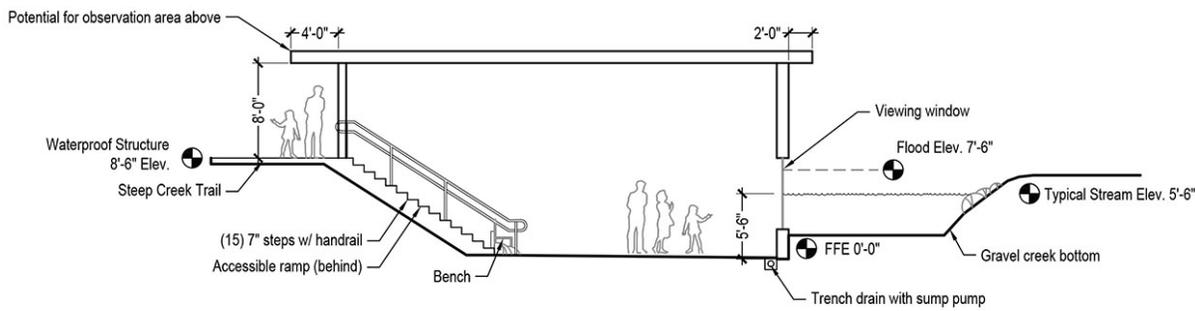
A new underwater viewing facility will allow users to view Steep Creek at eye level. The transparent wall facility will accommodate up to 100 people (50 at the window and 50 behind) with the ability to pass behind the viewing area. The facility will be accessible through the use of an internal stair and ramps, connecting the elevated Steep Creek boardwalk to the subterranean viewing area. The facility will be lit and open for year-round use with a finish floor elevation five feet below typical creek level. The facility will either require a structure that excludes flood events or that can withstand flood events, and a sump pump to remove water. The facility will be enclosed with gates and enclosures at the access points to keep bears out.





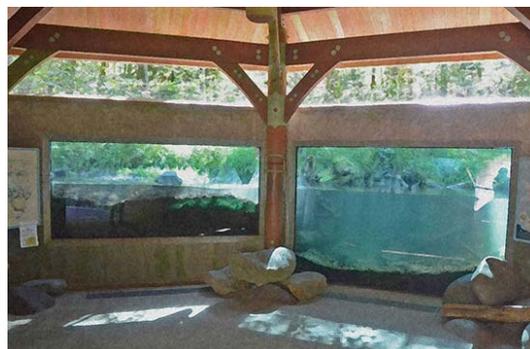
Upper Image:
Precedent graphic
of a fish viewing
window similar
to proposed
development.

Middle Image:
Section showing
relationship to
creek, trail, and need
to design for flood
water elevations.
Facility design
should consider
use of the roof for
observation (or as
additional covered
facility above).



Lower Image Left:
Example of all glass
viewing wall.

Lower Image Right:
Example of open-air
viewing structure.



Lakeshore Trail

Purpose and History:

An all-season non-motorized recreation trail connecting the Visitor Center Complex to West Glacier recreation facilities has been discussed for many years. The development of this trail was made a priority during the Mendenhall Glacier Recreation Area planning effort based on input provided by users, USFS staff, and public meeting attendees.

Access between the Visitor Center and the West Glacier area is by a non-motorized trail and public roads. A trail that runs along the shore of Mendenhall Lake will provide a direct two and a half mile connection between the two areas and links existing recreation facilities along the route. This trail will improve transportation efficiencies and create a new year-round recreation opportunity including Nordic ski use.

Design Summary:

The trail will begin at the Welcome Center Complex and typically follow the southern shoreline of Mendenhall Lake, crossing the Mendenhall River, and connecting with the existing Mendenhall Campground trail. The trail will be just over two miles in length. In winter, the trail will be used for both Nordic ski use and foot use. The trail will be a highly developed paved trail, or capable of being paved, and allow occasional use by emergency, maintenance, and winter grooming equipment. The trail will be a combination of at-grade paved trail (twelve-foot usable width, with one-foot shoulders) and elevated boardwalk (fourteen-foot usable width). The trail alignment will roughly follow the lakeshore and be usable in flood events up to a flood stage of eight feet (63' lake elevation) or three feet above normal summer lake elevation. The elevated portions of the trail will allow wildlife and flood waters to pass underneath and the at-grade portions will be designed to accommodate flooding.

The most significant aspect of the project will be a bridge across the Mendenhall River. The bridge will be a mixed cable-stay/suspension bridge, have a span of approximately 225 feet, and have a 14-foot usable width. The elevation of the bridge will be set to allow the required five feet of clearance to the river surface below based on a 100-year flood.





Upper Image Left:
View of elevated trail section and ability for wildlife to move below.

Upper Image Right:
Birds-eye view of transition between paved and elevated trail sections.



Middle Image:
View of transition between paved and elevated trail sections.

Lower Image: View of suspension bridge at Mendenhall River





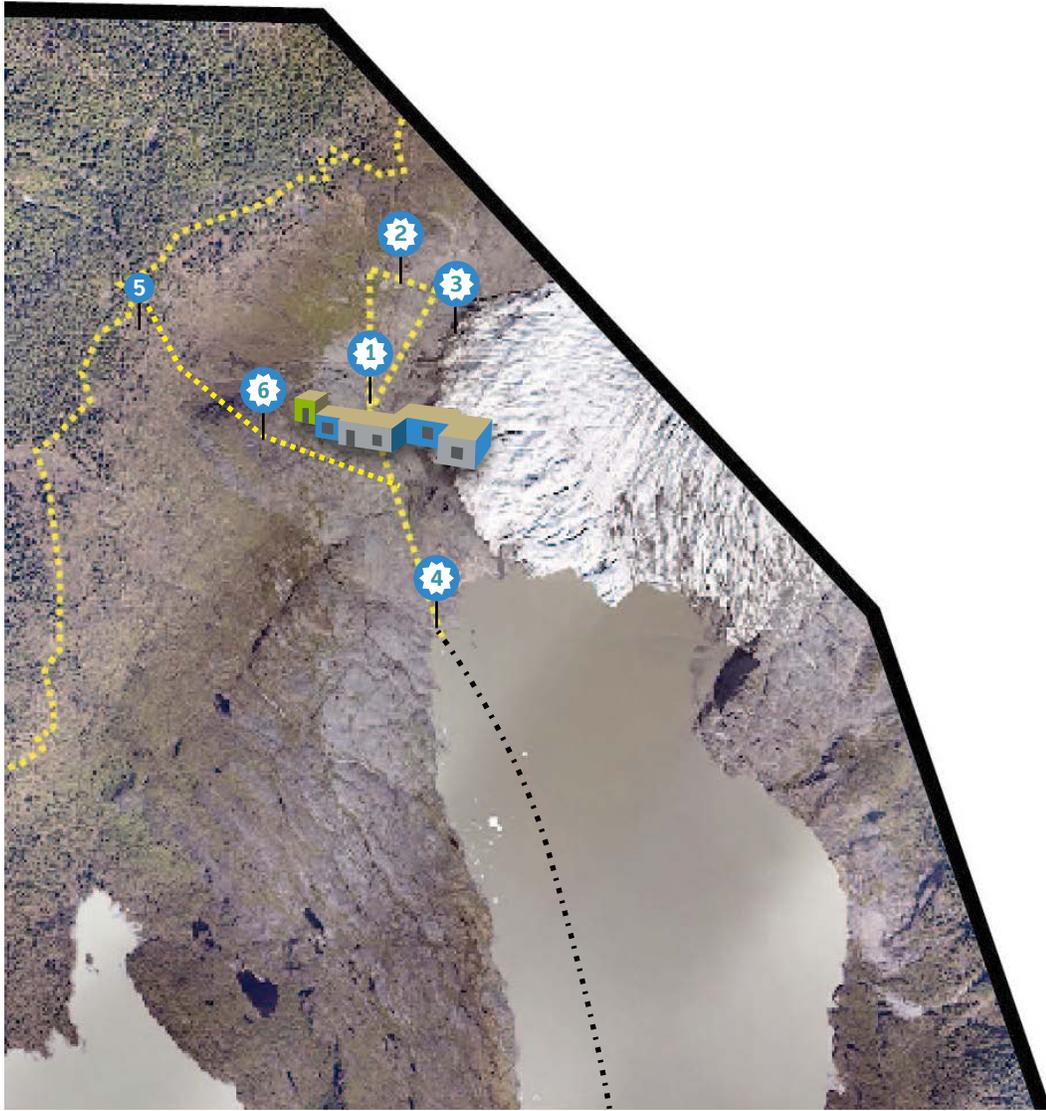
3

**GLACIER
ACCESS
ZONE**

Glacier Access Zone

The Glacier Access Zone will provide improved access to the Mendenhall Glacier. Visitors will have the ability to gain a better understanding of glacier phenomenon at close range. With the receding glacier, this area has recently become available to support the development of trails and limited facilities to provide for safety. The construction of a dock will enable visitors from the Visitor Center Zone to access this area without impacting the West Glacier and Dredge Lakes Units.

The illustration to the right shows existing and new facilities. The following pages provide additional information on the planned developments.



-  *NEW* Remote Glacier Facility
-  *NEW* Glacier Trail
-  *NEW* Glacier Observation Platform and Access
-  *NEW* Floating Dock
-  West Glacier Trail
-  *NEW* West Glacier Spur Trail

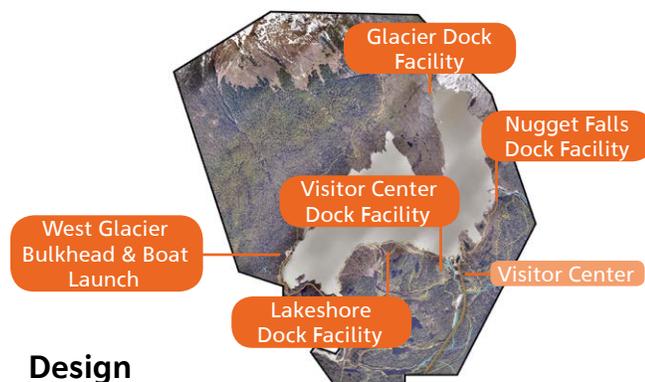
Docks & Support Facilities

Purpose and History:

Direct access to the Mendenhall Glacier is currently challenging and time-consuming. The majority of visitors experience the glacier through views from the Visitor Center, two miles away. Access to the edge of the glacier is currently only available by social trails leading from West Glacier Trail, by canoe or kayak, or across a frozen Mendenhall Lake in the winter.

Visitors want to 'touch the ice' and the lack of formal access creates safety concerns for people hiking on unmarked social trails or attempting to cross the lake in the winter. The limited time available for many visitors keeps people from physically accessing the glacier. As the Mendenhall Glacier continues to recede, both visual and physical access to the glacier will become more challenging. The terminus of the glacier is expected to retreat from sight from the Visitor Center by 2050.

Creating a water-based glacier access system across Mendenhall Lake will help to meet long-term user needs for safe and efficient access to the glacier from the Visitor Center.



Design Summary:

To provide efficient, convenient, and long-term access to the Mendenhall Glacier, four floating boat docks will be built on Mendenhall Lake. One dock facility will be located conveniently near the Welcome Center Complex and will provide a direct connection to the glacier via the dock facility on the north side of Mendenhall Lake. The location of the other two floating docks will be along the south lakeshore and at Nugget Falls. The west side of Mendenhall Lake will have a bulkhead and boat launch.

The docks will include an accessible gangway able to accommodate the wide fluctuation of lake levels. The Welcome Center Complex will have an uplands shelter for its dock, and a small facility will be at the glacier side that will include waterless restrooms. The bulkhead and boat launch will be located north of Skater's Cabin, in the West Glacier Zone, and will provide lake access for equipment during the construction of the docks. Upon completion of the docks, the bulkhead may be removed depending on future needs, and the boat launch may remain for public and commercial use.



Upper Image Left:
View of shelter with
queued line-up and
open area.

Upper Image Right:
Birds-eye view of
south side shelter
and dock facility.



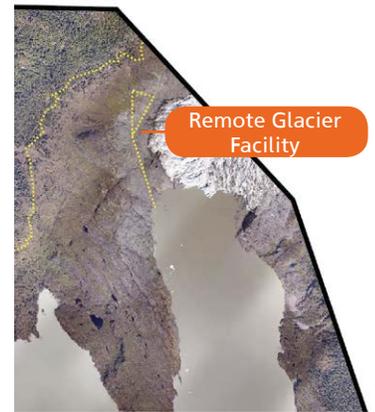
Center Image: View
of the boat dock
located near the
Welcome Center
Complex on the
south side of
Mendenhall Lake.

Lower Image Left:
Bird's eye view of
the boat dock near
the north side of
Mendenhall Lake
(glacier access)

Lower Image Right:
View of facilities
located at the
boat dock near the
Mendenhall Glacier.



Remote Glacier Facility



Purpose and History:

Gaining physical access to the Mendenhall Glacier is a desire for many locals and visitors. Access to the glacier is currently limited and can be unsafe without any formal trails or facilities. Currently access to the Glacier during the summer is from West Glacier Trail, or with a guide on the lake. In the winter access is primarily across the lake with many visitors coming from the Visitor Center area. Most visitors view the Mendenhall Glacier from the Visitor Center; however, as the glacier recedes out of view, it will impact one of the major attractions of the MGRA.

Providing a Remote Glacier Facility on the north side of Mendenhall Lake will allow for better recreation opportunities near the glacier, the provision of basic visitor facilities, and access to the glacier ice. The facility will support guide operations and provide trail networks that link to the glacier and other points of interest.

Design Summary:

The Remote Glacier Facility will be composed of structures that can be relocated as the glacier recedes. It will be designed to provide basic visitor services and include a small year-round heated facility, with a focus on interpretation and USFS/guide contact. A paved trail will provide access from the Glacier Boat Dock to the Remote Glacier Facility. Access to the dock in summer will be provided by boats departing from the Welcome Center Complex Dock.

A hardened interpretive trail loop will provide access to the glacier, and will be extended over time to follow the glacier's retreat. A trail will provide hiking opportunities to the small ridge to the west of the glacier to allow views to the ice from the trail and will include a small pavilion. A new spur trail will provide access to and from West Glacier Trail.



Upper Image: Bird's eye view of Remote Glacier Facilities.

Middle Image: View of Remote Glacier Facility structures.

Lower Image Left: View of Remote Glacier Facility Building from trail entrance.

Lower Image Right: Bird's eye view of Remote Glacier Facilities.





4 WEST GLACIER ZONE

West Glacier Zone

The West Glacier Zone receives minimal improvements. Those proposed near the West Glacier Trailhead are intended to support improved access to the Glacier Access Zone and Mendenhall Lake. One terminus of the Lakeshore Trail is located here and the other in the Visitor Center Zone, expanding hiking and biking access to the larger trail system.

The illustration to the right shows existing and new facilities.



- 1 West Glacier Trail
- 2 Skater's Cabin
- 3 West Glacier Access Facilities
- 4 *NEW* Lakeshore Trail (refer to Visitor Center Zone)
- 5 Campground
- 6 Ice skating/Hockey
- 7 Aak'w Sit Trail
- 8 *NEW* Bulkhead and Boat Launch (refer to Glacier Access Zone)



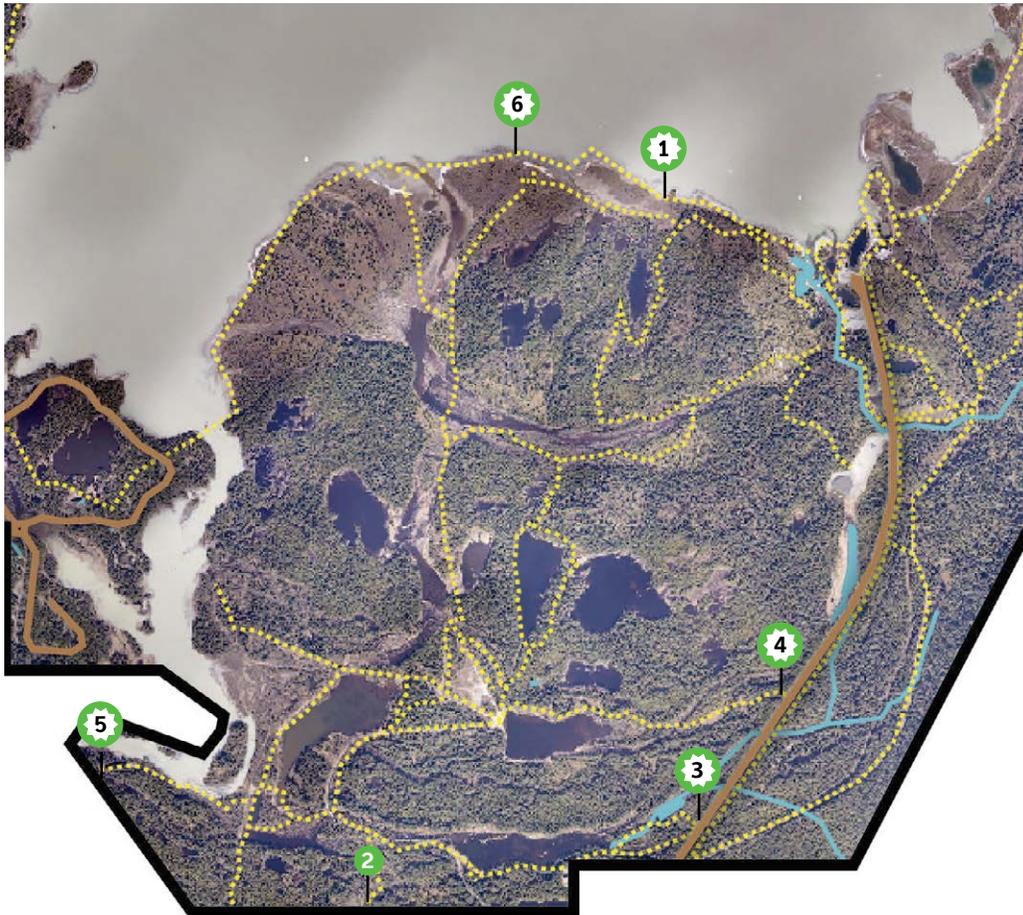
5

**DREDGE
LAKES
ZONE**

Dredge Lakes Zone

The Dredge Lakes Zone receives minimal improvements and will continue to be a location for those looking to get away from the crowds. The Lakeshore Trail extends through the zone, expanding hiking and biking access to the larger trail system. A dock would be located along the Lakeshore Trail along Lakeshore Trail, and provide direct access between the boat circuit and Dredge Lakes. Improved trailheads for Dredge Lakes and Crystal Lake Trails would be included as well as improved parking at the Back Loop Bridge Trailhead. General trail improvements will be implemented over time to mitigate flooding and maintenance needs in this zone.

The illustration to the right shows existing and new facilities.



- 1** *NEW* Lakeshore Trail (refer to Visitor Center Zone)
- 2** USFS Juneau Ranger District Office
- 3** *IMPROVED* Dredge Lakes Trailhead (refer to Visitor Center Zone)
- 4** *IMPROVED* Crystal Lake Trailhead (refer to Visitor Center Zone)
- 5** *IMPROVED* Back Loop Bridge Trailhead and Trail
- 6** *NEW* Lakeshore Dock (refer to Glacier Access Zone)



6

**FIFTY YEAR
VISION**

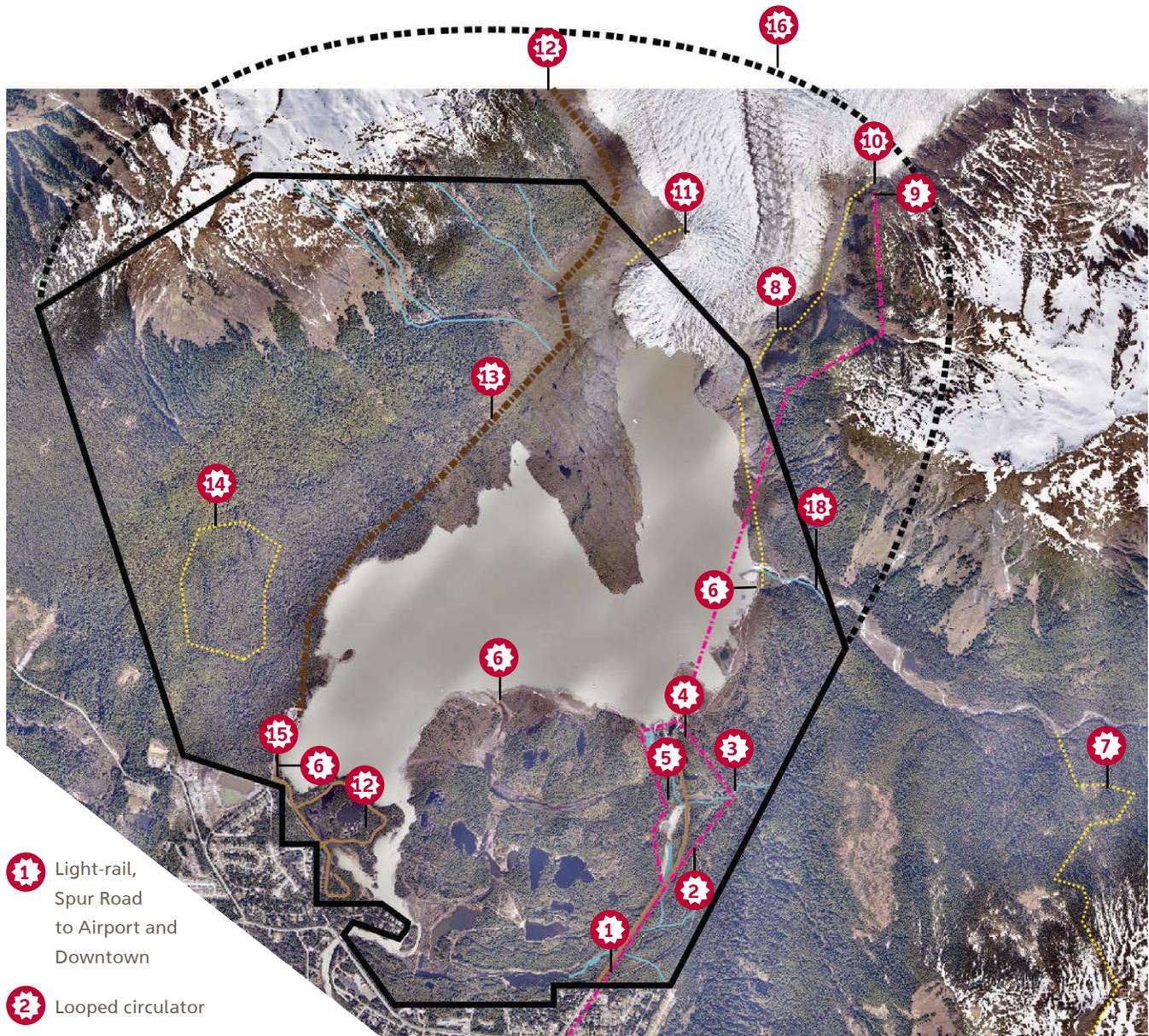
Our Future

A common statement within the planning process was the need to “chase the ice.” As the ice recedes, visitor interests and uses within the MGRA will change. The illustration to the right lists many of the ideas that came up during the planning process that may be needed for the future success of the MGRA.

For the implementation of this twenty year plan (and to fifty years and beyond), the following statements will guide planning, design and implementation:

- The MGRA is self-sufficient and fiscally responsible for raising the revenue necessary to support the goals of this plan.
- Transportation is a seamless component of people’s experience.
- People are drawn out into the site to experience something they might not otherwise have done.
- These facilities and area developments will be energy and resource efficient, with the goal of meeting the Living Building Challenge.
- These facilities are regenerative through its construction, operation, and obsolescence/re-purposing/decommissioning. It is integrated to be a part of its surrounding landscape systems.
- People’s interactions with nature are enhanced without negatively impacting the natural resources of the area.
- Resources are managed and protected to minimize the risk of being negatively impacted.
- People are provided with information that resonates with them and impacts their view of the world.
- Facilities benefit from partnerships with other entities, allowing them to assist in the management of USFS resources and operations within the MGRA.
- Infrastructure supports research opportunities.
- Partnerships reduce or eliminate duplication of services within the community, and reduce the use of community resources.
- Local community and the USFS operate collaboratively.

50 Year Vision of Potential MGRA Facilities



1 Light-rail, Spur Road to Airport and Downtown

2 Looped circulator

3 Steep Creek hydro and interpretation

4 Visitor Center re-purposed as an environmental education facility

5 Children's science facility

6 Docks for lake circulator

7 Heintzelman Trail connection

8 Trail to glacier

9 Hotel/Lodge

10 Possible East side Glacier Visitor Center gondola

11 Glacier trail extension and overlook

12 Public recreation cabin (2)

13 Road to glacier

14 Mountain bike and ski trails (combined)

15 Nordic Ski facility

16 Expand MGRA boundaries

17 Possible West Side Visitor Center (not shown on map)

18 Nugget Creek Hydro