



Foundation Document Overview

Glacier National Park

Montana



Waterton-Glacier International Peace Park • Biosphere Reserve • World Heritage Site

Contact Information

For more information about the *Glacier National Park Foundation Document*, contact: glac_superintendent@nps.gov or (406) 888-7800 or write to:
Superintendent, Glacier National Park, PO Box 128 , West Glacier, MT 59936

Park Description

Surrounded by wilderness, bordered by Waterton Lakes National Park in Canada and two forks of the Flathead Wild and Scenic River, Glacier National Park is part of one of the largest, most intact ecosystems in North America—the Crown of the Continent. Together with Waterton Lakes National Park it is the world's first international peace park, a world heritage site, and a biosphere reserve. Most of the park is also recommended wilderness.

Established by Congress on May 11, 1910, Glacier National Park was the 10th national park created and protects 1,600 square miles of the scenic northern Rocky Mountains in Western Montana. Named for the powerful glaciers that carved the landscape during the last ice age, the park displays rugged peaks and crystalline turquoise lakes, and other remnants of extensive glaciation. This is a land of sharp, precipitous peaks and knife-edged ridges, girdled by forests. The last remnants of alpine glaciers, disappearing quickly due to climate change, lie in the shadow of towering walls at the heads of great ice-carved valleys.

In 1932, Glacier National Park became a portion of the world's first international peace park along with Canada's Waterton Lakes National Park, named Waterton-Glacier International Peace Park. This designation was legislated by the U.S. and Canadian governments to promote international cooperation and peace, and beyond guiding park management, it also serves as a model that has been repeated around the world.

The park lies on the North American Continental Divide, at the center of the Crown of the Continent ecosystem, an area which encompasses approximately 18 million acres and includes other public lands in Canada and the U.S. including national forests, wilderness areas, and Canadian national and provincial parks. This area is a large and mostly intact ecosystem, home to the entire suite of North America's endemic large carnivores and the greatest floristic and aquatic biodiversity in the Rocky Mountains.

Species such as the bald eagle, and North America's indigenous carnivores, including the grizzly and black bear, gray wolf, wolverine, and cougar live and travel through the park. The headwaters of major river systems are found within the park, including rivers that flow to the Pacific Ocean, Gulf of Mexico, and Hudson Bay.

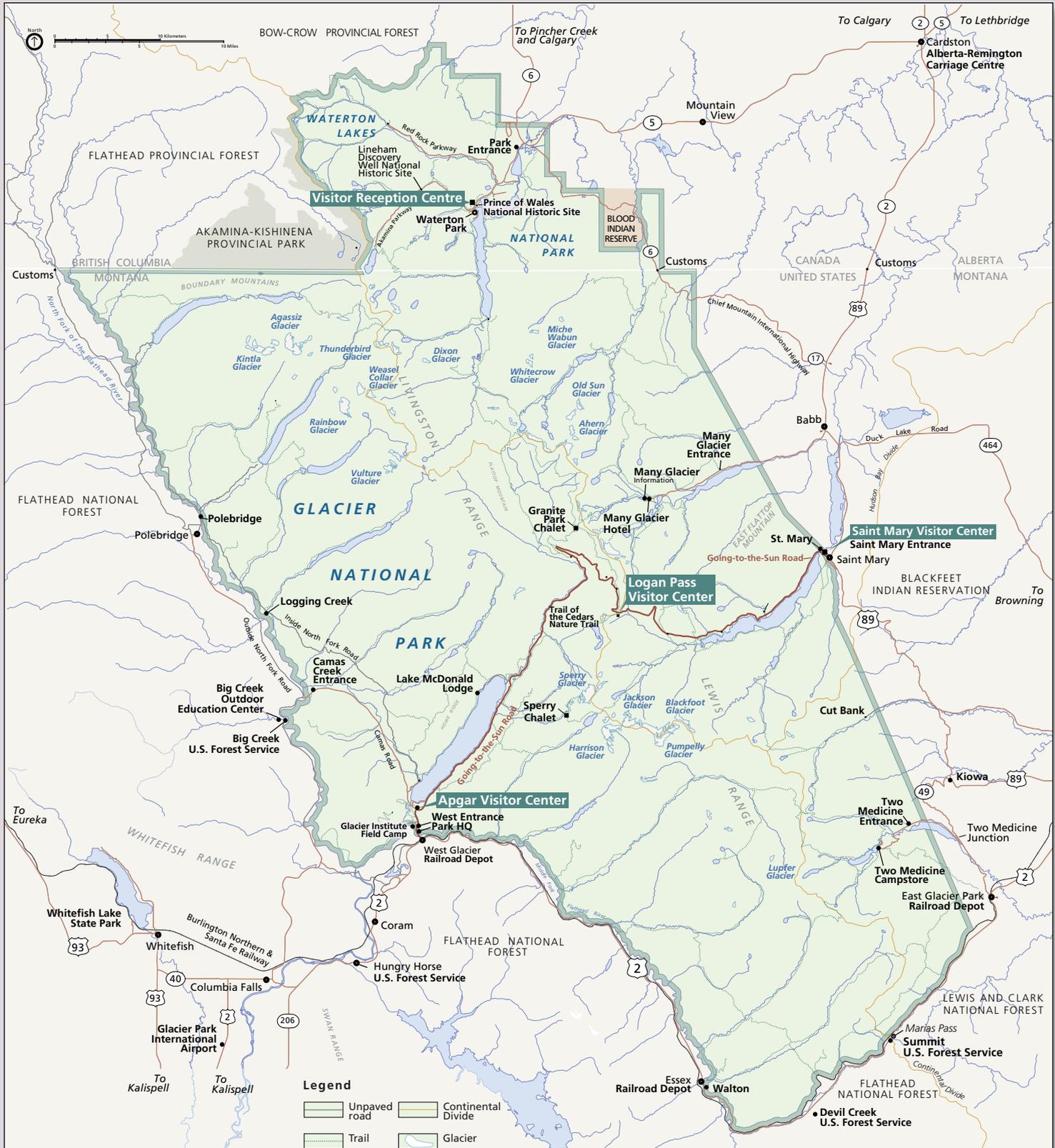
Glacier National Park's resources and landscapes have drawn people to the region for 10,000 years. The 338 archeological sites and 397 historic properties document the physical evidence of human activity and the importance of the area to American Indians, First Nations, explorers, homesteaders, entrepreneurs, visitors, and scientists.

Today, the park attracts more than two million visitors a year from all over the world. Visitors are able to enjoy the park in their own vehicles or board an iconic red bus to ascend the Going-to-the-Sun Road to Logan Pass and cross the Continental Divide. Boundless opportunities exist to experience solitude and truly dark night skies in the backcountry of Glacier National Park. Approximately 735 miles of horse and foot trails interweave almost all sections of the park and allow visitors opportunities to experience the many facets of Glacier National Park.

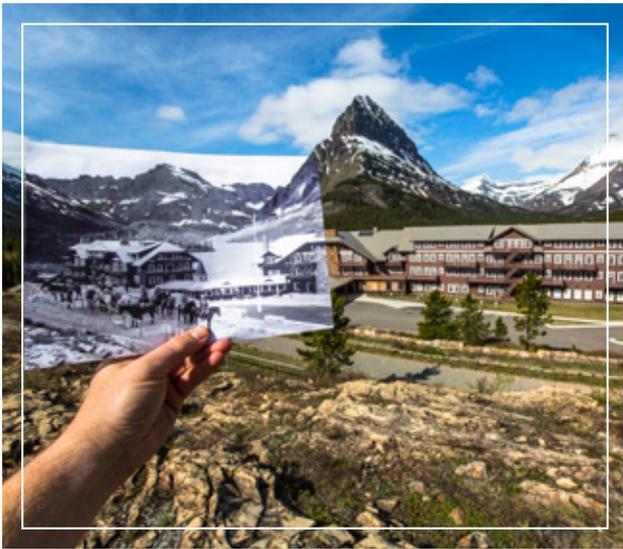
Conditions within and around the park have changed significantly over the years, and new threats and issues such as climate change and energy development challenge park managers. Park managers are working with neighboring agencies and partners in Montana and Canada to address the changes in nearby land management, increasing visitation, and climate change while striving to meet the National Park Service mission to leave park resources unimpaired for future generations. And, because Glacier is the world's first international peace park, park managers are working to foster transboundary protected areas and peace and cooperation between nations.



Park Map



Purpose



The purpose of GLACIER NATIONAL PARK, part of the world's first international peace park, is to preserve the scenic glacially carved landscape, wildlife, natural processes, and cultural heritage at the heart of the Crown of the Continent for the benefit, enjoyment, and understanding of the public.



Significance

Significance statements express why Glacier National Park resources and values are important enough to merit national park unit designation. Statements of significance describe why an area is important within a global, national, regional, and systemwide context. These statements are linked to the purpose of the park unit, and are supported by data, research, and consensus. Significance statements describe the distinctive nature of the park and inform management decisions, focusing efforts on preserving and protecting the most important resources and values of the park unit.

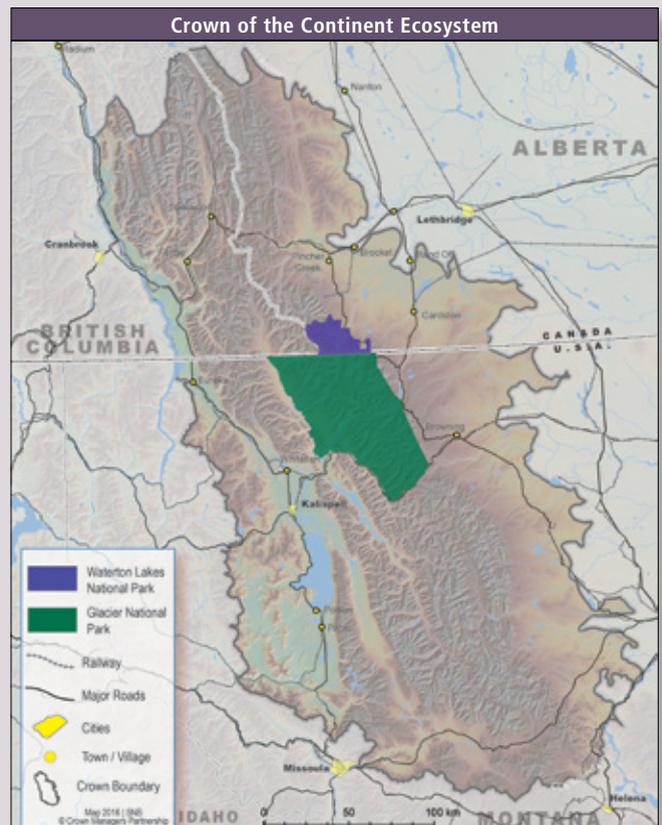
- **Geology and Hydrology** – Glacier's scenery dramatically illustrates a 1.6-billion-year geologic history and the many geological processes associated with mountain-building and glaciation.
 - Glacier has an outstanding assemblage of ice-age glacial features, and it has relatively accessible, small-scale active glaciers or their remnants.
 - Glacier provides an opportunity to see evidence of one of the largest and most visible overthrust faults in North America, exposing well-preserved Precambrian sedimentary rock formations.
 - Glacier is at an apex of the continent and one of the few places in the world with a triple hydrologic divide. Water flows to the Gulf of Mexico, Hudson Bay, and Pacific Ocean.
- **Wilderness Experience** – Glacier offers access to a diversity of spectacular scenery and increasingly rare primitive wilderness experiences.
 - The protection of Glacier's wilderness environment since 1910 has resulted in it becoming one of the few areas in the northern Rocky Mountains where dark skies are protected and natural sounds still predominate.
 - Two of the three forks of the Flathead Wild and Scenic River designate Glacier's western and southern boundary. The river, jointly managed with the Flathead National Forest, contains outstanding remarkable values, including recreation, scenery, wildlife, botany, geology, fisheries, water quality, ethnography, and history.

Significance

- **Intact Ecoregion** – Glacier is one of the most ecologically intact landscapes remaining in the temperate regions of the world.
 - Located at the narrowest portion of the entire Rocky Mountain chain and at the apex of three major continental river systems, Glacier National Park contains one of the most diverse combinations of plants and animals found in the Rocky Mountains, including threatened and endangered, rare, and sensitive species.
 - Because of the melting glaciers and the intact ecological processes, Glacier offers an outstanding opportunity for both research and adaptive responses to the impacts of climate change on a large landscape.
 - Glacier is one of the few places in the contiguous 48 states that continue to support natural populations of all indigenous carnivores and most of their prey species.
 - Waterton-Glacier International Peace Park has been designated as a World Heritage Site, and the parks are separately designated as biosphere reserves. As one of the largest areas of North America where ecological processes predominate, the peace park offers outstanding opportunities for protection and research.
- **Cultural Connections** – Glacier National Park’s resources and landscapes have drawn people to the region for 10,000 years. The physical evidence of human activity provided by 338 archeological sites and 397 properties listed in the National Register of Historic Places and the park’s collections document the importance of the area to American Indians, First Nations, explorers, homesteaders, entrepreneurs, visitors, and scientists.
 - Many Indian tribes have a strong connection with the area. From prehistoric times to the present, American Indians have identified this landscape and its resources as important to their identity and continuation of their way of life.
 - The park’s historic roads, trails, chalets, hotels, administrative buildings, and other features exemplify the iconic western park experience and most are still in use today.



- **Going-to-the-Sun Road** – The Going-to-the-Sun Road provides access to five different ecoregions and is one of the most scenic roads in North America. Due to the preservation of scenery, advanced engineering, and landscape architectural design it was the first road designated as a national historic civil engineering landmark and later as a national historic landmark.
- **Transboundary Cooperation** – In 1932, the long-standing peaceful relationship between the United States and Canada was recognized when Waterton Lakes National Park and Glacier National Park were designated by the U.S. Congress and the Canadian Parliament as the world’s first international peace park. In a world of shared resources, Waterton-Glacier International Peace Park serves as an inspiration and model of transboundary collaboration and cooperation.



Fundamental Resources and Values

Fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to merit primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance.

- **Glaciated Geologic Landscape / The Miistakis** – The landscape of the park, referred to as the Miistakis or “backbone of the world” by the Blackfeet, was built through plate tectonic processes and carved by the great ice-age glaciers. Today, virtually every glacial landform is present in the park, including alpine glaciers, moraines, arêtes, horns, cirques, and hanging and u-shaped valleys. The Lewis Overthrust, a klippe, viewable in the southern section of the park, is one of the world’s finest examples of an overthrust fault. Overall, the park’s rugged mountains, extremes in elevation, classic geologic features, and turquoise waters combine to create outstanding natural beauty.
- **Clean Water and Air** – Clean water (surface and groundwater) and air are critical to the health and support ecosystem function of Glacier National Park. The park’s clean water and air are vital to ecosystem health and to the visitor experience. Clean air allows visitors to see hundreds of miles from the park’s high peaks and to view stunning star-filled skies. The park is also a major source of clean water for three major river basins, the Columbia, Missouri, and Saskatchewan. Most notably, the Flathead Wild and Scenic River borders the park. The river is known nationally and internationally for its pure, clear waters that support fish, animal, and human populations throughout the region.
- **Diverse Habitats that Support Iconic Wildlife** – Glacier is a refuge for species on a continental scale. Thousands of plants and animals make their home in the park’s diverse environments, ranging from cool, dark forests representative of the Pacific Northwest; rolling prairies typical of the Great Plains; clean and cold streams, rivers and lakes; abundant wetlands; as well as the jagged ridges and soaring peaks that characterize the Rocky Mountains. The park is widely known for the wildlife supported by these habitats. In fact, it is one of the few places where all of North America’s native carnivores are present, including black bear, gray wolf, wolverine, cougar, and the federally listed grizzly bear, and Canada lynx. The park’s streams, rivers, and lakes are home to numerous federally or state-listed aquatic species of concern including bull and westslope cutthroat trout.
- **Tribal Connections** – The Blackfeet, Salish, Pend d’Oreille, Kootenai, and other tribes have a relationship with this land that goes back thousands of years. Archeological sites and other cultural resources are tangible reminders of this long history. The entire area holds great spiritual importance to all these tribes and their connection with this landscape continues today. Tribal cultures remain vibrant and vital within and around the park and maintain strong partnerships with Glacier National Park to preserve American Indian history and culture.
- **Variety of Recreational Opportunities** – Visitors from all over the world discover that the park has something for everyone. Many enjoy viewing wildlife and the glaciated landscapes from Glacier’s famous red buses along the Going-to-the-Sun Road. Other popular activities include hiking, horseback riding, staying in the only historic chalets in the park service, camping and backpacking, boating, fishing, viewing star-filled skies, hearing natural sounds, and photography. Visitors may also glimpse into past ways of life as experienced by tribes and past residents. Some visitors seek the solitude and challenge of the backcountry or climb the high peaks. Winter activities expand the opportunities with options such as cross-country skiing and snowshoeing. The park is one of only a few national parks accessible by passenger train.
- **International Peace Park** – In 1932, Glacier National Park and Waterton Lakes National Park were legislated by Canada and the United States as the world’s first international peace park. This designation signaled a commitment to collaborate between the two countries and park managers on both sides of the border for the ultimate benefit of visitors and regional ecosystems. The international peace park forever promotes the ideal of peace and international goodwill in a world of shared resources.



Other Important Resources and Values

Glacier National Park contains other resources and values that are not fundamental to the purpose of the park and may be unrelated to its significance, but are important to consider in planning processes. These are referred to as “other important resources and values” (OIRV). These resources and values have been selected because they are important in the operation and management of the park and warrant special consideration in park planning and management.

The following other important resources and values have been identified for Glacier National Park:

- **The Going-to-the-Sun Road** – No other road combines the historic associations, the landscape design aesthetic and engineering significance, and the excellent state of preservation as the Going-to-the-Sun Road. The road connects the east and west sides of the park and, at the threshold of wilderness, provides views of five ecoregions as it ascends thousands of feet to the Continental Divide. Along the way, it gives visitors motorized and nonmotorized access to some of the park’s most beautiful scenery. Both the design of the road and its setting contributed to its designation as both a national historic landmark and national historic civil engineering landmark. The Going-to-the-Sun Road is also designated as a cultural landscape.

- **National Historic Landmark Hotels and Chalets** – Glacier National Park is home to five national historic landmark hotels and chalets: Lake McDonald Lodge, Granite Park Chalet, Sperry Chalet, Many Glacier Hotel, and the Two Medicine Chalet Dining Hall (known as the Two Medicine Store). Most of these display Swiss chalet-style architectural details. The placement of these structures was designed to replicate a European system that linked hotels to backcountry chalets by a day’s hike or ride and contributed greatly to the development of Glacier National Park.
- **Other Historic Resources** – The park also manages 397 structures listed in the National Register of Historic Places. These resources include historic motels, snowshoe cabins, lookouts, the extensive trail system, and historic archeology such as cabins and chalets that no longer stand.



Identification of Key Parkwide or Major Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental and other important resources and values. For example, a key issue may pertain to the potential for a fundamental or other important resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but which still affect them indirectly. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Glacier National Park and the associated planning and data needs to address them:

- **Climate Change** – Climate change is a far-reaching and long-term issue that will affect all aspects of Glacier National Park. The statistically significant increase in mean annual temperature since 1950 and the projection for a continued increase in mean annual temperature of +4° to 5° F by 2050 and +5° to 9° F by 2100 will have a range of influences on the park’s natural resources (e.g., melting of glaciers, changes in species composition); cultural resources (e.g., increased vulnerability of artifacts emerging from melting ice); park facilities (e.g., weathering of buildings and roads); and visitor season (e.g., increased operational cost due to increased access). Responding to climate change is a priority for the National Park Service, and Glacier National Park has prioritized this as a key issue. The Crown is warming at 2 to 3 times the rate of the global average, and by 2030, glaciers are no longer predicted to exist in Glacier National Park, one of the core, protected areas within the Crown of the Continent Ecosystem. However, there is strong science to support the Crown of the Continent as a “resilient landscape” with respect to the both vulnerability and resilience to climate change. The park is working with others to develop a collaborative and coordinated response and identify adaptation measures that would be implemented with other agencies and landowners within the Crown of the Continent.
 - *Associated planning need:* Crown of the Continent adaptation plan for responding to climate change effects
 - *Associated data needs:* communication strategy for climate change; parkwide research on effects of climate change on the park’s keystone species and species in the alpine/subalpine transitional area
- **Wilderness Character** – Since 95% of Glacier National Park is recommended wilderness, maintaining wilderness character remains a priority. The park is facing difficult questions with regard to taking actions that protect species affected by nonnatives and climate change. Some responses have been and are being considered that require that actions be taken in the wilderness that otherwise would not be allowed. As park staff continue to take action to protect and enhance wilderness character, they also must carefully consider the intent of the Wilderness Act and the inherent tradeoffs which sometimes occur. Some adaptation actions in response to climate change and the protection of natural character may degrade the untrammeled qualities of the area, even for a short time. Development outside wilderness areas impacts dark night skies and natural soundscapes. The park is also responding to the poaching of protected species, bighorn sheep in particular. Implementation of the Going-to-the-Sun Road corridor transportation and visitor use management plan may have unintended consequences on elements of wilderness character.
 - *Associated planning need:* visitor use management plan
 - *Associated data needs:* trail use studies – outside of Going-to-the-Sun Road corridor
- **Ecological Integrity** – Glacier National Park is one of the many land managers in the Crown of the Continent tackling invasive species, both aquatic and terrestrial as well as other ecological landscape scale stressors. This challenge and need for management action is expected to be ongoing. Providing sound, credible, and current science to support decision making, and working together with other federal, provincial, and state agencies; tribes, First Nations, and nongovernment organizations is one of the current strategies being employed to combat invasive species.
 - *Associated planning needs:* response and action plans for various ecological stressors
 - *Associated data needs:* aquatic invasive species monitoring in park lakes; trend analysis of wildlife-human interactions; wildlife connectivity study
- **Deferred Maintenance** – Glacier National Park’s facilities are aging, with nearly \$150 million in deferred maintenance. Many of the facilities provide unique challenges to maintenance, particularly when they are also historic structures and buildings. Many of the facilities receive a high level of use, which increases the rate of deterioration. With fewer maintenance funds being appropriated to park units nationwide, this will be an ongoing challenge. In addition, climate change could exacerbate the deterioration of park facilities.

Identification of Key Parkwide or Major Issues and Associated Planning and Data Needs

- *Associated planning needs:* research and collections facility plan; site plan for Goat Haunt, including National Register of Historic Places nomination; sign management plan; site plan for Apgar developed area
- *Associated data needs:* national register nominations; comprehensive condition assessments for all assets in the park's Facility Management Software System portfolio; historic structure reports for rehabilitated structures
- **Visitor Carrying Capacity** – With a short summer season, one main road, and more than two million visitors each year, many areas in the park become intensely crowded and congested. The park has responded with visitor education (on best times to travel), implementation of a shuttle system, and a transportation and visitor use management plan currently underway. However, additional proactive measures should be taken to address this issue, which causes visitor frustration as well as impacts on resources and operations. There is also a growing demand for nontraditional use of the park such as kiteboarding which must be proactively addressed and managed.
 - *Associated planning needs:* visitor use management plan; accessibility self-evaluation and transition plan
 - *Associated data need:* parkwide visitor use survey
- **Transportation** – The park has taken major strides in improving the transportation on the Going-to-the-Sun Road through implementation of the shuttle system. However, other locations in the park should be considered. Efficacy and efficiency of in-park transportation, providing a multimodal connectivity to gateway communities is an important opportunity for the park to address. Currently, the shuttle service terminates at Apgar Visitor Center / Transportation Center, which is 2.5 miles from the town of West Glacier, where lodging and connections to an Amtrak passenger train exist.
 - *Associated planning needs:* cultural landscape treatment plan for the Going-to-the-Sun Road corridor; environmental assessment for the Inside-North-Fork-Road; parkwide transportation plan
 - *Associated data needs:* geohazard risk assessment along key road corridors; update the comprehensive GIS inventory of road assets
- **Incompatible Development and Threats** – The railroads on the southern and eastern boundary of the park are major oil and gas transportation routes. One of the most pressing concerns for park resource management is the possibility of an oil spill from derailment in the watersheds shared with the park. Another concern is the energy development and exploration in areas immediately surrounding the park, which could cause ecological degradation and damage to park resources. Overall park air quality, and the resources that depend on clean air, are currently of moderate concern and further development may increase this concern. Oil, gas, and coal extraction is occurring upstream of the park's watershed in Canada. Further development on tribal lands, while currently at a low level, could become a major concern for air quality, water quality, wildlife, and aquatic resources. The regional population has also increased, with additional pressures such as development of residential dwellings near the park, potentially impacting park resources, including wildlife movements and connectivity. Private lands within the park are not zoned, and incompatible development has occurred within the park boundary, affecting resources and visitor experiences. The park has an opportunity to work with landowners to proactively address concerns and mitigate risks related to incompatible development.
 - *Associated data needs:* parkwide air quality monitoring; visual resource inventory; transboundary data sets; analysis of transboundary conservation practices around the world; compatibility standards for private lands inside the park
- **Relevance and the Visitor Experience** – Maintaining relevance of the park for all audiences originates to the NPS Organic Act—to preserve and protect resources for the enjoyment of the public. A pressing issue is making the park more accessible to people with disabilities. Changing national demographics, visitor use interests and patterns, technology expectations and opportunities, and even the extension of the summer season due to changes in climate are factors affecting visitor experiences and need consideration and action by park staff.
 - *Associated planning needs:* visitor use management plan; accessibility self-evaluation and transition plan; update to the comprehensive interpretive plan
 - *Associated data need:* parkwide visitor use survey
- **Optimize Relationships and Collaboration** – Fostering strong relationships and strengthening partnerships with the park's partners (federal, provincial and state agencies, tribes and First Nations, nonprofit organizations, local communities and neighbors in Canada and the U.S.) will guide Glacier National Park into the future and be invaluable in addressing the previously identified key and shared issues and better assure protection of park resources.
 - *Associated planning need:* youth engagement strategy
 - *Associated data needs:* collaborative scenic conservation strategy; visual resource inventory

Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all of the park significances and fundamental resources and values.

- The geologic features of Glacier National Park combine natural beauty, examples of mountain-building, and the effects of glaciation, revealing many chapters in the history of the earth.
- Glacier National Park offers a variety of wilderness experiences that provide the challenges and rewards of encountering nature on its own terms while conveying the necessity of stewardship for the land.
- Glacier National Park’s designation as part of the world’s first international peace park celebrates ongoing peace, cooperation, and goodwill between two nations and symbolizes the ideal of peace among all nations, in a world of shared resources and issues that transcend boundaries.
- Glacier’s cultural resources chronicle the evolving history of human activities, interactions, and experiences in the American West, which reveal changes in societal attitudes about land and its uses.
- The enduring connection between the Blackfeet, Salish, and Kootenai peoples and the landscape and resources of the area known as Glacier National Park is reflected through their history, traditions, languages, and contemporary values.
- The establishment of Glacier National Park and its geographic location, surrounded by adjacent designated wilderness, a park to the north, and U.S. Forest Service lands, has enabled its ecological processes and biological diversity to survive relatively intact in a rapidly changing and encroaching world and may provide refugia for some species in the face of climate change.

