National Park Service
U.S. Department of the Interior

Kenai Fjords National Park
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Kenai Fjords National Park Profile 2013

Photo by Fiona Ritter-Davis

Sweeping from rocky coastline to glacier-crowned peaks, Kenai Fjords National Park is located on Alaska's Kenai Peninsula, 128 miles southwest of Anchorage. The park is accessible by car, bus, train, boat, and plane. Kenai Fjords encompasses approximately 601,839 acres of unspoiled wilderness including 545 miles of coastline, rugged and glaciated mountains, numerous glaciers, fjords, and bays, and abundant terrestrial and marine wildlife. The park is capped by the Harding Icefield, a relic from past ice ages and the largest icefield contained entirely within U.S. borders.

The park's headquarters and information center are located in the town of Seward (population 2,693 as of 2010 US Census Bureau). The Exit Glacier area is accessible by road, approximately 12 miles from Seward. Additional access to the park is by small plane or by one of the many commercial tour and charter boats that ply the coast along Kenai Fjords. Most of these boats operate out of Seward.

Legislative Background

Kenai Fjords was established as a national monument by presidential proclamation in 1978. It was designated as a national park in 1980 through the Alaska National Interests Lands Conservation Act (ANILCA).

> PUBLIC LAW 96-487, Section 201(5) - DEC. 2, 1980: *The park shall be managed for the following purposes, among others: To maintain unimpaired the scenic and environmental integrity of the Harding Icefield, its outflowing glaciers, and coastal fjords and islands in their natural state; and to protect seals, sea lions, other marine mammals, and marine and other birds and to maintain their hauling and breeding areas in their natural state, free of human activity which is disruptive to their natural processes.*

Mission Statement: "Kenai Fjords National Park was established to maintain unimpaired the scenic and environmental integrity of the Harding Icefield, its outflowing glaciers and coastal fjords and islands in their natural state; and to protect seals, sea lions, other marine mammals, and marine and other birds and to maintain their hauling and breeding areas in their natural state, free of human activity which is disruptive to their natural processes."

Origin of the name "Kenai Fjords": The park is located within the Kenai Peninsula. The exact derivation of the name "Kenai" is unclear. Any one of the following reasons may have been the root or origin for the name of Kenai.

- One source for the name is said to be the indigenous people at the time of Russian contact with the Dena'ina Athabascan. "Ken" translates into "big flat"; "Ken'ey" means two big flats and river cut-back, and the word "ken'e' represents trees and brush in a swampy marsh.
- Another source feels the name comes from the Russian name for Cook Inlet "Kenayskaya" meaning flat barren land.
- A third source states the possibility of it coming from the Inuit word "Kenai" which means black bear.

The coining of the name "Kenai Fjords" was in 1967 by Bailey Breedlove, a member of the National Park Service. Breedlove was flying from Seward to Anchorage, and was looking out his window at the glacially carved landscape. He was reminded of the fjords and glaciers of Norway, in which he had served during World War II. The name first appears in NPS planning documents co-authored by Breedlove and Richard Stenmark (*A Stern and Rock-Bound Coast*, Linda Cook and Frank Norris, 1998).

Park Acreage

- The legislative boundary of the park totals 669,983 acres (1,047 sq. miles). The National Park Service manages 601,839 of those acres (940 sq. miles).
- Based upon size, Kenai Fjords is the 8th largest national park in Alaska, and the 17th largest national park in the U.S.
- There are 19 inholdings within KEFJ including: 1 Kenai Peninsula Borough, 3 State of Alaska, Department of Natural Resources, 4 private, and 11 Alaska Native Corporation (either Port Graham or English Bay).
- The length of coastline that makes up the park's boundary is 545 miles. Kenai Fjords' boundary stops at "mean high tide." – (The level to which the water rose on an average day over a previous period of time, such as years or decades – www.irausa.com/glossary.asp)

NATURAL RESOURCES

Geology

The park's enabling legislation is unusual, even among Alaskan parks, in that it specifically references the connections between geological resources such as the Harding Icefield and fjord landscape to the biota and coastal and marine ecosystems.

The park is located just north of where the Pacific Plate meets the North American Plate, one of the most seismically active regions of the United States. During the 1964 earthquake, lands subsided three to six vertical feet. Tectonic forces and glacial processes combine to make an important laboratory for both geologic research and long-term ecological studies of how landscapes respond to infrequent, large-scale disturbances. For example, a unique opportunity exists to observe patterns and relative timing of ice retreat, primary and secondary plant succession, patterns of animal colonization, and evolutionary processes. The fjords have numerous examples of drowned cirques and marine terraces illustrating these geologic processes and the rocky headlands which are continually impacted by the extreme wave exposure and rich nutrient cycling found in Gulf of Alaska.

Harding Icefield

The Harding Icefield is the largest feature within Kenai Fjords National Park. It is located in the Kenai-Chugach mountain range on the Kenai Peninsula. The USGS named the icefield in 1950 for President Warren G. Harding, who toured Alaska in 1923, as the first president to visit the state.

- It is the largest icefield contained entirely within the boundaries of the United States.
- Approximately 50 miles across at the longest point; 20 miles wide across the widest point.
- Area of the icefield and its outflowing glaciers as of 2005 was 735 sq. mi (1,903 sq. km).
- 528 sq. mi (1,367.51 sq. km) of the land contained within the boundaries of Kenai Fjords National Park is covered in glacier ice, roughly 51% of the total park area (in 2005).
- From 1986 to 2000 the Harding Icefield and its surrounding glaciers lost 12 sq. mi (32 sq. km) or 1.7% of glacier ice cover. Within the boundaries of the park, which includes parts of both the Harding Icefield and the Grewingk-Yalik Ice Complex, 8.5 sq. mi (22 sq. km), or about 1.6% of glacier ice cover was lost over the same 14 year period. (B. Giffen, 2007).

Grewingk-Yalik Ice Complex: A portion of the Grewingk-Yalik Ice Complex is contained within the boundaries of the park, and is located to the southwest of the Harding Icefield. It is believed that sometime between 1850 and 1900, the two were joined as one larger icefield. Since they've separated, a wildlife corridor has developed, and new streams are impacting the ecosystem.

- The Grewingk-Yalik Ice Complex is 399 sq. km (154 sq. mi). The area of the ice complex that is actually contained within the boundaries of Kenai Fjords is unknown at this time.
- 8 named glaciers flow from the ice complex, but only the Yalik glacier terminates within the park boundary. No tidewater glaciers issue from the Grewingk-Yalik Ice Complex.
- From 1986 to 2000, the Grewingk-Yalik Ice Complex and its surrounding glaciers lost 8 sq. mi (20.5 sq. km) or 4.6% of its glacier ice cover (B. Giffen, 2007).

Glaciers of the Harding Icefield: There are at least 38 glaciers that flow from the Harding Icefield. 20 glaciers that flow from the Harding Icefield are formally named by the Geographic Names Information System (GNIS).

- The 20 named glaciers of the Harding Icefield are: Kachemak, Dinglestadt, Chernof, Truuli, Tustumena, Indian, Killey, Skilak, **Lowell, Exit, Bear, Skee, Lechner, Aialik, Addison, Pedersen, Holgate, Northwestern, McCarty and Split.**
- 12 named glaciers of the Harding Icefield (in **bold** above), terminate within the boundaries of the park. Two more glaciers reside within the park boundaries, but flows out of the Grewingk-Yalik Ice Complex. **Yalik** terminates within the park boundaries, while **Petrof** does not.

Precipitation on the Harding Icefield: Estimated 37-138 ft. (11-42m) average snowfall per year. (Based on calculations from water equivalence/glacier mass balance data 2010-2012).

"Tallest" locations on icefield and/or park :

- Truuli Peak, at 6,612 feet above sea level (1,500 ft. above the ice), is the tallest peak on the Harding Icefield.
- The highest surface on the Harding Icefield is approximately 5,200 ft. above sea level, in the west central part (this is the highest "ice-covered" area).
- The highest peak within the boundaries of Kenai Fjords, at 6450 ft., is unnamed, and is located just east of McCarty Glacier.

Exit Glacier

- Named "Exit Glacier" in 1968 by the first successful mountaineering party to cross the Harding Icefield. Beginning in Homer, they found Exit Glacier to be the most convenient exit at the north end of the icefield
- Length of outflowing portions: 2.2 mi (3.6 km) (from 2011 terminus position to the edge of the icefield). Length to the top of the glacier shed: 6.65 mi (10.7 km) (from 2011 terminus position to top of glacier shed).
- Width: 240 ft.-6125 ft. (72 m-1860 m) (Face of the glacier).

- Average snowfall at Exit Glacier: 199.4 inches/year (506 cm/year). 2011/12 snowfall at Exit Glacier: 243 inches (617 cm) (Based on available date from Exit Glacier Coop Weather Station).
- Reached its Little Ice Age maximum length around 1815, remaining there until around 1869 (Cusick, 2001). In previous ice ages, it flowed into a larger glacier which extended all the way to Seward (approx. 12 miles) and helped to shape Resurrection Bay.
- Exit Glacier flow rate: From 2009-2012 the average ice flow rate at Exit Glacier was 2.8-12 inches per day (0.07-0.3 meters per day).
- Average rate of retreat from 1825 to 2012: 42.6 ft. per year (13 m/year).
- It is the only area of the park that visitors can access by motor vehicle with just over a half-mile walk to a glacier view point.

Bear Glacier

- Bear Glacier is the longest and widest glacier in the park, and marks the northern reach of Kenai Fjords National Park on the coast.
- It is a valley glacier with a lake at its terminus caused by a recessional moraine that stops the ocean from following the glacier in its retreat.
- The face of the glacier is approximately 1-3 miles (1.6-4.8 km) wide. Its length is about 13 miles (20.9 km).
- The dimension of the fresh water lake in front of the glacier is approximately 3.5 miles (5.6 km) by 1.9 miles (3.2 km). It is 17.9 square miles in area. Two-to three-story icebergs can be found in the lake.

Holgate Glacier

- The first tidewater glacier in view after entering Aialik Bay.
- Named by U.S. Grant, a geologist with the USGS survey, between 1908 and 1911, after Dr. Thomas F. Holgate, Dean of the College of Liberal Arts of Northwestern University.
- The face of the glacier is approximately 0.5-1.5 miles (0.8-2.4 km) wide. Its length is about 3 miles (5 km).
- Extent of the ice during the Little Ice Age (1350-1850) believed to have reached the entrance of Holgate Arm by evidence of a now underwater recessional moraine.

Aialik Glacier

- A tidewater glacier that sits at the head of Aialik Bay.
- Named by Grant and Higgins USGS survey during 1908 and 1909 after Aialik Bay, a name that originated from an "eskimo name obtained by the Russians and recorded as Bukh[ta] Ayalikskaya" (Orth, *Dictionary of Alaska Place Names*, 54). The Sugpiaq term *aya* means "a special surprise" and *lik* means "place" (David Miller, *Exploring Alaska's Kenai Fjords, 154*).
- The face of the glacier is approximately 1.5 miles (2.4 km) wide. Its length is about 3.5 miles (5.6 km).

Northwestern Glacier

- The farthest south of the tidewater glaciers that the tour companies travel to in the park.
- Named by U.S. Grant, a geologist with the USGS survey, between 1908 and 1911, who was also a professor and chair of the Northwestern University geology department from 1899 to 1932.
- The face of the glacier is approximately 1 mile (1.6 km) wide. Its length is about 1.5 miles (2.4 km).
- It has retreated more than 10 miles in the past century and continues to retreat.

Fauna

Kenai Fjords National Park is a diverse ecosystem and home to a variety of land and sea mammals.

Land mammals include:

black bear, brown bear, beaver, coyote, mountain goat, river otter, snowshoe hare, little brown bat, lynx, hoary marmot, marten, mink, moose, meadow jumping mouse, northern bog lemming,

porcupine, shrew (5 species), red squirrel, vole (4 species), short-tailed weasel, gray wolf, and wolverine.

Marine mammals include:

sea otter, Dall's porpoise, harbor porpoise, Steller's sea lion, harbor seal, killer whale, fin whale, gray whale, humpback whale, minke whale, and sei whale.

Birds include:

A total of 191 species of birds have been documented in the park including: bald eagle, common raven, Steller's jay, black-billed magpie, tufted and horned puffins, black-legged kittiwake, common murre, parakeet auklet, rhinoceros auklet, and varied thrush.

Fish Include:

Forty species of marine and freshwater fish have been documented in/near the park including: all five species of Pacific salmon (pink, chum, silver, red, and king).

Threatened or endangered species:

humpback whale, sei whale, gray whale, and Steller's sea lion.

Species of special concern/ rare species:

Kittlitz's murrelet, peregrine falcon, northern goshawk, gray-cheeked thrush, Townsend's warbler, blackpoll warbler, and harbor seal.

Flora

Trees and other plants are extremely varied in the park given the range of geographic features and climate zones. Interior valleys are primarily comprised of Sitka spruce and western hemlock forest, with alder, cottonwood, and willow showing up in recently de-glaciated areas. Hemlock, bunchberry, mountain cranberry, and devil's club crowd the forest floor. Sitka spruce and rich growths of devil's club, salmonberry, and skunk cabbage are found along the coast. Large stands of kelp forest dominate the intertidal zone.

Management Species of Concern: These plants are either rare or uncommon globally and rare in Alaska or common globally and critically impaired to rare in Alaska:

Enander's sedge (*Carex lenticularis var. dolia*)
dunhead sedge (*Carex phaeocephala*)
sessileleaf scurvygrass (*Cochlearia sessilifolia*)
Alaskan douglasia (*Douglasia alaskana*)
Pale poppy (*Papaver alboroseum*)
Chimissso's orchid (*Platanthera chorisiana*)
Arctic pennycress (*Thlaspi arcticum*)

-Carlson, M.L., R. Lipkin, and J.A. Michaelson. 2005. *Southwest Alaska Network Vascular Plant Inventory, Final Summary Report*. National Park Service, Southwest Alaska Network, Anchorage, AK. NPS/AKR/SWAN/NRTR-2005/06.

Invasive Plant Species: The following were found in Kenai Fjords National Park in 2012:

field mustard (*Brassica rapa*), common chickweed (*Stellaria media*), yellow toadflax (*Linaria vulgaris*), pineapple weed (*Matricaria discoidea*), common timothy (*Phleum pretense*), common plantain (*Plantago major*), annual bluegrass (*Poa annua*), tall buttercup (*Ranunculus acris*), common sheep sorrel (*Rumex acetosella*), curly dock (*Rumex crispus*), common dandelion (*Taraxacum officinale ssp. officinale*), alsike clover (*Trifolium hybridum*), prostrate knotweed (*Polygonum aviculare*).

Cultural Resources

Archeological: 29 sites on NPS land, an additional 45 "local sites" are within the legislative boundaries of the park, but these sites may have been destroyed, could not be relocated, or are private lands or lands managed by other agencies. Of particular historical significance:

- Nuka Bay Historic Mining District for its history of gold mining on the coast of Alaska.
- The numerous archeological sites that reflect the long history of the Alutiiq people along the coast.

Catalogued Museum Objects: 67,820 objects as of FY2011

Human History: The **Alutiiq** (plural: *Alutiit*), also called Pacific Yupik, or *Sugpiaq*, are a southern coastal people of the Yupik peoples of Alaska. There is archeological evidence and oral tradition that indicates they have lived for hundreds if not thousands of years in this area. They traditionally lived a seasonal, coastal lifestyle, subsisting primarily on ocean resources such as salmon, seabird eggs, seal and whale, as well as, rich land resources including berries and land mammals. The descendants of the early Alutiiq people live today in coastal fishing communities, such as Nanwalek and Port Graham at the end of the Peninsula. They name themselves and their language *Sugpiaq*.

Climate and Weather

Kenai Fjords generally enjoys a relatively temperate maritime climate, primarily due to the influence of the Alaska coastal current that flows through the Gulf of Alaska.

- **Summer:** The daytime temperatures range from the mid 40s to the low 70s (Fahrenheit). Overcast and cool rainy days are frequent with occasional sunny days. Snow often remains in the higher elevations through June or July.
- **Winter:** Temperatures can range from the low 30s to -20 (Fahrenheit). The Exit Glacier area averages close to 200 inches of snowfall annually, but conditions vary greatly. Storms dumping several feet of snow are common, as are rainy mid-winter days with temperatures normally hovering in the mid-upper 30s.

Administration

72 employees in fiscal year 2012

	Permanent	**Seasonal**
Park Management	1	0
Administration	6	0
Interpretation	5	20
Protection	4	2
Maintenance	6	13
Resource Management	6	7
OASLC	2	0
Totals	30	42

Total figures for Volunteers in Parks (2012): 86 volunteers contributed 11,876.25 hours of service.

Student Conservation Association (2012): 12 volunteers contributed approximately 3,994 hours of service.

Operating Budget: 2012 base appropriation: $3,737,100
2011 base appropriation: $3,725,975
2010 base appropriation: $3,729,925

Visitor Services and Protection

Visitation: 281,279 recreation visits in 2012
346,852 recreation visits in 2011
297,596 recreation visits in 2010

Campgrounds: 1 (located in the Exit Glacier area)

- This is a 12-site, tent-only campground, with two sites that are wheelchair accessible. Sites are available on a first-come, first-served basis. Each site is limited to 2 tents and no more than 8 people per campsite. There are no reservations or camping fees. There is a fourteen day stay limit.
- A shelter for food storage, cooking and dining is provided for the campground. Cooking and/or storing food in campsites is prohibited. There is a pump for drinking water and pit toilets are available.
- The campground frequently fills by early evening in July and August.

- Pets are not permitted in campsites.
- Vehicle camping is strictly prohibited.

Backcountry Camping: (no reservations necessary)

- Backcountry camping is allowed throughout the park except within 500 feet of a public use cabin or within 1/8 mile of a road or trail at Exit Glacier.
- It is strongly encouraged to complete a free voluntary backcountry registration before camping in the backcountry. Forms are available at both the Exit Glacier Nature Center and the Information Center in Seward, or at http://www.nps.gov/kefj/planyourvisit/backcountry-registration.htm. All campsites are first come, first served.
- Food storage lockers are located at selected campsites along the coast. Maps are available at http://www.nps.gov/kefj/planyourvisit/maps.htm. Camping on private inholdings is permitted only at designated sites, and permission must be granted by owners.

Public Use Cabins: 3 (reservations required)

- Two public use cabins, *Aialik* and *Holgate* are available on the Kenai Fjords coast during the summer months (from Memorial Day weekend to Labor Day). They can be reached by boat or float plane. Reservations can be made through the Alaska Public Lands Information Center (APLIC) by phone at 866.869.6887 or by e-mail at http://www.nps.gov/aplic/center
- *Willow* cabin at Exit Glacier, is available once Herman Leirer Road is snow-covered in late fall through approximately early April. Reservations are available by calling the park directly, at 907.422.0500.

Picnic Areas: 3

- Located next to the Nature Center off the main parking lot.
- Located adjacent to the RV parking lot.
- The food shelter at the parking area for the Exit Glacier campground, dedicated for the campers staying in the park's campground ONLY.

Hiking Trails: 4

The only maintained trails in Kenai Fjords National Park are those in the Exit Glacier area. The 3 short trails on the valley floor range from .5 to 1.5 miles (one-way) and provide views and/or access to Exit Glacier.

- **Trail to Glacier View:** A wheelchair accessible loop that leads to a panoramic view of Exit Glacier. A spotting scope is provided (0.5 miles).
- **Trail to the Toe of the Glacier:** Getting to the toe of Exit Glacier requires crossing the rocky outwash plain. This area is not always accessible due to shifting streams (1.0 mile).
- **Trail to the Edge of the Glacier:** A moderately strenuous hike that leads to a wall of blue ice at the edge of Exit Glacier (1.2 miles).
- **The Harding Icefield Trail:** A strenuous hike with an elevation gain of approximately 3500 feet that ends in a spectacular view of the Harding Icefield (4.1 miles).

Interpretation and Education

Facilities: 2

- Information Center (located in small boat harbor, Seward).
- Exit Glacier Nature Center (located at the end of Herman Leirer Road).

Programs presented in 2012

- Formal programs, including hikes, talks, boat programs: 1,265 programs for 80,704 visitors
- Educational Outreach and programs: 95 programs for 3,477 visitors
- Information and Nature Center contacts: 2 facilities served 121,030 visitors

PARTNERS

Alaska Geographic , Ocean Alaska Science and Learning Center, Alaska SeaLife Center, Major Marine Tours, Kenai Fjords Tours, Exit Glacier Guides, Student Conservation Association, Alaska Service Corps (SAGA), Seward Community Library & Museum, Chugach Corporation, US Forest Service, US Fish and Wildlife Service, Alaska State Parks, City of Seward, Resurrection Bay Conservation Alliance, Nordic Ski Club, US Military, Seward Parks & Recreation, Iditarod Trailblazers, Kenai Peninsula Borough School District.

MANAGEMENT CONCERNS

High-Priorities for 2013:

- Sequestration: In spring of 2013, the federal government implemented a component of the Budget Control Act of 2011, commonly known as the "sequester." This mandated across the board cuts of 5% to all federal agencies, which will be enforced over the remaining 7 months of the fiscal year. Kenai Fjords is committed to meeting this budget goal, and to minimizing any negative impacts it may have on our visitors, partners, and our local community.
- Consolidation of downtown administrative facilities: The renovation of the Old Solly's building in downtown Seward is scheduled to be completed this summer. This will be the new administrative headquarters of Kenai Fjords National Park, and should be occupied by the end of the summer, 2013. The park is also moving forward on either rehabilitating or disposing of other excess properties in downtown.
- Re-occurring flooding of the Exit Glacier area: The park is implementing science-based decision-making to create a long-term mitigation or solution to the reoccurring flooding in the Exit Glacier area. We have deployed an interim engineering solution to prevent the loss of road. Park staff are monitoring conditions while USGS scientists are studying the causes to find solutions.
- Ocean Alaska Science and Learning Center (OASLC): The park is implementing recommendations from a recent management review, and increasing coordination with the Murie Science and Learning Center. The OASLC will continue its direction to enhance ocean and coastal stewardship for all units of the NPS in Alaska.
- Marine Debris: Engage with partner agencies and local NGO's in preparation for responding to Marine debris washing up on park coastline, with a special awareness of debris from the 2011 Japanese Tsunami.
- Climate Change: Formalize a partnership between federal agencies, NGOs, and local communities to respond to climate change on the Kenai Peninsula.