



Crescent Lake Visitor Improvements

Environmental Assessment

June 2023



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to assure that their development is in the best interests of all. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



NOTE TO REVIEWERS

If you wish to comment on this document, you may mail comments to:

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You may also comment for this project online at
<https://parkplanning.nps.gov/CrescentLakeImprovements>.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. You can ask us to withhold your personal identifying information from public review, but we cannot guarantee that we would be able to do so.

ON THE COVER

Brown bears on the beach with visitors fishing and bear-viewing in the background at Crescent Lake, Lake Clark National Park, Alaska.

E. Rupp-NPS Photo

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1 Introduction

The Lake Clark National Park and Preserve (LCNPP) is proposing to add infrastructure in this Crescent Lake Visitor Improvements Environmental Assessment (EA). This EA includes the required content under the National Environmental Policy Act (NEPA). The EA discloses the purpose and need for action, the current and future condition of the environment if no action is taken, action alternatives, issues, and impacts that may result from the action alternative.

2 Project Location

The proposed project is located within the Kenai Peninsula Borough of the State of Alaska. The proposed project occurs on National Park Service (NPS) managed land on the west side of Cook Inlet approximately 60-miles southwest of Kenai, Alaska, adjacent to Crescent Lake, Alaska (Figure 1).

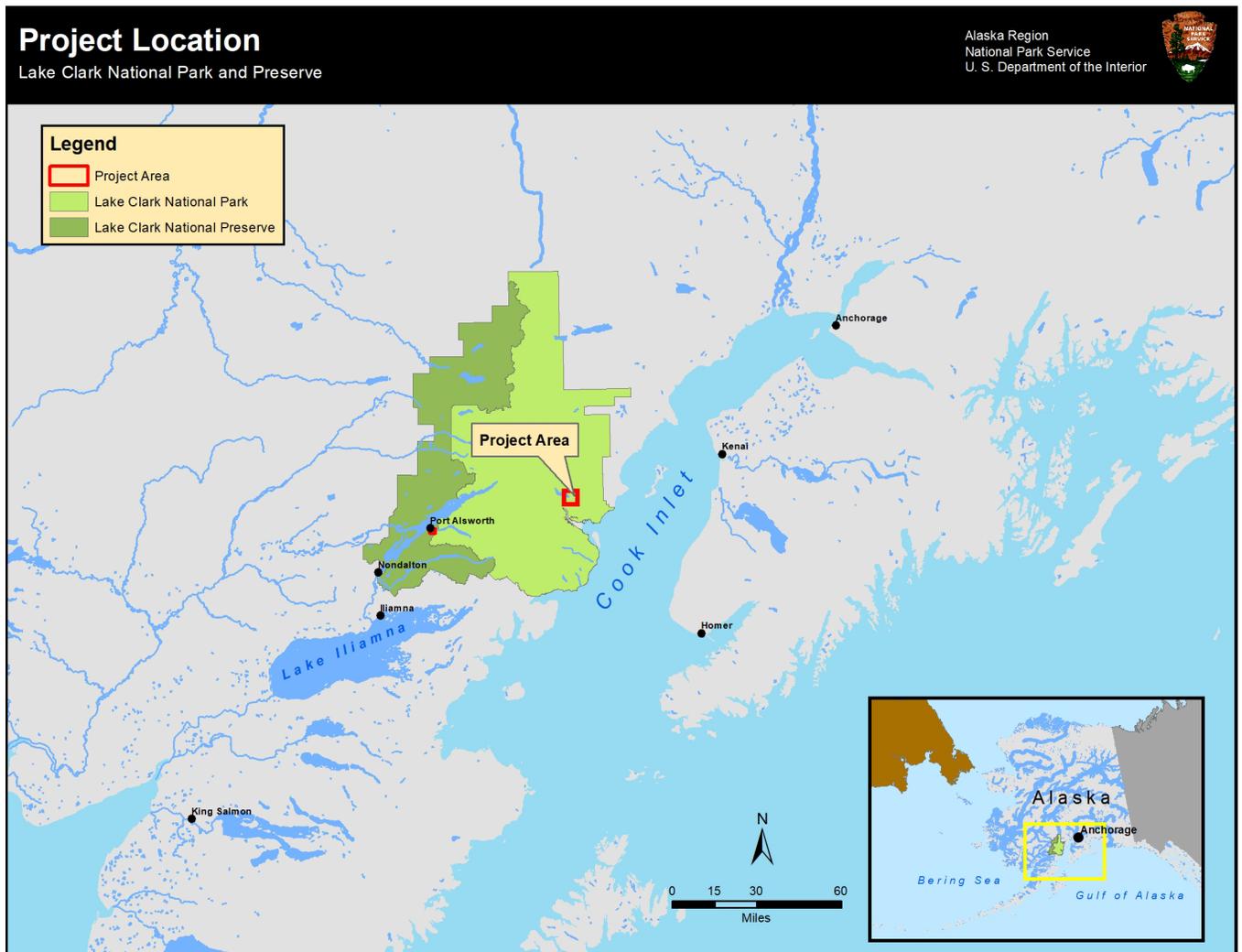


Figure 1. Location of Lake Clark National Park and Preserve and Project Area Within Alaska

3 Background

Crescent Lake is located on the west side of Cook Inlet north of Tuxedni Bay within Lake Clark National Park. The lake is one of the most visited locations in the park, with nearly 3,500 visitor use days (a visitor use day is each day a visitor is at the park engaging in an activity) recorded in 2022. This 2022 visitation represents a significant increase, increasing from 1,600 reported visitor use days in 2010.

Visitor access to Crescent Lake is by float plane, with visitors primarily seeking opportunities to sport fish and bear view. Commercial Use Authorization (CUA) operators provide access and guided activities for most of the visitors of Crescent Lake.

Most of this visitor activity is concentrated near the lake outlet and upper one mile of Crescent River. There is limited park infrastructure at Crescent Lake, currently consisting of a seasonally staffed ranger station and a dock for the park's boat and floatplane to support park management of the site. This cabin and dock are in a small cove near the lake outlet (Figure 2). There is currently no public restroom facility

As visitor use has increased, concerns over management of human waste resulted in the park adding a stipulation requiring CUA operators to pack out all human waste. Given the concentrated use, increasing visitation, and imperfect adherence to the stipulation, human waste is creating sanitation and bear safety concerns.

The cove where the seasonally staffed ranger cabin and dock are located contains several large boulders that sit just below the lake's surface during high water levels and are exposed during low water levels. These rocks impede the park's pilots from safely accessing the dock for multiple periods during summer. Two locations have been identified by pilots as providing safer access for floatplanes.

Indigenous Knowledge

To the park's knowledge, there is little specific information about the traditional use of the Crescent River valley however there is well-documented use of the mouth of the Crescent River for subsistence fishing and clamming. The Dena'ina name for Crescent Lake is Ch'it'en Bena, which translates as shaded lake. Dena'ina people from the old village of Kustatan and the community of Tyonek clammed at the mouth of Crescent River. A 1981 subsistence harvest study by the Alaska Department of Fish and Game, documents at least two clamming trips by Tyonek residents a year to the area where they would harvest razor clams, butter clams and cockles. The village of Tyonek is the closest permanent modern settlement to the Crescent Lake on the west side of Cook Inlet. Former village sites were located at Polly Creek and Kustastan.

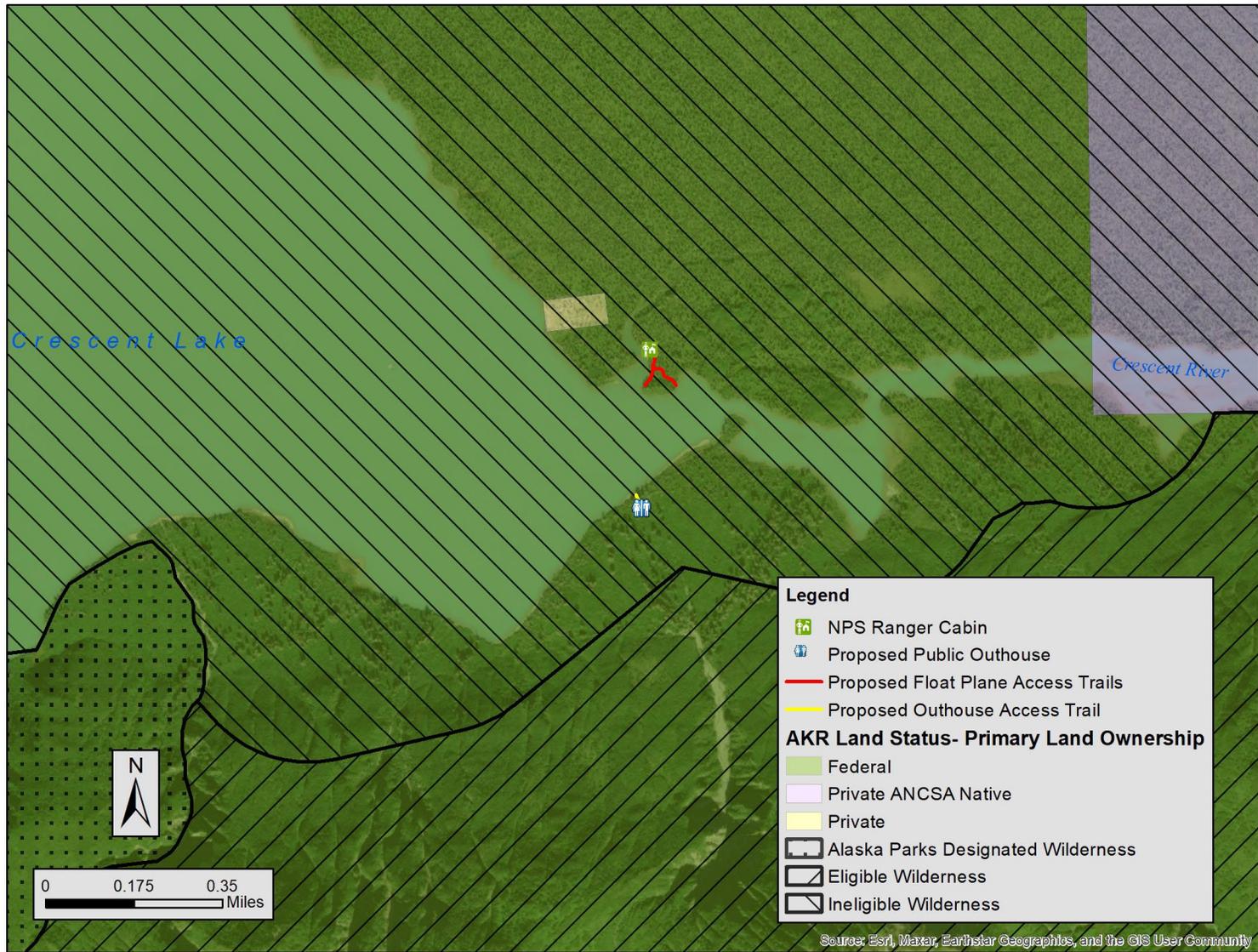


Figure 2. Overview of Crescent Lake Outlet and Proposed Outhouse and Trail Locations in Lake Clark National Park and Preserve



Figure 3. Detailed View of Proposed Outhouse and Trail Locations at Crescent Lake in Lake Clark National Park and Preserve



Figure 4. Photo of Proposed Outhouse and Access Trail Location at Crescent Lake in Lake Clark National Park and Preserve

4 Purpose and Need

The purpose of this project is to improve visitor amenities by improving sanitation and to provide safe access to the ranger cabin for park staff and aircraft operating at Crescent Lake. Given the high visitation occurring in a localized area, there is a need to enhance visitor experience, lessen environmental impacts of human waste on the area, and provide safe, season-long access to existing park infrastructure.

5 Proposed Action

The NPS proposes the installation of a public outhouse accessed by an approximately 150-foot-long and 5-foot-wide brushed trail (Figure 3). A pit approximately 3-foot by 3-foot and 5-foot-deep would be excavated for the new public use outhouse. The outhouse structure would be wooden with dimensions of 4-foot by 4-foot and approximately 8-foot-tall. The outhouse would be constructed offsite, disassembled, transported, and reassembled onsite at Crescent Lake. This would reduce the time needed for construction onsite. Additionally, an approximately 650-foot trail would be constructed from the Crescent Lake ranger cabin to 2 lake-side locations providing safe float plane access during periods of low and high water, which would result in a total of 800 foot of trail.

6 Public Involvement

Lake Clark is seeking public review and input for a 15-day public comment period, beginning on June 22, 2023. The EA can be accessed via the NPS Planning, Environment & Public Comment (PEPC) site at <https://parkplanning.nps.gov/#####>. A news release announcing the availability of the EA will be sent via email to local social media channels: Nondalton List, Port Alsworth's List, and Iliamna Lake Bulletin. Commercial Use Authorization holders of Lake Clark will also be notified by email. The news release will provide details on accessing the EA electronically or by hard copy and provide instructions for how comments may be submitted.

7 Issues

Issues Selected for Detailed Analysis

Issues selected for detailed analysis identify resources that could be affected, either beneficially or adversely, by implementing any of the proposed alternatives. The NPS used an interdisciplinary review process, existing studies, and data, determine which resources would likely be affected by this project. Issues were retained for detailed analysis in this EA if they met one or more of the following criteria:

- the environmental impacts associated with the issue are central to the proposal or of critical importance;
- a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives;
- there are potentially significant impacts to resources associated with the issue.

The following issues are analyzed in detail for each alternative:

Recreation and Visitor Use: Currently, there is no outhouse for visitors to Crescent Lake. CUA operators transporting and guiding visitors are required to transport human waste out of Crescent Lake. This entails CUA operators having the necessary equipment to contain and transport human waste off site via aircraft. Visitors arriving without the support of CUA operators do not have waste management requirements. Given imperfect compliance and high levels of concentrated use, impacts of human waste on sanitation and implications for negative human-wildlife interactions stemming from humans surprising bears when relieving themselves in the dense underbrush, or animals being attracted to human waste, exist.

Vegetation and Soils: Construction of the proposed trails would directly remove approximately 0.1-acres of vegetation along the proposed trail routes. Impacts could include a reduction in plant cover, simplification of the vegetation structure, compaction of soils, and alteration of the habitat for plant growth.

Wildlife: The proposed project area supports both brown and black bears, with brown bears frequently using the area when salmon are present. Impacts to bears could be disturbance during construction. Other mammals and avian species could also be disturbed and displaced by the brushing required for trail construction.

Issues Considered but Dismissed from detailed analysis

The following issues were identified, considered, and dismissed from further analysis for the following reasons:

- It was determined that the environmental impacts were not of critical importance; and
- the potential impacts to these resources were not significant; and
- a detailed analysis of these impacts was not necessary to make a reasoned choice between alternatives.

Air Quality, Climate Change, Subsistence, Water Resources, Wilderness, Viewshed (Natural, Aesthetic, and Scenic Values), and Natural Soundscape: The proposed action would not result in substantial changes to these resources. The proposed disturbance area is small (under 0.1-acres of proposed disturbance), and the actions and subsequent use would not generate emissions to degrade air quality or contribute to climate change. Subsistence use of the area does not occur, so no effects would be anticipated. Refer to Appendix A for a detailed analysis on Section 810(a) subsistence. Water resources would not be affected by the proposed project, as trail design would ensure proper drainage and human waste management would reduce potential impacts to water quality. The project

area is ineligible¹ for wilderness designation, so would not impact wilderness. The dense shrub understory would remain intact, limiting potential impacts to the viewshed. Outside of the 1-month period of trail work and outhouse installation, the expected visitor use of the trail and outhouse would likely not change the natural soundscape. There are no designated wild and scenic rivers, ecologically critical areas, wetlands, or floodplains in the project area.

Cultural Resources: LCNPP archeologists conducted Phase 1 archeological testing of the outhouse site and a pedestrian survey along the trail alignments in July 2022 and consulted with the State Historic Preservation Office (SHPO), per 54 U.S.C. 306108 (formerly known as Section 106 of the National Historic Preservation Act) and its implementing regulation, 36 CFR 800. No evidence of cultural materials were uncovered during the excavation or the pedestrian reconnaissance. It is unlikely that cultural resources would be disturbed by the outhouse installation or trail-building activities. Concurrence of “No Historic Properties Affected” for this project was received from the SHPO on January 27, 2023. During project implementation, if work exposes cultural resources, work would be stopped, the park archeologist would be notified immediately, and archeological testing would be conducted.

Floodplains and Wetlands: The proposed trail is located in the uplands and would occur outside areas identified as wetlands or floodplains by the United States Fish and Wildlife Service National Wetland Inventory data. This assessment was confirmed through site visits.

Threatened and Endangered Species: No federally designated threatened or endangered species are known to occur within the project area.

8 Alternatives

This section describes a No Action alternative and the action alternative.

Alternative 1: No Action

Under the No Action alternative, the NPS would not install the public outhouse and construct the 150-foot trail accessing it. The 650-foot of trail would not be constructed to provide alternative access routes to the Crescent Lake ranger cabin. Requirements for transporting all human waste offsite would remain in place for CUA operators who bring visitors to Crescent Lake. Visitors transporting themselves to Crescent Lake would continue to be required to follow the LCNPP

¹ The 1984 LACL General Management Plan included a Wilderness Review per ANILCA Section 1317(a) that applied criteria to all lands within the unit to determine if they were suitable or not for wilderness designation. That assessment found the majority of lands to be suitable (now called eligible) for wilderness designation and determined the rest of the lands as unsuitable (now called ineligible) for wilderness designation based on criteria like land status and level of existing developments and resource impacts. The Alaska Region uses the categories of designated, eligible, and ineligible to describe the status of park/wilderness lands

Superintendent's Compendium for the disposal of human waste as outlined in 2.14(a)(9), (b). NPS access to the Crescent Lake ranger cabin would continue to be primarily from the dock with access limited during multiple periods of the year. During those times, float planes would beach in safe areas and staff would continue to have to navigate through the dense vegetation to transport gear and operate from the cabin. Waste management issues, potential negative wildlife-human interactions, and difficult access to the ranger cabin would continue.

Alternative 2: Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative)

Under Alternative 2, the NPS would install a public outhouse and construct a 150-foot access trail from the Crescent Lake shoreline (see Figure 4). The NPS would also construct a 650-foot trail providing 2 additional access routes to the Crescent Lake ranger cabin (see Figure 3). These improvements would provide a public outhouse for visitors to Crescent Lake and allow safe access for NPS floatplane and staff to the ranger cabin throughout the summer season.

The proposed outhouse access trail would be a 5-foot-wide brushed path providing adequate visibility and walking space, while maintaining some vegetation screening to maintain the viewshed (Figure 4). The vegetation would be brushed and trimmed to ground level, but no soil disturbing tread work would occur. The outhouse would utilize an excavated pit approximately 3-foot by 3-foot and 5-foot-deep. The outhouse structure would be wooden with dimensions of 4-foot by 4-foot and approximately 8-foot-tall. Vegetation surrounding the outhouse would be cleared creating a buffer of similar width to the trail.

The proposed 650-foot ranger cabin access trail would start from 2 locations where shoreline floatplane access and beaching are not limited by rocks or prevailing wind conditions. The trail would be 5-foot-wide with the vegetation brushed and trimmed to ground level. The trail tread would not be improved, and the existing soil and ground cover would remain in place with no soil disturbance occurring.

NPS staff would complete all work. The outhouse would be constructed offsite, disassembled, flown to the site, and reconstructed. The outhouse pit would be excavated by shovel and the outhouse structure reassembled with small battery powered tools. A combination of power and hand tools would be used for the brushing of all trails. Chainsaws may be used to complete the initial brushing of the trail route. Work would take place in late summer over a 1-month period and the total ground disturbance for all work would be approximately 0.1-acres to establish the trails and outhouse site. During project implementation, if excavating the outhouse pit exposes cultural resources, work would be stopped, the park archeologist would be notified immediately, and additional archeological testing would be conducted.

9 Affected Environment

Recreation and Visitor Use

Crescent Lake is located approximately 60-miles southwest of Kenai, Alaska and is inland from the Cook Inlet coastline, which makes the area only accessible via floatplane. It is one of the most popular locations for visitation in LCNPP, with visitors primarily accessing the site via CUA operators that provide aviation services and guided recreation opportunities. One lodge, Redoubt Mountain Lodge, occupies an inholding near the lake outlet and provides lodging and guided recreational opportunities. The primary recreational activities at Crescent Lake are sport fishing and bear viewing, which combined account for approximately 80% of the visitor activity in the Crescent Lake area. The remaining 20% of visitor activity in the Crescent Lake area is primarily hiking, kayaking, and photography. All recorded visitation at Crescent Lake occurs during the summer, between June and September, and over 70% of the visitation occurs in June and July. Most fishing and bear viewing activity occurs near the lake outlet where salmon are targeted by anglers as they are moving into the lake and its headwaters to spawn. The concentration of salmon also attracts brown bears, seeking to feed on this high-quality food source. As such, most of the fishing and bear viewing visitation occurs in this relatively concentrated area near the lake outlet as well as in a relatively short timeframe (June to September). The Crescent Lake basin is densely vegetated, extending down to the shoreline in most areas. This makes navigating the shoreline on foot extremely challenging and makes boats a necessity to support most visitor activities. Currently, there are no visitor amenities at Crescent Lake for those not staying at the lodge. When visitors need to use the restroom, they must travel through dense brush along the shorelines to find an appropriate spot. If the visitor is guided by a CUA operator, then the CUA operator must pack out their waste. The ranger cabin is for administrative use only, providing lodging for park staff in support of operations that include visitor contacts and responding to safety incidents.

Vegetation and Soils

The Crescent Lake area is composed primarily of open mix forest and closed alder (NPS 1998). The project area consists of over 70% open mix forest, with the remainder comprised of closed alder and willow shrub (NPS 1998). Open mix forest stands have a crown closure of 25-60% and are comprised of a mix of deciduous and conifer species. The primary tree species include white spruce (*Picea glauca*), black spruce (*Picea mariana*), and paper birch (*Betula papyrifera*). Willows (*Salix spp.*) and alder (*Alnus spp.*) are the primary shrub species in understory of this forest type. Ground cover in open mix forests in the Crescent Lake area consist mostly of sparse grass, forb, and litter ground cover.

Closed alder communities have canopy coverages of greater than 75%, which limits plant growth in the understory. In less dense areas, cow parsnip (*Heracleum lanatum*) or mountain ash (*Sorbus scopulina*) may occur in canopy openings. Ground cover in closed alder is primarily made up of leaf litter from alder with scattered grasses.

The area's physiography is primarily classified as upland and volcanic upland. A small area near the ranger cabin is classified as lowland. Overall, the project area is composed of 83% classified as upland and 17% classified as lowland (NPS 2011a). Soil texture in that area of the proposed trails is classified as ashy-loamy-rocky while that of the outhouse and access trail is rocky (NPS 2011b).

Wildlife

The forest and shrub communities in the project area support a variety of bird species. Surveys conducted in similar habitat within the lower Crescent River drainage found olive-sided flycatcher, common raven, black-billed magpie, hermit thrush, American robin, varied thrush, orange-crowned warbler, yellow warbler, yellow-rumped warbler, Wilson's warbler, Fox sparrow, golden-crowned sparrow, and redpoll species (Ruthrauff et al 2007). The Lake Fork of the Crescent River has 2 known bald eagle nests (NPS unpublished data). The nearest nest is located approximately 0.4-miles from the proposed outhouse location and 0.4-miles from the nearest location on the proposed trail accessing the ranger cabin.

Both brown bears and black bears are found throughout the Crescent River drainage. The presence of salmon, sockeye, and coho in the Crescent River and Lake attract bears to the project area from mid-June through September. While numbers of bears specifically using the Crescent River drainage are unknown, coastal LCNPP, which includes Crescent River, supports densities of both bears species typical of productive coastal systems. Aerial surveys conducted in 2003, 2010, and 2019 provided estimate of 38.6, 37.7, and 54.0 adult brown bears/1000 km², respectively (Schmidt et al. 2022). Coastal habitats with salt marsh systems and seasonally available salmon can support high bear densities. Other wildlife that may inhabit the project area include wolves, wolverine, red fox and various small mammals including porcupine, shrews and voles (Cook et al. 2007).

10 Impact Analysis

Alternative 1: No Action

Effects on Recreation and Visitor Use

Recreation and visitor use would remain unchanged with no outhouse facilities constructed and access to the ranger cabin unchanged. Under this alternative, the requirement of CUA operators to pack out all human waste for visitors they provide services for would remain. Incomplete compliance with this requirement would perpetuate sanitation issues related to human waste and potentially lead to negative human-wildlife interactions resulting from humans surprising bears when relieving themselves in the dense underbrush, or animals being attracted to human waste.

Effects on Vegetation and Soils

Vegetation and soils would not be impacted under this alternative. No trails would be developed, and no outhouse installed, leaving the area naturally vegetated with no soil disturbance.

Effect on Wildlife

No trail would be developed, and no outhouse installed, so construction activities would not disturb bears or avian species. Potential for negative bear-human interactions related to human waste or humans surprising bears while relieving themselves would remain.

Cumulative Impacts on Recreation and Visitor Use, Vegetation and Soils, and Wildlife

With few direct or indirect impacts to recreation and visitor use, vegetation and soils, and wildlife, Alternative 1 would have little contribution to cumulative effects on these resources.

The CUA operators bringing visitors to Crescent Lake would continue to be required to pack out their clients' waste. With incomplete adherence to this regulation, human waste would continue to cause sanitation issues in the lake outlet area where visitor use is concentrated. Visitation to Crescent Lake has been on an upward trend over the past 10 years and there are no indications this trend will change in the future, so the likelihood of sanitation issues continuing or increasing into the future are plausible.

With high bear use of the area, the potential for bear-human interactions is great. With no outhouse facility, visitors are dispersed across the lake outlet area to relieve themselves. Given the dense vegetation which limits visibility, the chance of a bear encounter is greatly increased. If an encounter occurs and waste is not properly managed, the waste can become an attractant. These situations would have the potential to habituate bears to this human waste, creating a continuing problem and would increase the chances of negative human-bear interaction.

There is one future planned action that could contribute to impacts on these resources in the planning area. LCNPP has a tentative plan to convert the CUA permits at Crescent Lake to concessions contracts. The change in management of commercial operations will not affect resources, but the contracts would include authorization of a land-based boat storage area. This would have an impact on vegetation in the area as it would clear an area large enough to accommodate up to 8 boats that measure up to 20-foot in length and 95-inches in width. The boat storage area would be southwest of the proposed outhouse location, within the closed alder vegetative community and would remove approximately 0.05-acres of vegetation.

Alternative 2: Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative)

Effects on Recreation and Visitor Use

The outhouse and 150-foot access trail would provide a restroom facility for visitors to Crescent Lake. With an outhouse onsite, CUA operators would no longer be required to transport all human waste from the field. It would also lessen the likelihood of human waste in the outlet area, reducing sanitation issues. Additionally, the availability of a public outhouse would remove the need for visitors to navigate dense brush to find an appropriate spot to relieve themselves, with the possibility for negative bear-human interactions due to the lack of visibility in these areas.

The establishment of 2 plane beaching locations and the trail accessing them would help support safe access for the NPS floatplane and staff to the ranger cabin throughout the summer season. Improved access would provide flexibility in staffing the ranger cabin, increasing LCNPP staff presence and ability to manage the area respond to safety incidents, and increase visitor contacts.

The outhouse installation and all trail construction would take place in late summer of 2023. The total estimated duration of the work would be 1-month. The outhouse installation would entail clearing vegetation in the immediate area and excavating the pit using shovels. Construction of the outhouse would require reassembly of the structure and require hand tools and small battery powered tools. Vegetation removal along trails and around the outhouse would require use of both hand and power tools. Noise from equipment would be heard in the lake outlet area during construction and vegetation clearing. This noise would add to the existing noise created by aircraft and boats used to support visitation to the area. The duration would be confined to the approximately 1-month period needed to complete the project. Construction activities would not impact visitor access in the Crescent Lake area. Visitors typically do not frequent the area surrounding the NPS ranger cabin and work in the proposed outhouse location would not displace visitors.

Effects on Vegetation and Soils

Outhouse installation and trail construction would require the removal of vegetation along the routes and at the outhouse site. Trees and shrubs would be trimmed or removed if necessary to provide a 5-foot-wide trail with a similar buffer around the outhouse structure. Overall, approximately 0.1-acres of vegetation would be removed for the project. Outside excavation of the outhouse pit, no ground disturbance would occur as part of the project. The existing ground cover would remain in place as the trail tread. Shrubs and trees trimmed would include species common to the area such as alder, willow, and white spruce.

Effect on Wildlife

The installation of the outhouse and construction of trails would alter approximately 0.1-acres of wildlife habitat. Given the linear nature of trails, bisecting habitat, impact would be greater than the total area disturbed being spread over the approximately 800-foot of trail (combined 150-foot and 650-foot sections). The wildlife habitat types to be removed are among the most common found in the Crescent Lake drainage. Completing work in late August would lessen the potential to disturb nesting bird species. The nearest known bald eagle nest in the project area is approximately 0.4-mile (1320-foot) from the nearest proposed development. This distance exceeds the United States Fish and Wildlife Service's recommended nest buffer of 660-foot, requiring no incidental take permit (USFWS 2007). Bear use of the area would not be expected to change with the trail construction and outhouse installation. Noise and activity during the 1-month construction may temporarily displace bears from the immediate area but would not be expected to continue beyond the end of construction. Bear use is concentrated along the shoreline as it provides efficient travel and direct access to salmon which concentrate bear use in the area. The new trails will open up routes for travel, and some bear use of the trails would be expected. Improvements in waste management through outhouse construction would be expected to decrease the likelihood of negative bear-human encounters as

exposed human waste can be a bear attractant. The outhouse would limit bear access to human waste. Other mammals using the project area may also be temporarily impacted by the construction activity, however their use of the area would not be expected to be altered beyond the construction period.

Cumulative Impacts on Recreation and Visitor Use, Vegetation and Soils, and Wildlife

With installation of the outhouse and construction of a 150-foot access trail from Crescent Lake, visitors will have access to a public restroom facility. CUA operators transporting and guiding visitors at Crescent Lake would no longer be required to transport all human waste offsite. Instances of non-compliance with this regulation would likely diminish with an outhouse in the area of concentrated visitor use. Lessening non-compliance would improve sanitation in the area and lessen the potential for human waste becoming a bear attractant and creating potential for a negative bear-human interaction. Construction of a 650-foot trail to access the Crescent Lake ranger cabin would allow safer access throughout the summer. Multiple aircraft beaching locations would provide safe mooring during a wide range of lake levels and wind conditions. This diminishes the likelihood of damage to the aircraft floats when trying to navigate the rocks in the cove where the dock is located. Impacts to wildlife from the development would be lessened by the late summer timing of the work, small overall footprint, and distance from sensitive locations like nest trees. The direct impact on 0.1-acres of vegetation to install the outhouse and construct the 800-foot of trails (combined 150-foot and 650-foot sections) would have a small effect as the landcover types in the area are the most common in the Crescent Lake basin. The need to periodically brush the constructed trails would temporarily increase the presence of LCNPP staff at Crescent Lake.

There is one future planned action that could contribute to impacts on these resources in the planning area. LCNPP has a tentative plan to convert the CUA permits at Crescent Lake to concessions contracts. The change in management of commercial operations will not affect resources, but the contracts would include authorization of a land-based boat storage area. This would have an impact on vegetation in the area as it would require clearing an area large enough to accommodate up to 8 boats that measure up to 20-foot in length and 95-inches in width. The boat storage area would be southwest of the proposed outhouse location, within the closed alder vegetative community and would remove approximately 0.05-acres of vegetation.

Impact Topic	Alternative 1: No Action	Alternative 2: Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative)
Recreation and Visitor Use	Recreation and visitor use would remain unchanged with no outhouse facilities constructed and access to the ranger cabin unchanged. Incomplete compliance with the requirement to pack out all human waste would continue to create sanitation issues and create potential for negative human-wildlife interactions. Floatplane access would continue to be an issue at certain times during the season.	The installation of the outhouse and 150-foot access trail would provide a restroom facility for visitors to Crescent Lake. This would reduce sanitation issues, removing the requirement for CUA operators to transport all human waste from the field, and lessen the potential for negative bear-human interactions. The trails would support LCNPP operations at Crescent Lake. It would reduce floatplane access issues and provide flexibility in staffing the ranger cabin.

Impact Topic	Alternative 1: No Action	Alternative 2: Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative)
Vegetation and Soils	Vegetation and soils would not be impacted under this alternative. No developments would leave the area naturally vegetated with no soil disturbance.	A 0.1-acre area of vegetation would be cleared to install the outhouse and construct the trails. A 3-foot by 3-foot pit would be excavated for the outhouse. No additional ground disturbance would occur.
Wildlife	No trails would be developed, and no outhouse installed, so construction activities would not disturb bears or avian species. Potential for negative bear-human interactions related to human waste would remain.	The installation of the outhouse and construction of trails would alter approximately 0.1-acres of wildlife habitat. The habitat types removed are among the most common types in the Crescent Lake drainage. Completing work in late summer would lessen the potential to disturb nesting bird species and the distance to the nearest known bald eagle nest exceeds the United States Fish and Wildlife Service's recommended 660-foot nest buffer. Bear and other mammal use in the area would not be expected to change with the trail construction and outhouse installation outside of the short period during construction when they may be temporarily displaced. Improvements in waste management through outhouse construction would be expected to decrease the likelihood of negative bear-human encounters.

Table 1. Summary of Direct Impacts

11 Consultation and Coordination

Preparer

Buck Mangipane, Lake Clark National Park and Preserve Natural Resource Program Lead

Persons Consulted

Susanne Fleek-Green, Lake Clark National Park and Preserve Superintendent

Kevin Downs, Lake Clark National Park and Preserve Chief of Facility Management

Liza Rupp, Lake Clark National Park and Preserve Cultural Resources Program Manager and Subsistence Coordinator

Warren Hill, Lake Clark National Park and Preserve Maintenance and Trail Program Lead

Tribal and Alaska Native Corporation Consultation

For consultation with tribes and Alaska Native Corporations on the proposed project, the NPS sent letters and email correspondence to Cook Inlet Region Incorporated (CIRI), Native Village of Tyonek, Seldovia Village Tribe, Salamatof Tribal Council, and Kenaitze Indian Tribe on *January 4*,

2023, and **March 13, 2023**. CIRI responded and indicated they did not want to consult at this time. No other responses were received from other tribes or Alaska Native Corporations. The NPS will continue to provide project updates and will provide the EA during the public comment period to the identified tribes and Alaska Native Corporations.

USFWS Section 7

Informal consultation with the U.S. Fish and Wildlife Service through the Information for Planning and Consultation Online System was initiated **May 2, 2023** to determine if threatened and endangered species occur within the proposed project area. No listed species were identified, therefore no adverse effects to listed species or critical habitat would be result from the project.

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Appendix A: ANILCA Section 810(A) Subsistence – Summary Evaluation and Findings Crescent Lake Visitor Improvements Lake Clark National Park and Preserve

I. INTRODUCTION

This evaluation was prepared to comply with Title VIII, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA). It summarizes the evaluation of potential restrictions to subsistence uses that could result from the installation of an outhouse with a 150-foot access trail and 650-foot of trail accessing the ranger cabin at Crescent Lake. The NPS proposes this action to provide infrastructure to improve visitor services and facilitate safe access for park aircraft and staff while minimizing adverse impacts to the resources and values for which the Park and Preserve were established.

II. LAKE CLARK NATIONAL PARK AND PRESERVE

The purposes for which Lake Clark National Park and Preserve were created are found in the language of the 1980 Alaska National Interest Lands Conservation Act (ANILCA, Pub. L. 96-487). As a unit of the National Park System, Lake Clark National Park and Preserve shall be administered to:

- protect the watershed necessary for the perpetuation of the red salmon fishery in Bristol Bay;
- maintain unimpaired the scenic beauty and quality of portions of the Alaska Range and Aleutian Range, including active volcanoes, glaciers, wild rivers, lakes, waterfalls, and alpine meadows in their natural state; and
- protect habitat for and populations of fish and wildlife including but not limited to caribou, Dall sheep, brown/grizzly bears, bald eagles, and peregrine falcons.

III. THE EVALUATION PROCESS

Section 810(a) of ANILCA states: “In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . the head of the Federal agency . . . over such lands . . . shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be affected until the head of such Federal agency:

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

IV. PROPOSED ACTION ON FEDERAL LAND

The NPS proposes the installation of a public outhouse accessed by an approximately 150-foot trail and approximately 650-foot of trail to enhance ranger cabin access. In an effort to improve sanitation and to reduce the likelihood of human-bear encounters, the NPS is proposing to install an outhouse accessed from the lakeshore by an approximately 150-foot-long and 5-foot-wide brushed trail. The outhouse would utilize an excavated pit approximately 3-foot by 3-foot and 5-foot-deep. The outhouse structure would be wooden with dimensions of 4-foot by 4-foot and approximately 8-foot-tall. The outhouse would be constructed offsite, disassembled, transported, and reassembled onsite at Crescent Lake. This would reduce the time needed for construction. Additionally, an approximately 650-foot trail would be constructed from the Crescent Lake ranger cabin to 2 locations providing safe float plane access during periods of low and high water. The *Description of Alternatives* section of the EA describes each alternative being considered in detail. The following is a brief summary:

Under the *No Action Alternative*, the NPS would not install the public outhouse and nor construct the 150-foot trail accessing it. The 650-foot of trail would not be constructed to provide alternative access routes to the Crescent Lake ranger cabin.

Under *Alternative 2*, Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative) the NPS would install a public outhouse and construct a 150-foot access trail from the Crescent Lake shoreline. The NPS would also construct 650-foot of trail providing 2 additional access routes to the Crescent Lake ranger cabin.

V. THE AFFECTED ENVIRONMENT RELATIVE TO SUBSISTENCE USE

Traditionally the west side of Cook Inlet has been the home of the Cook Inlet Dena'ina. Although they lived in winter villages, the Cook Inlet Dena'ina used a series of seasonal camps in other locations for specific resource harvests during their annual seasonal round. In support of subsistence activities, they established trails and trade routes, named landmarks, and built settlements, camps, and shelters within the territory of their regional band. The Dena'ina used all the river systems in all major bays along west Cook Inlet such as Chinitna, Iliamna, Ursus, Redoubt, and Trading bays. Trails connecting the Cook Inlet shoreline and eastern slopes of the Chigmit Mountains with the Lake Iliamna and Lake Clark drainages supported active trade and social interactions between the Cook Inlet and Inland groups of Dena'ina. Some of the best evidence of Dena'ina knowledge of travel routes and hunting, fishing, and gathering areas is preserved in the intricate system of Dena'ina place names (Stanek, et al. 2007). The village of Tyonek is the closest permanent modern settlement to the Crescent Lake on the west side of Cook Inlet.

The Kenai Peninsula communities of Kenai, Ninilchik, Anchor Point and Soldotna are the closest on the east side of the Inlet.

In accordance with regulations in 36 CFR Part 13, residents of the NPS designated resident zone communities of Iliamna, Lime Village, Newhalen, Nondalton, Pedro Bay, and Port Alsworth and people who reside inside the boundaries of the park are qualified to engage in subsistence activities in Lake Clark National Park and Preserve under the Federal Subsistence Program. Local rural residents who do not live in these communities but who have customarily and traditionally engaged in subsistence activities within the park may continue to do so with a subsistence use permit issued by the park superintendent. Currently there are only two active firewood harvest permits for rural residents in the Cook Inlet region of the park and no active permits for hunting or other subsistence activities.

Current subsistence use in the area around Crescent Lake is very low, with nearest known activity being wood cutting activity conducted by residents living at Silver Salmon Lakes approximately 26-miles to the southeast. The proposed project area is near the outlet of Crescent Lake which is approximately 15-miles inland from the Cook Inlet coastline. The area is composed of forests, shrublands, and wetlands within the river valley and is not accessible from any of the park's designated resident zone communities without using aircraft which is prohibited by 43 CFR § 36.11(f)(1) for purposes of taking fish and wildlife for subsistence uses.

VI. SUBSISTENCE USES AND NEEDS EVALUATION

To determine the potential impacts on subsistence activities from installing the outhouse and constructing the trail, three evaluation criteria were analyzed relative to existing subsistence resources:

1. The potential to reduce subsistence fish and wildlife populations by (a) reductions in number, (b) redistribution of subsistence resources, or (c) habitat losses;
2. The potential effect on subsistence fisher or hunter access;
3. The potential to increase fisher or hunter competition for subsistence resources.

1. The potential to reduce populations

In all the alternatives considered in this analysis, there is minimal potential to reduce numbers of or redistribute fish and wildlife populations or reduce habitat for subsistence fish and wildlife populations. The proposed installation of the outhouse and trails constructed would destroy some vegetation that provide habitat for small mammals, birds, and insects. The total loss of habitat would be approximately 0.1-acres. Bear use of the area is not expected to change with the developments. Bears may use the trails in the area at times but are not expected to alter their use of the area as it primarily related to salmon in the area which will not be impacted by the project. Overall, these developments are not expected to reduce or redistribute wildlife populations in the project area.

2. Restriction of Access

Alternative 1 (No Action Alternative). The outhouse will not be installed, and the trails will not be constructed. Access to subsistence resources would continue to be limited due to the remoteness of the location.

Alternative 2 Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative). The NPS would install a public outhouse and construct a 150-foot access trail from the Crescent Lake shoreline. The NPS would construct 650-foot of trail providing 2 additional access routes to the Crescent Lake ranger cabin from the lake. Access to subsistence resources would continue to be limited due to the remoteness of the location.

3. Increase in Competition

Alternative 1 (No Action Alternative). The no action alternative will preserve the status quo and not change current infrastructure. Alternative 1 will not result in any increase in competition between subsistence and other users for subsistence resources.

Alternatives 2 Install a Public Outhouse and Construct an Outhouse Access Trail and Ranger Cabin Access Trail (Proposed Action and Preferred Alternative). The installation of the outhouse and construction of access trails proposed in Alternative 2 are unlikely to increase competition between subsistence users and people recreating at Crescent Lake. The project is not expected to add to the already high visitation Crescent Lake receives during the summer and early fall. Given the difficulty of access without aircraft, subsistence use is exceedingly limited at Crescent Lake making competition with visitors a non-issue.

Additionally, provisions in ANILCA Section 802(2) and NPS regulations mandate that if and when it is necessary to restrict the taking of fish or wildlife on NPS lands, subsistence users will have priority over other user groups. Implementation of this subsistence preference would reduce or eliminate any increased competition that might result from increased visitation by recreationists, sport hunters or anglers. In addition, the superintendent may enact closures and/or restrictions if necessary to protect subsistence opportunities or to assure the continued viability of a particular fish or wildlife population.

VII. AVAILABILITY OF OTHER LANDS

Lands managed by the Bureau of Land Management share common boundaries with LCNPP and are the closest federal public lands to the proposal area where Title VIII subsistence occurs. There are other lands inside and outside LCNPP boundaries where local rural residents may harvest subsistence resources including state, tribal and private lands and lands belonging to Alaska Native Claims Settlement Act (ANCSA) corporations.

VIII. ALTERNATIVES CONSIDERED

This analysis has evaluated two alternatives: Alternative 1, to maintain the status quo, or a no action alternative, and Alternative 2, the proposed action and preferred alternative to install a public outhouse and construct an outhouse access trail and ranger cabin access trail.

IX. FINDINGS

This analysis concludes that the proposed action described in Alternative 2 would not result in a significant restriction of subsistence uses.

REFERENCES

Stanek, Ronald T., James A. Fall, and Davin L. Holen. 2007. *West Cook Inlet Ethnographic Overview and Assessment for Lake Clark National Park and Preserve*. National Park Service.