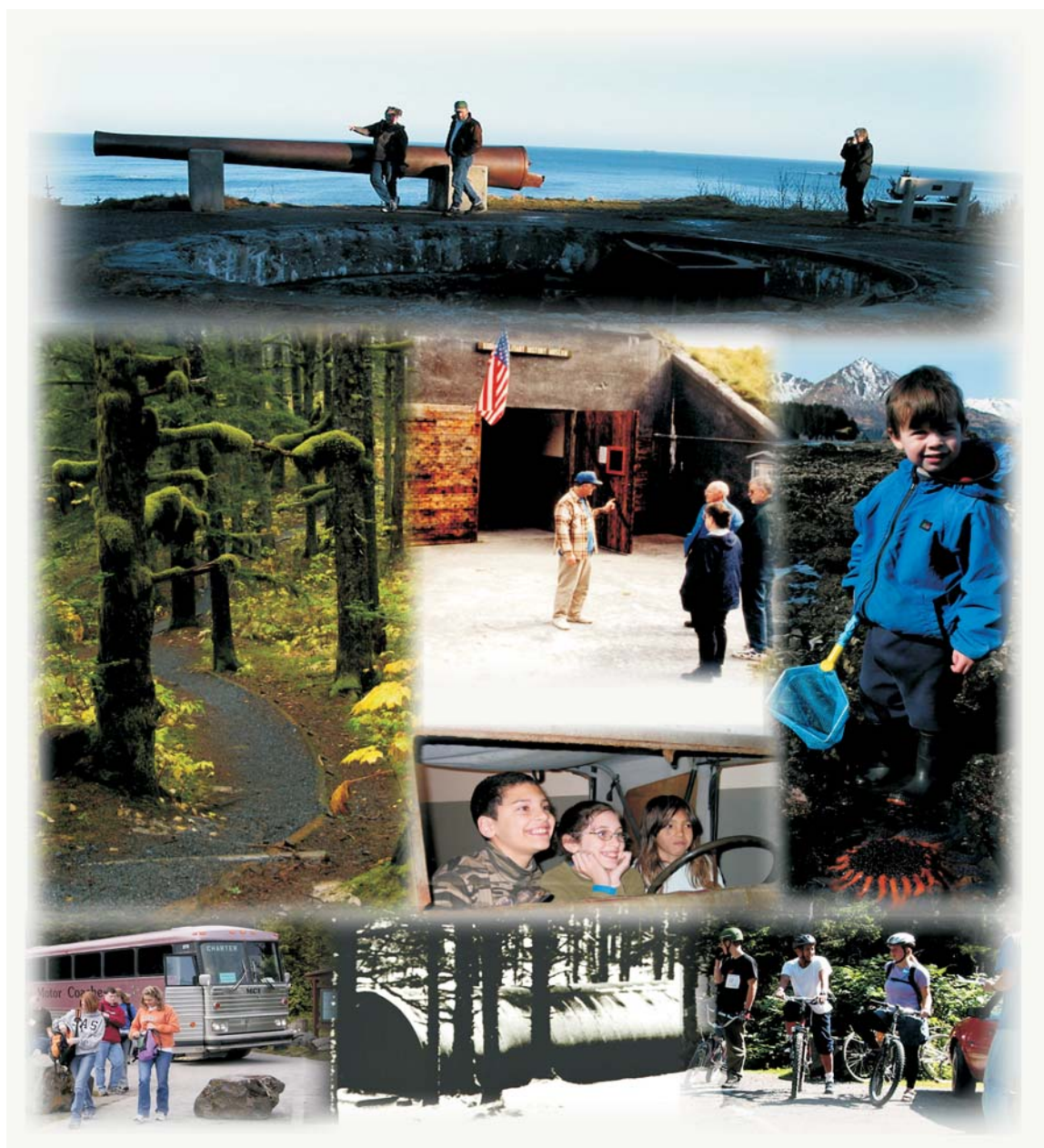


FORT ABERCROMBIE STATE HISTORIC PARK MANAGEMENT PLAN



Alaska Department of
**NATURAL
RESOURCES**



Fort Abercrombie State Historic Park Management Plan

Adopted October 4, 2006



Division of Parks and Outdoor Recreation
Alaska Department of Natural Resources

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS AND OUTDOOR RECREATION

FRANK H. MURKOWSKI, GOVERNOR

550 WEST 7TH AVENUE, SUITE 1050
ANCHORAGE, ALASKA 99501-3579

PHONE: (907) 269-8534
FAX: (907) 269-8915

October 4, 2006

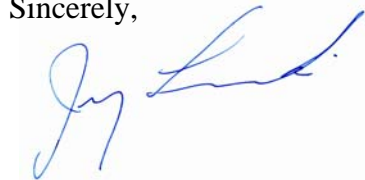
Dear Alaskan,

Fort Abercrombie State Historic Park is a unique unit of the Alaska State Park System. Located on Kodiak Island, this small park was established to preserve the historic ruins of a World War II coastal defense installation and recognize the role Kodiak as a community played in the war. Over the years Ft. Abercrombie has also become important to the community for its natural resources. Nestled amongst moss covered Sitka Spruce, the park offers wonderful outdoor recreation opportunities to experience the natural beauty of the area.

This plan represents a major departure from the direction of the previous Master Plan, adopted in 1973. After 33 years a revision was necessary to recognize the many facilities that have been built or improved over the years, to address some of the issues the area is facing with increased visitor use, and to provide new management direction and facility recommendations to keep pace with increased demands.

The plan is a product of almost a year of work and much participation by a variety of individuals and organizations. I want to thank all of those that participated in the planning process and helped make this plan a reflection of the community. I am pleased that the Commissioner of Natural Resources, Michael L. Menge, adopted this plan which charts the course for park management and development for many years to come.

Sincerely,



Jerry Lewanski
Director

"Develop, Conserve, and Enhance Natural Resources for Present and Future Alaskans."

Credits and Acknowledgements

Planning

Monica Alvarez, Project Manager/Planner, Alaska Department of Natural Resources,
Division of Mining, Land & Water

Wayne Biessel, District Ranger, Alaska Department of Natural Resources, Division of
Parks and Outdoor Recreation

Bill Evans, Graphic Work, Landscape Architect, Alaska Department of Natural
Resources, Division of Parks and Outdoor Recreation

Bruce Talbot, Senior Planner, Alaska Department of Natural Resources, Division of
Mining, Land & Water

Ruth Booth, Natural Resources Technician, Alaska Department of Natural Resources,
Division of Mining, Land & Water

Plan Contributors

Soils

Tom Lance – USDA, Natural Resources Conservation Service

Botany

Stacy Studebaker

Sportfish Stocking Program

Donn Tracy – Alaska Department of Fish and Game, Sportfish Division

Wildlife

Larry VanDaele – Alaska Dept of Fish and Game, Division of Wildlife Conservation

Geology

Linda Himelbloom

World War History

Joe Stevens – Kodiak Military History Museum

Alutiiq and Russian History

Amy Steffian and Patrick Saltonstall – Alutiiq Museum

Intertidal Life

Bradley G. Stevens, Ph.D. – National Marine Fisheries Service

Birds

Richard MacIntosh

Trails Committee (Trail Plan)

Richard MacIntosh, Kathy Swiney, Hans Tschersich, Barbara Rudio, Andy Schroeder

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Chapter 1

Introduction

Plan Purpose

This plan has been prepared to provide overall guidance for the management and development of Fort Abercrombie State Historic Park. A master plan prepared in 1973, a park-wide site development plan prepared in 1979, and a draft revision to the master plan prepared in 1983 were used, in part, to create this plan revision. The plan describes the physical and cultural resources of the park and provides a discussion of special management issues. The plan also lists park goals and policies, makes management and facility recommendations, and provides implementation information.

Establishment of the Park

Fort Abercrombie became a unit of the State Park System in 1969. The park, never legislatively designated, was established instead through an Interagency Land Management Agreement (ILMA), ADL 39239, with the Division of Mining, Land and Water. This action set aside 182 acres of state land to be managed by the Division of Parks and Outdoor Recreation for the enjoyment and preservation of the areas unique historical and natural features.

Overview of the Park

Few other units of the Alaska State Park System, which are comparable in size, possess the cultural and natural resources that are found in Fort Abercrombie. The historic ruins of a World War II coastal defense installation coupled with the steep surf-pounded cliffs, deep spruce forests, wildflower laden meadows, and a lake containing trout offer the public a unique opportunity to learn of the events of World War II while enjoying the natural beauty of the park.

Today, the park fulfills many needs. For local residents and visitors to Kodiak, it provides a place to hike, swim, or fish. The Miller Point area is also important to local residents as a location from which to radio fishing boats at sea. Local interest in the fort's historic features has developed over time and interest for its preservation is growing. In addition, local tour operators include the park in their scheduled tours of Kodiak Island. Ft. Abercrombie has become an integral component of the island's tourism-based businesses.

During the years immediately after establishment, the park had a history of vandalism and law enforcement problems. This situation had lead to high operations costs and frequent turnover of park staff. In 1979, the Division of Parks and Outdoor Recreation placed a full-time ranger at the park and built a ranger office and residence at the park entrance. A

Chapter 1: Introduction

redesign of some of the park facilities, the installation of vehicle control gates and a vigorous enforcement of park regulations have resulted in greater enjoyment of the park by both local residents and visitors to Kodiak Island.

Historical Background

During the 1930's concern over Japanese and Russian expansion in the Pacific rim led to the construction of naval bases in Alaska at Sitka, Dutch Harbor and Kodiak. To protect the new naval bases from attack, the U.S. Army created defense posts such as Fort Abercrombie. In June 1941, President Roosevelt signed an executive order reserving 780 acres of land for a military post at Miller Point. The fort was later named Fort Abercrombie in honor of Lieutenant Colonel William R. Abercrombie, an army explorer in the Copper River region during the late nineteenth century.

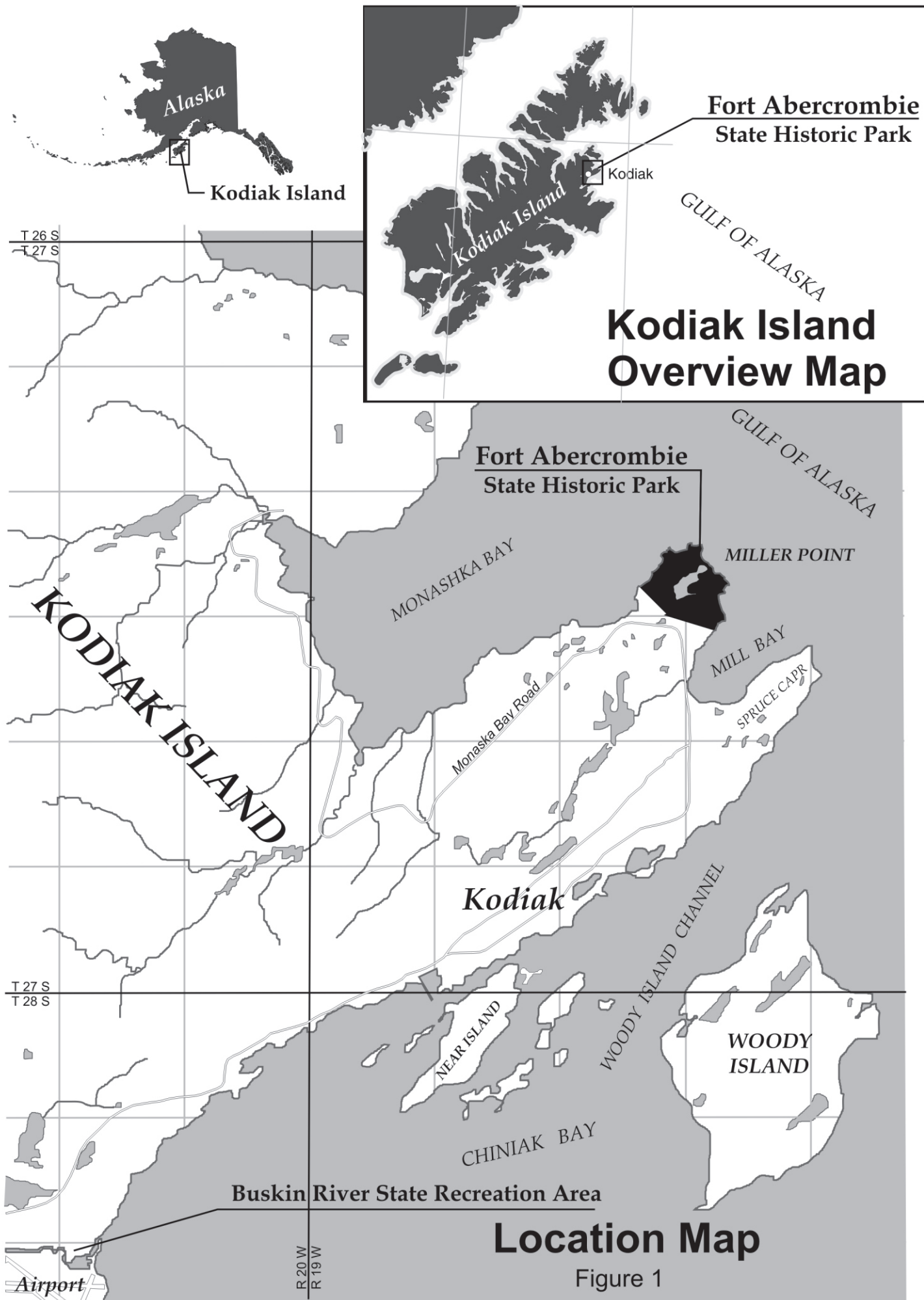
Fort Abercrombie was built in stages. Ten days after the Pearl Harbor attack, on December 17, 1941, the Army installed a searchlight. By March of 1943, two 8-inch coastal defense guns were placed at Miller Point. Fort Abercrombie's guns were first fired in practice the spring of 1943, just a few months after the Aleutian campaign ended. The Army closed Fort Abercrombie in 1945 and abandoned it in 1947. The fort became a State Park in 1969, was listed on the National Register of Historic Places in 1970, and was designated a National Historic Landmark in 1985.

Planning Process

The previous plan, adopted in January of 1973, was outdated and needed revision to recognize facilities that have been built, improved or modified, to plan for proposed future development, and to address some of the issues the area was facing with increased visitation. The Department of Natural Resources began the planning process to revise the Management Plan in December of 2005.

A public scoping workshop was held in December of 2005 in Kodiak to identify issues and concerns. Public comments were accepted through the end of the month for the initial scoping phase. Department staff then spent time gathering information and preparing and evaluating land use alternatives. A draft plan was prepared and distributed for public review.

In April of 2006, a public meeting was held in Kodiak to present the Public Review Draft of this plan and gather input on the proposals. Many comments were received during the comment period. The Public Review Draft version of the plan was revised based on these comments and internal discussions. The Commissioner of the Department of Natural Resources adopted the revised plan in October of 2006. The plan guides management decisions in the park.



Chapter 2

Goals & Objectives

Definition and Purpose

A plan for the entire state park system, Alaska State Park System: Statewide Framework (Alaska Division of Parks, 1982), defines the differences between the various types of state park system units. The Statewide Framework defines state historic parks as, “an area containing an assemblage of significant historical, cultural, archaeological, or anthropological resources from representative eras of Alaska’s history or prehistory. The dominant management objective of a state historic park is to preserve and interpret historic resources for Alaskans and visitors to the state.”

The Statewide Framework provides general direction for developments and activities within state historic parks. The intent is to foster preservation, protection and interpretation of the cultural resource values. Development design and management needs to insure that use levels do not diminish the historical, cultural, archaeological or anthropological values for which the park was established. This is accomplished through minimal introduction of objects or plant species not in context with the historical period the park is established to represent and assuring that recreational activities are compatible with the purposes of park. Certain agricultural, mercantile or commercial activities may be included provided those activities are properly regulated, are part of the history of the park or support adaptive reuse efforts, enhance the historical scene and provide a needed service to the public.

State Park System Goals and Policies

The Statewide Framework established goals and policies to help guide the overall management of units of the state park system. The goals are summarized below and any stated policies related to the fulfillment of a particular goal relevant to Fort Abercrombie State Historic Park are listed under that goal.

1. Provide for the outdoor recreational needs of present and future generations of Alaskans and visitors to the state.
 - restore to public ownership, as units of the State Park System, lands critical for outdoor recreational use in order to maintain and enhance the public recreational land base and to alleviate the loss of traditional use areas
2. Preserve and protect areas of natural significance for the benefit of present and future generations.
 - manage all units of the park system so that the natural qualities of each unit are not diminished
3. Preserve and interpret Alaska’s cultural heritage.
 - investigate, stabilize, rehabilitate, restore, adaptively reuse, and/or preserve significant structures, sites or artifacts contained in units of the park system

Chapter 2: Goals & Objectives

- provide interpretive and visitor orientation programs and facilities at state historic parks and sites and at other units, as appropriate, to provide for an understanding and appreciation of historic and cultural resources
- 4. Protect and manage areas of significant scientific or educational value.
 - incorporate scientific and educational values of park units into interpretive programs to assist the public in developing appreciation and understanding of the values for which the units were established
- 5. Provide support to the state's tourism industry.
 - support the state's tourism industry through the management of natural and cultural resource attractions, the protection of scenic areas and the provision of year-round outdoor recreational opportunities in units of the State Park System

Park Mission Statement

Fort Abercrombie State Historic Park shall be managed and developed to insure that:

- The historical, cultural, archeological or anthropological values for which the park was established are not diminished.
- The natural and scenic resources of the park are protected and maintained for long-term use and enjoyment.
- The safety and welfare of park users are maintained.
- The park promotes its resources through education and interpretation and supports local recreation and tourism.
- The park affords a variety of opportunities for visitors of varying abilities without compromising the overall purpose of the park.

Fort Abercrombie State Historic Park Goals

Following are specific goals for Fort Abercrombie State Historic Park established by this plan and in keeping with the Statewide Framework.

1. Preserve, stabilize, interpret and ultimately restore the unique historical resources of the park.
2. Provide high-quality recreational opportunities and facilities for the enjoyment of both the historical and natural resources of the park.
3. Acquire additional land to expand recreational opportunities and facilities in areas that will not adversely impact the historical resources of the park.
4. Define appropriate park uses and development, and maintain a plan for long term management of the parks resources.
5. Rehabilitate, repair or enhance park resources in a manner and order that is consistent with the park's mission, but also in an equitable fashion that will benefit diverse types of park uses.
6. Foster community health by promoting outdoor exercise through the wise development and maintenance of trails and facilities that link the community with the park.
7. Acquire funding and staffing necessary to implement the recommendations contained in this plan.

Chapter 3

Natural and Cultural Resources

Fort Abercrombie State Historic Park must be described in terms of both its physical and historic character. Its physical beauty is unparalleled. Its historic character is unique and irreplaceable.

Physical Character

Fort Abercrombie State Historic Park is located on Kodiak Island in the South Central Region of Alaska, one of the most developed areas for recreation. Kodiak's major industry is fishing providing another element of strong attraction for visitors. Kodiak waters are rich in numerous species of fish and the area has become famous for its excellent sport fishing opportunities. Fort Abercrombie, a World War II military installation, is approximately four miles northeast of the City of Kodiak. The 183-acre site is part of the State Park System and contains the ruins of the Fort Abercrombie coastal defense installation. The location of Fort Abercrombie State Historic Park is illustrated on Figure 1.

Local Climate Information

Kodiak Island has primarily a maritime climate with mild temperature ranges for Alaska. The warm Japanese Current plays a prominent role in producing mild winters and moist, cool summers. Precipitation levels vary widely throughout the year, with June, the driest month, and October the wettest. The average annual temperature is 40.8°F (4.8°C). The average annual precipitation is 67.6 inches (171.7 centimeters). Snowfall records average 78.7 inches (199.9 cm) per year (NOAA, 2003). For the majority of the year, the prevailing wind direction is northwesterly. Maximum wind gusts occur during winter months with gusts greater than 58 mph (50 knots).

Geographic Location and Geologic Setting

Situated in the Gulf of Alaska, Kodiak Island is separated from mainland Alaska by Shelikof Strait. Kodiak Island is located 25 miles (40 km) southeast of the Alaska Peninsula, approximately 90 miles (145 km) southwest of the Kenai Peninsula. The town of Kodiak is 252 air miles (405 km) from Anchorage. Approximately 100 miles (161 km) by 50 miles (80 km), Kodiak is comprised of moderately rugged mountains which average 2,000 to 4,000 feet (610 to 1219 meters) in elevation. The "Emerald Isle" has moderately rocky headlands with glacially sculpted valleys.

Geology

Kodiak Island's geologic activity is characterized by areas of intense activity along the boundaries where tectonic plates collide, and are separated or slide past each other. Earthquakes and volcanoes occur frequently at these plate junctures. In Alaska, the Aleutian

Chapter 3: Natural and Cultural Resources

Islands and Kodiak are located near a subduction plate boundary approximately 93 miles (150 km) to the southeast. The Pacific Plate is sliding underneath the North American Plate at approximately 2.5 inches or 6 cm per year.

Earthquakes and Tsunamis

The greatest amount of seismic activity is concentrated along the Pacific Rim. Globally, Alaska is the one of the most seismically active regions. Nationally, more earthquakes are prone to occur here than in any other state in the U.S. A magnitude 7 earthquake occurs in Alaska annually. Earthquakes equaling or exceeding a magnitude 8 are recorded in Alaska approximately every 14 years, according the U. S. Geological Survey (USGS). Kodiak and the Aleutian Islands experience many earthquakes or plate ruptures.

Kodiak experienced magnitude 7.0 earthquakes in January 2001, July 2000 and December 1999 with no major damage. Recent Alaskan earthquake information can be obtained from <http://www.aeic.alaska.edu> .

The March 1964 Great Alaskan Earthquake, the largest ever recorded in North America, had a moment magnitude of 9.2 and epicenter located in Northern Prince William Sound. In Alaska, 115 fatalities were caused directly by this earthquake and 106 fatalities (Sokolowski, 1991) resulted from seismic sea waves known as tsunamis. Widespread vertical and horizontal movement or displacement occurred. Subsidence of the Kodiak Island is estimated at approximately 6 feet or 1.8 meters and the uplift at the southeast coasts is a lower estimate (Gilpin and Carver, 1994).

The Alaska Tsunami Warning Center in Palmer states the accompanying tsunamis were generated by tectonic uplift of the sea floor with localized subaerial and submarine landslides. A series of approximately ten tsunamis reached coastal Alaska and distant areas around the Pacific. Coastal towns of Seward, Valdez, Whittier and Kodiak were impacted by tsunamis. In the City of Kodiak, the tsunami wave height was 20 feet or 6.1 meters. In the greater Kodiak area, the tsunami resulted in eight deaths, 158 houses destroyed, and \$31 million in total damages.

Volcanoes

The Aleutian Islands and the Pacific Rim include many volcanoes and the majority of Alaskan volcanoes are concentrated in the Aleutian arc. After volcanic eruptions occur, ash clouds can drift over large areas many miles from the sources. Alaskan and international air routes, airports, flight operations and motorized vehicles can be affected by diminished visibility and damaged control systems. Since 1945, Alaska has received an average of two significant volcanic eruptions per year. Kodiak Island was impacted by volcanic activity from the 1912 Mt. Katmai/Novarupta, the 1989-90 Mt. Redoubt eruptions, and the recent 2006 Mt. Augustine eruptions.

The June 1912 Mt. Katmai/Novarupta eruption is considered the world's most voluminous 20th century eruption and it is estimated that three cubic miles of magma was ejected as ash. Initially, Mt. Katmai was thought to be the source of the eruption. It was later revealed however, that the Novarupta flank eruption was the actual source. This

60-hour explosive event produced large quantities of ash that blanketed Kodiak and resulted in darkness, sulfur dioxide gas and falling ash dangerous to the local population and harmful to fish and wildlife. The ash measured 12 to 18 inches in thickness. Particles ejected during the eruption known as a “tephra” form prominent layers in the soil profile, and are highly visible in Ft. Abercrombie’s soil profile.

Terranes

Portions of Alaska are composed of many fragments of foreign rock known geologically as “terrane” each having a wide range of ages, a distinct geologic character, and a distinct site of origin. When these terranes are added on to the existing continental areas, the term used is “accreted terranes.” Alaska has many accreted terranes and Kodiak Island itself is composed of terranes. The Kodiak archipelago has a complex geologic history that includes parts of several terranes along the south-central coast of Alaska and contains a chaotic mixture of broken, jumbled and thrust faulted rock known as “melange” extending up through the Kenai Mountains, Turnagain Arm and to the Wrangell Mountains on mainland Alaska. This terrane is Mesozoic (Cretaceous) and is generally poorly fossiliferous, thinly bedded, and has graded deposits or flysch. These layered rock beds are northeast striking and northwest dipping and are exposed throughout central Kodiak Island. Tertiary shales, muds, conglomerates, sandstones, graywackes and slates can be observed throughout this formation. Ft. Abercrombie’s rugged coastline typifies the above described layered shales, slates and greywacke. There is an outcrop of conglomerate near the beach of Lake Gertrude.

Glaciation of Kodiak Island

Except for an area on the southwestern part of the island, the Kodiak archipelago was probably covered by a glacial ice field during the Pleistocene. An ice cap bridged Shelikof Strait and probably connected the Alaska Peninsula during the last glacial maximum, approximately 23,000 and 14,000 years before present (Mann and Peteet, 1994). Glacial advance occurred in a southerly and easterly direction. These glaciers molded the topography as they retreated leaving U-shaped valleys and embayed shorelines. A sparsely glaciated region of the island can be found in central Kodiak Island between Mount Glottof and Koniag Peak.

Soils

On Kodiak Island, soil forming processes are very apparent and are a principally a function of the climate, parent material (bed-rock), volcanic depositions, glaciation, and other factors. After a couple days without rain, it becomes very dusty due in part to the very soft nature of the parent material underneath the soil and to the high amount of volcanic ash still susceptible to soil surface disturbances. Over time, volcanic ash, weathering bedrock, decaying plants and animals, and other factors have formed a thin layer of soils on Kodiak Island. Ft. Abercrombie and much of the northeastern portion of the island are underlain with alternating layers of slate and its softer form, greywacke, some granite, or by glacial till derived from these rocks. These layers are easily observed along the park’s sea-cliffs, and have been extensively folded and faulted. Granitic-related materials are also seen in small pockets and bands within the slate and greywacke.

Huge quantities of ash were blown into the air from the eruption of Mt. Novarupta on the Alaska Peninsula in 1912, which fell onto northeastern Kodiak Island. The ash averaged about 18 inches deep, killed many animals, fish, and temporarily smothered vegetation. Shortly after the ashfall, rainwater redistributed the material and as a result, vegetation on steeper slopes recovered and continued to grow. Where ash had accumulated in the broad valley bottoms, it took much longer for it to recover. On drying, the ash cracked leaving crevices open for plant growth. In other areas of ash accumulation, such as in depressions that were once marshes, it took many years before vegetation re-established itself.

The ash is of low fertility and is very acidic, making establishment of plants (other than highly adapted native species or those growing in similar conditions) very difficult to grow. If undisturbed, the ash makes a good base material for light construction, such as trails. It can however, erode easily and be slippery when wet. Ft. Abercrombie's soils are predominantly of the Kodiak Series and generally of one texture being a silt loam that is generally wet and acidic. Potential problems to consider are erosion on steep slopes and low soil strength due to liquefaction when moist and vibrated (as in earthquakes), especially when associated with thick ash.

Vegetation

The variety of vegetation and plant communities on Kodiak Island is quite spectacular and provides an unusually attractive array of color, patterns and textures. The mild maritime temperatures and ample rainfall contribute to the abundance of green vegetation that is responsible for Kodiak's other name, "The Emerald Isle". Stunningly beautiful coastal wildflower meadows are a highlight for any visitor in summer. Other lowland vegetation includes grasslands, shrub-lands of willows, dwarf birch and alder, rich wetlands and wet tundra. Alpine tundra covers the ridges and grows above tree line, which varies from about 500 to 1,000 feet.

The Sitka spruce forest that adorns the lower elevations, is relatively young, and only covers the northeast end of Kodiak Island, especially in the vicinity of Monashka Bay and Cape Chiniak. It is not mixed with any other species of trees, which makes it unique in the world. It is a forest on the move and is spreading toward the southwest at a rate of about a mile every hundred years. The low protected valleys of central, eastern, and western Kodiak Island contain balsam poplar (cottonwood) and Kenai birch. An abundance of Sitka alder and a variety of willow species grow on the slopes and riparian habitats. The southern two thirds of the island are virtually treeless and support a thick cover of grass and wet tundra.

Described as a northern temperate rainforest, the vegetation of Fort Abercrombie State Historic Park is dominated by Sitka spruce forest and a shade-tolerant under-story. Magical looking and lushly green, the forest has an ideal damp environment for the abundant growth of many species of epiphytic mosses which adorn the tree trunks, produce giant festoons on branches and luxurious carpets on logs, stumps and the forest floor. Gray-green stringy lichens dangling from the branches add to the mysterious character of the Sitka spruce forest. Salmonberry, blueberry, and devil's club are the

typical shrubs. Various ferns and smaller more delicate plants such as shy maiden, trailing raspberry, and twyblade orchid, spring up from the carpets of mosses that cover the forest floor. The coastal wildflower meadows of Fort Abercrombie are also unforgettable. Chocolate lily, wild geranium, shooting stars, rose-purple orchid, yellow paintbrush, Nootka rose and wild iris are just a sample of the summer floral highlights that attract photographers and admirers from around the world. Along the beaches you can find specially adapted plants that tolerate salt spray. Beach greens, goosetongue, lungwort, beach lovage, and beach rye grass are the most common.

Intertidal Areas

While the areas below mean low tide are outside the park, these areas serve the public in several important ways. There are two primary intertidal areas that are commonly used, Lake Gertrude Beach and the Ram Site Beach. Even though the Ram Site Beach is not part of Ft. Abercrombie, its ease of access, high diversity of intertidal life and close proximity to the park office has made it a popular destination for guided tidepooling walks with park naturalists. Kodiak's diurnal (twice daily) tides range from extremes of +11.2 ft. to -2.6 ft. in the area of the park. Tides lower than -1 ft. are usually sufficient for good observations of intertidal life.

Subsistence

The incidence of paralytic shellfish poison (PSP) in Kodiak waters is high enough to not recommend any bivalve (such as clams) for human consumption unless a method for testing toxicity is used. The park's beaches are typically too rocky to support many bivalves with the exception of a few cockles, littleneck clams and rock oysters. However, this toxin does not affect univalved organisms or plants and there is some effort to harvest these species. For the most part, the majority of subsistence use on the beaches is for chitons and snails. At times they are collected by the bucketful along with an occasional octopus. Some seaweeds and kelps are harvested, but not in any quantity.

Tidepooling/Educational

Exploring tidepools is a very popular activity for all ages of park visitors. Guided tidepooling walks are conducted by several organizations (including park staff) that include everything from casual walks, school field trips, college courses and research projects. Commonly seen intertidal creatures include sea stars, chitons, whelks, nudibranchs, sculpins, gunnelfish, mussels, limpets, crabs, barnacles, worms, anemones, sponges, algae, kelp, and an occasional octopus. For a more complete list of tidepool life by the park, see Appendix C.

Wildlife

Kodiak is home to several species of terrestrial mammals ranging in size from the little brown bat to the famous Kodiak brown bear. The most common species of small mammals are the indigenous brown bat, short-tailed weasel, land otter and tundra vole as well as the introduced red squirrel, beaver, muskrat, house mouse, and the Norway rat. The Kodiak brown bear is the only large mammal that is native to the island. In the past

century, Sitka black-tailed deer, mountain goats, and reindeer have been successfully introduced to Kodiak. Roosevelt elk were successfully transplanted to Afognak Island, where they now constitute a healthy population that occasionally has members that swim across to Kodiak Island.

Kodiak brown bears are a unique subspecies, limited to the Kodiak archipelago. The current population exceeds 3,000 bears that occupy all available habitats on the islands. Recent studies have shown that the Kodiak bear population is healthy and productive. Bear densities are highest in areas that do not have permanent human occupation however, several bears occupy the Kodiak city vicinity. The Kodiak brown bears are arguably the largest in the world and they are an important economic resource for people. Sport hunting is closely regulated by the Alaska Department of Fish and Game, and the U.S. Fish and Wildlife Service provides habitat protection on the Kodiak National Wildlife Refuge. In the past decade, bear viewing has emerged as an increasingly important human use of the bear population. Bear human interactions are common occurrences in the Kodiak islands and there are few cases where people are seriously injured by bears. While Fort Abercrombie is too small to support resident bears, locals and visitors are offered bear safety brochures and training, and garbage collection on most of the road-connected areas is carefully managed to minimize bear problems.

Sitka black-tailed deer are common throughout Kodiak Island, with an estimated population of over 60,000 deer. These ungulates were introduced from southeast Alaska at the turn of the last century and today they provide one of the most important sources of meat to Kodiak residents and many non-local hunters. Deer populations are dramatically impacted by winter and early spring weather conditions, often succumbing to starvation or hypothermia when severe weather persists. In urban areas deer are also vulnerable to loose dogs, especially during the winter and early spring. Deer are a fairly common sighting in the park.

Mountain goats were introduced to Kodiak from the Prince William Sound area in the 1950s and now occupy all suitable habitats on Kodiak, with a population of about 2,000 goats. The goats are also an important species to hunters and wildlife viewers. Goat sightings in the mountains near Kodiak city have become more common in the past 10 years as the overall population has been increasing and expanding. There have been no reported adverse encounters between goats and people.

Roosevelt elk were introduced to Afognak Island from the Olympic Peninsula of Washington in the late 1920's. The population now stands at about 900 elk, occupying most areas on Afognak and Raspberry Islands. Occasionally elk swim across to Kodiak Island but a self-sustaining herd has never been established. There have been unconfirmed sightings of elk in the Monashka Bay area in recent years. Reindeer were introduced to Kodiak in the 1920's as an agricultural experiment. By the 1950's all herding had ceased and the reindeer are now considered feral. About 200 reindeer currently occupy the southwest part of the island and they never venture as far north as

the City of Kodiak. Other domestic livestock that free-range on the island include bison, cattle, and horses. Smaller animals found throughout the area, including the park, include fox, rabbit, muskrat, squirrel and beaver. Harbor seals, sea lions, and sea otter are seen frequently along the coastline adjacent to the park.

Whale-Watching

Miller Point is well known for its whale-watching opportunities. Humpback whales are frequently seen very close to the bluffs during the summer months, sometimes close enough to shore to hear them “blow” on quiet evenings. Humpbacks are known for their acrobatic aerial displays, and have provided many spectacular performances to park visitors. Pods of orcas (killer whales) pass by several times a year from Marmot Bay through the Kodiak harbor area and onward south. During the spring gray whale migration, gray whales can be viewed off-shore as they pass from Marmot Straits southerly towards Narrow Cape where they often feed for extended periods of time. Fin whales are commonly seen off-shore. Occasional sei and minke whales have also been sighted.

Lake Gertrude Sport Fishery Enhancement

During the past 50 years, Lake Gertrude has been subject to numerous sport fisheries enhancement efforts undertaken both by the Kodiak Conservation Club (which built and operated the Devil’s Creek rainbow trout hatchery) and ADF&G. Historic records indicate that changes over time in numbers and species of fish stocked was both in response to measured or perceived poor success in previous stocking efforts as well as apparent changes in preferences for targeted species by the sport fishery. However, almost all narratives of stocking evaluations indicate that results measured in terms of sport fishing opportunity were less than expected. The stocking history of Lake Gertrude is chronicled in the following table.

Year	Species Stocked/Activity
1953-1963; 1973-present	Rainbow Trout
~1965-1966	Landlocked Sockeye Salmon
1967-1971; 2005-present	Landlocked Coho Salmon*
1972	Lake poisoned to eradicate all native and introduced fish species in order to re-introduce rainbow trout the following year
1979-1989	Arctic Grayling
2005-present	Landlocked Chinook Salmon*

*Stocking conducted only during years when numbers of fish surplus to other local enhancement projects become available.

Currently ADF&G stocks Lake Gertrude annually with ~3,700 reproductively sterile rainbow trout fry weighing between .5 and 1.5 grams. Survival rates of these fish are unknown. Since rainbow trout stockings between 1953 and 1990 used reproductively viable fish, it is reasonable to assume that at present there is also a small spawning population in this system. Up to 3,500 landlocked coho salmon and 3,000 landlocked Chinook salmon are scheduled to be stocked in Lake Gertrude during years when surplus numbers to other local enhancement project objectives for these species become

available. Formal objectives for the Lake Gertrude stocking project are contained in ADF&G's Statewide Stocking Plan for Recreational Fisheries, which is subject to internal and public review on an annual basis. In lieu of future changes to the statewide stocking plan, ADF&G plans to continue efforts to enhance the Lake Gertrude sport fishery.

Bird Species Background

Over 95 species of birds have been recorded within the park, or from its shores. The Sitka spruce forest that dominates the park holds Northern Goshawk, Three-toed Woodpecker, Common Raven, Winter Wren, Red-breasted Nuthatch, Golden-crowned Kinglet, Varied Thrush, and other forest birds. Marbled Murrelets nest in mature spruce in the park. Young birds have been found on the forest floor, and in summer at dawn and dusk, choruses of murrelets can be heard over the forest canopy. One Bald Eagle nest is located on City of Kodiak lands just west of the park, and eagles are common within the park. Lake Gertrude attracts a variety of waterfowl including Mallard, Common Goldeneye, Bufflehead, and Common Merganser. The meadows that border much of the rocky coastline host Savannah and Golden-crowned Sparrows in summer.

The variety of birds that can be seen from the park's shoreline includes loons, cormorants, sea ducks, shorebirds, gulls, and alcids. The park is one of the best places on the Kodiak road system to see wintering red-faced cormorant, a Beringian species. In summer, horned puffins nest on the bluffs at Miller Point. The beautiful harlequin duck can be seen near shore throughout the year. From prominent headlands, open water birds like shearwaters can sometimes be seen. The park provides not only good habitat for a large variety of birds, but also great birding opportunities for its visitors.

Transportation

The physical character of Kodiak Island strongly influences the availability of transportation to and within the area. Air, water and land transportation are all important modes, with air transportation perhaps being the most significant mode throughout the year. Air transportation is provided to the City of Kodiak by commercial airline and by chartered aircraft. Scheduled commercial flights provide service between Anchorage and Kodiak. These flights utilize the Kodiak Airport located five miles outside the City of Kodiak. Scheduled amphibious air service and charter flights are also available between Kodiak and other outlying communities within the Kodiak Island Borough.

Kodiak is served by the Alaska State Ferry system that has capacity for vehicles and hundreds of passengers. With favorable weather conditions, the trip to Kodiak averages 13 hours from Seward and 10 hours from Homer. Freight and barge service from Seattle and Anchorage are also available and play an important role in the local economy by transporting local fish products to outside markets. Outlying communities are served from Kodiak primarily by private fishing boats and commercial barge service.

The road system within Kodiak Island is very limited. While most of the outlying once-graveled roads are currently being paved, they are still narrow and winding in nature, and highly scenic. Roads north to Monashka Creek, and south to Chiniak are now paved. The highway to Pasagshak is currently being paved, with plans of paving all the way to the Narrow Cape Rocket Launch Complex. The road to Anton Larsen Bay remains a 2-lane gravel highway.

Historical and Archaeological Background

Fort Abercrombie State Historic Park and its adjacent areas have numerous features of both historic and archaeological significance. The stewardship of these features must be considered in developing the park for future generations.

Archaeological Themes and Resources

The Kodiak Archipelago has been home to the Alutiiq people for at least 7500 years. A maritime people, Alutiiqs share a cultural, linguistic and biological heritage with neighboring Eskimo and Aleut peoples. On Kodiak, archaeological work continues to reveal the long and complex history of the Alutiiq and the development of their societies. Archaeologists break the prehistory of the Kodiak region into three traditions, each representing a distinct way of life. The Ocean Bay Tradition (7500 to 4000 BP) is characterized by a mobile hunting and gathering lifestyle; the Kachemak Tradition (4000 to 1000 BP) by settled village life and an increased emphasis on fishing, and the Koniag Tradition (1000 BP to AD 1784) by ranked societies with hereditary chiefs who maintained power through trade, warfare, and ceremony. In 1988 archaeologists excavated the Monashka Bay site, a prehistoric settlement immediately adjacent to the park (on the City's Ram Site property), discovering occupations from both the Kachemak and Koniag Traditions. Important finds from this excavation included the remains of semi-subterranean structures, materials indicative of long distance trade (e.g., copper and coal), and a multitude of pebbles etched with images of people in ceremonial garb.¹ The presence of a substantial settlement with multiple prehistoric occupations, just beyond the park boundary, suggests that the area was used repeatedly in the prehistoric era and has the potential to yield additional prehistoric sites. As such, the likely impacts to archaeological resources must be considered prior to ground disturbing activities.

Historical Themes and Resources

In 1784 Russians traders established their first permanent settlement in America at Three Saints Bay, only 100 miles southeast of the park. In 1792 the headquarters of the Russian American Company moved to St. Paul, now Kodiak Harbor, just a few miles from the park. By 1852, the park area was identified on Russian charts as 'Mys Melnichnoy,' or Mill Cape. This title reflects the presence of a Russian flourmill at the head of Mill Bay to the southwest. The point was previously labeled Popof Cape, perhaps in honor of

¹ The City of Kodiak donated the notes and materials from this excavation to the Alutiiq Museum, where it is stored as part of the permanent collections.

Chapter 3: Natural and Cultural Resources

Vasili and Ivan Popof, pioneer fur traders and hunters in Alaska from 1762 to 1763. After the 1867 transfer of Alaska from a Russian to an American administration, Miller Point continued as a designation for the area, apparently a translation from the Russian. This history indicates the possibility for Russian era sites in the park, another type of archaeological resource.

World War II History

Post-Russian era military history on Kodiak started in 1898 with the establishment of Fort Kodiak in the current city area. The U.S. Navy established a radio facility on Woody Island in 1911. The onset of World War II in the late 1930's precipitated a rapid buildup of coastal defenses. Alaska was deemed strategic from its location on the Great Circle Route from the Orient both from a commercial and military perspective. Chosen for its location along this route, the US Navy began construction of the Kodiak Navy Base (at the current US Coast Guard base location) in 1939. Kodiak served as Alaska Defense Command for the entire Alaska campaign from October 1942 through March 1943.

In April of 1941, Battery C of the 250th Coast Artillery Regiment, a California National Guard unit, was deployed to Kodiak. The 250th brought its three mobile 155-mm guns on the U.S. Army transport, the St. Mihiel. By the end of October, the 250th had established headquarters at the Kodiak Navy Base, later formally named Fort Greely (named for the arctic explorer, Major General Adolphus W. Greely) in September 1941. The three guns were emplaced at Spruce Cape, Woody Island and Buskin Beach.

In June 1941, President Franklin D. Roosevelt signed an Executive Order, which withdrew 780 acres of private and public land in the vicinity of Miller Point for a military reservation. By November, an observation post at Miller Point was manned by Battery A of the 250th. The post was later named Fort Abercrombie for Lt. Col. William R. Abercrombie. As a company grade officer, Abercrombie played a major role in U.S. Army explorations in interior areas of Alaska during the late 19th century. However, Abercrombie was never actually present in Kodiak.

Battery B was deployed at Spruce Cape. Battery C was deployed to Long Island (later named Ft. Tidball, equipped with two six-inch guns). Battalion Headquarters were located at Buskin Hill, with support barracks where the present day USCG housing is located at Nemetz Park. Battery D was deployed to Cape Chiniak (later named Fort J. H. Smith). All the batteries received the official "Fort" names on April 29, 1943.

Prior to the attack on Pearl Harbor of December 7, 1941, Ft. Abercrombie was manned only during day hours. During the weeks after Pearl Harbor, all of the regiment's batteries did daily battery practice, and Abercrombie was manned continuously to defend the Naval Air Station, Kodiak, by denying entrance to hostile sea forces. Ultimately there were 150-200 men and about 25 Quonset huts and tents at Abercrombie. All of the Kodiak installations together reached a top strength of more than 11,000 men.

An account of garrison duty on Kodiak during this period indicates that life was relatively pleasant, with troops taking advantage of hunting and fishing opportunities. After Pearl Harbor was attacked however, it seemed an attack on Kodiak was imminent, and both residents and troops were on high alert. Civilian dependents were evacuated December 17, and the atmosphere was kept tense by reports such as that on May 5, 1942, of aircraft detected 125-140 miles south.

“Fort Abercrombie fired no shots in anger, and few in practice, but its ruins are material remnants of a time that anticipated and saw foreign invasion of American soil; they have an aura of historicity that conveys the location’s significance in State History.”

William S. Hanable
Historical Review of Fort Abercrombie Site
September 1971

Gun emplacements at Miller Point seem to have been low on the list of defense priorities. Not until May 1942, did Navy contractors begin a survey of the area for suitable gun mount positions. Following Japanese attacks on Attu, Kiska and Unalaska in the western Aleutians, detailed plans were written for installation of two 8-inch guns at Miller Point. The plans provided for observation posts on Kizhuyak Point to the northwest and Mount Herman on Spruce Island to complement the gun emplacement. A top-secret radar unit was to be established at Piedmont Point just southwest of Miller Point. They also provided two 60-inch mobile seacoast searchlights with power plants, to be placed in the Miller Point area and additional lights at Kizhuyak Point and Mount Herman. The installation was given the mission of denying Narrow Strait and Kizhuyak Bay to hostile sea forces with their two artillery pieces.

Available records of what happened at Miller Point after approval of fortification plans are sketchy. In May 1944, the 250th Coastal Artillery Regiment was broken up and re-designated. Events between May 1944 and the end of the war remain obscure. A field survey of the park during the spring of 1971 cataloged the location and traced each of the structures shown on an “as-built” map of 1943. Follow-up research has identified the function of most structures (or remnants). The Fort was divided into 2 separate components: Miller Point and Piedmont Point. Miller Point apparently was divided into three zones: operations, personnel support and logistical support. In the operations zone, the two eight-inch guns and the Ready Ammunitions Bunker were the most impressive structures.

In a desperate attempt to rapidly deploy heavy armament along the west coast of the US, various types of artillery were brought out of moth-ball status from around the country. The eight-inch Mark VI guns at Abercrombie were designed as World War I battleship guns, and constructed around 1900. Photos show Navy Seabees installing the guns at Miller Point in 1943. The Army made special shore mounts to allow the guns to rotate all

the way around (180 degrees). With a total weight of 155,000 pounds (77.5 tons), the guns could fire 240-pound exploding projectiles a distance of 35,365 yards (20 miles). They were fired frequently for practice, but never fired at an enemy. No photos are known to exist of the guns after construction.

An unidentified structure just to the south of the Ready Ammunitions Bunker may have been a storage area for battle allowance ammunition. To the west (in the current campground area), the battery commander's station shared a 50-foot wooden tower with a battery observation post. Less than 100 yards due west of this tower, a searchlight and its own generator was housed in a concrete shelter. Double doors allowed the 60-inch light to extend easily out from the shelter on grooved tracks. To the northeast is a small concrete bunker designated as Distant Electrical Control (DEC) on some plans, and Harbor Observation Post on others, and likely employed a binocular-like optic used to focus the searchlights on their targets. A surviving inventory shows that an automatic 40-mm cannon, two .30-caliber and two .50-caliber machine guns were in the Fort Abercrombie armory.

Warehouse and storage buildings seem to have been concentrated at the southern end of the garrison. The war reserve magazine was at the outermost point. Personnel support facilities lay between the operations and supply zones, and were the most numerous. Evidence of 25 Quonset huts or squad tents used as quarters, a mess hall, infirmary, recreation hall, and two buildings containing latrines and showers were used. The spotting and plotting room (bunker), a generator house, and an "elephant shelter" housing an automatic weapons magazine, were also in this area. Another building, identified as "barracks" on the 1943 map, is much smaller than other quarters and may have been used by personnel on duty at the adjacent battery commander's station.

Piedmont Point, 1/2 -mile southeast of the 8-inch gun positions, housed another tactical searchlight, a second DEC or observation post, an SCR-296 radar tower, and ancillary personnel facilities. Since radar was a very new technology at this time, its deployment was likely extremely guarded information. At this time, both the DEC and searchlight bunker remain in fair condition. The foundation is all that remains of the radar tower, along with several other foundation remains.

A review of all the available evidence shows that Fort Abercrombie probably was actively manned between the summer of 1942 and spring of 1944. At its peak, military activity at Abercrombie may have required between 150 and 200 men. All the Kodiak installations together reached a top strength of more than 11,000 men. In December 1944, most Kodiak installations were placed in caretaker status.

To prevent the possibility of the guns falling into hostile hands, demolitions experts blew up the gun batteries by packing them with explosives. According to veteran Heavy Artillery Mechanic, George W. Reynolds "If my memory is correct, it seems to me that they destroyed the eight inch guns at Miller Point sometime just before Thanksgiving,

1948.” Fragments were blown some distance and the barrels ended up over the cliffs. Restoration efforts in the early 1980’s salvaged the barrels and placed them on display next to the remains of their mounting carriages.

In the operations zone, the ready ammunition bunker has been restored and now houses the Kodiak Military History Museum. The DEC and the searchlight bunker are also substantially intact. In the personnel support zone, the plotting and spotting room, two generator bunkers and one shower and laundry building are the only significant structures remaining, while the war reserve magazine survives from the warehouse and storage area.

Recent History

After the Fort was abandoned by the military, it had a sordid history of use by residents, mainly as transient housing and became its own “community”. Camps were set up, both inside and outside of the bunkers. It is rumored that it even had its own mayor and jail (in one of the bunkers). Much of the fort infrastructure was either destroyed or recycled into the community during this time. Fill material, a valuable commodity on the island, was quickly removed from the bunker revetments for use elsewhere in the community. The Miller Point Ready Ammunitions Bunker became a heavily used gathering area for parties and suffered from heavy graffiti. The two gun mounts were filled with broken glass and garbage, vehicles were abandoned, burned, and even pushed over the cliffs.

On January 30 1969, the park was officially established for its outstanding historical resources. The park was then listed on the National Register of Historic Places in 1970. The mere establishment of the park however, did not provide any staffing, and it was only after the urging of the local Kodiak government to deal with the problematic tenants that temporary employees were dispatched to the park in the late-1970’s to clean it up. In 1980, 25 residents were evicted from the park and a new era of public use of the area began. Full-time staff was assigned to the park a short time later.

After years of working out of rented office space, trailers, and even the maintenance truck, an office and residence was finally constructed at its present site in 1981. Much of the current park infrastructure was built in the mid 1980’s. The park was included as part of the Kodiak Naval Operating Base and Forts Greely and Abercrombie National Historic Landmark designation in 1985. A grant secured in the early 1990’s provided the funding to waterproof and re-bury the Miller Point Ready Ammunitions Bunker as it was during the war. The interior was sandblasted, repainted to its original colors, and a heating system installed to allow the water-saturated building to dry. In 2000, it became the home of the present day Kodiak Military History Museum, operated by a volunteer non-profit group.

Chapter 4

Issues

Miller Point

Miller Point is a major attraction in the park because it offers scenic vistas, whale watching, hiking opportunities, and unique historic experiences including the Kodiak Military History Museum. The area receives over 65,000 visitors a year. As a result on nice summer days, parking at Miller Point is challenging: traffic becomes congested, visitors have to wait for parking spots, and pedestrian safety becomes a significant concern. This plan recommends a number of solutions for addressing these issues and improving the visitor experience. These include moving the existing campground (see section below), installing a bus turnaround, improving parking, adding a restroom for the museum, and constructing an interpretative trail and displays.

Camping in the Park

The origin of camping in the park began during pre-park days when the area was used for transient housing for temporary workers in the fishing industry. Due to the uneven nature of the terrain, the only suitable locations for campsites were on the flat foundations of the structures built during WWII. The Miller Point Campground was never designed for this purpose and therefore the sites are poor with little regard to their impact on the historic resources of the area. Vehicle parking has always been an issue. Half of the sites accommodate only standard-sized vehicles, and the other half were developed as “walk-in” sites for those traveling without vehicles. No accommodation was made for larger recreational vehicles (RVs). They are currently only permitted to park overnight in the lot below the Spotting and Plotting Room. Because today’s RVs are often 40 feet and longer, two vehicles fill the entire lot.

The question of whether or not to allow overnight camping in the park has been a longstanding issue. Although the 1973 master plan recommended the development of a new campground west of Miller Point, it also proposed that camping be de-emphasized in the park. This plan recommended that a new campground be developed outside of the park and suggested Pillar Creek as an appropriate location. During the preparation of the 1979 master site development plan, it was suggested that camping be eliminated as soon as either the state or borough could develop an alternative campground. Local residents were complaining that campers, particularly long-term campers, were preempting resident’s full use and enjoyment of the park. At that time, short-term camping limits were established and vigorously enforced.

In 1982 State Parks acquired, via a cooperative land management agreement, 168 acres from the U.S. Coast Guard along the Buskin River where it developed an 18 unit campground. The campground was designed to accommodate larger recreational vehicles.

This plan presents some alternatives in an effort to resolve camping-related issues. State Park's continues to recommend that only short-term, primitive, convenience-oriented camping be allowed in the park. That is, camping which is not oriented toward providing a camping experience but simply provides a place for an overnight stay for persons visiting the park. Should additional lands be acquired and added to the park (see Land Acquisition section below), camping facilities could be relocated to this area. If this land base is absent, parking for larger recreational vehicles would either be eliminated since there is usually adequate space at the Buskin River Campground or be accommodated on a limited basis by the current headquarters facility provided ownership of that area is resolved. Since Ft. Abercrombie is less than 2 miles from shopping centers, it is far easier for travelers without vehicles to stay in the park rather than at the Buskin River since the latter campground is over 4 miles to the nearest store. Tent camping will be provided by the development of new walk-in campsites to the north of the War Reserve Magazine. This proposed solution will still allow people to camp in the park but in a manner which neither conflicts with other day users nor with the primary mission of the park: the protection of the historic resources and the interpretation of World War II history.

Trails

Since the most used resource in the park is trails, this plan proposes a program for aggressive trail enhancements. This includes proposals for new trails, trail maintenance, and relocation of certain trails for safety or cultural resource preservation. Additionally, a separate Trails Plan for the park has been developed concurrent with this plan revision that provides more specific guidance for trail management and development. The Trails Plan is included as Appendix A. In brief, it includes new trail recommendations, existing trail upgrade priorities, trail classification designations, trail standards, and signage. This plan also addresses issues such as pets, trail accessibility (ADA compliance), and types of trail uses appropriate to the park.

Fees

Fees are a critical revenue source for Alaska State Parks and help support and maintain park facilities. User fees are collected for camping, cabin or recreation site use, and boat launching in many park units. Commercial operators pay permit fees that allow them to operate within a state park. Those fees are intended to compensate the public for the commercial use of a public resource. In an effort to generate more revenue, day use fees are proposed for Kodiak state park areas including Fort Abercrombie State Historic Park. These fees will be charged for vehicle parking and use of the facility for longer than 30 minutes and will be used to enhance funding for facility construction, management and maintenance.

Park Facility Needs

Aside from initial construction of the park headquarters in the 1980's, very little capital infrastructure has been added to the park. Many of the existing facilities are in a state of disrepair or inadequate to serve current visitor's needs. The WWII War Reserve Magazine is currently being used as a storage and maintenance structure but marginally serves this purpose since the building is generally cool, damp, dark and too small to serve the entire Kodiak District's needs. Although the structure provides some storage space, perpetual dampness promotes mold, mildew and rust, and heating the structure is too costly. A new maintenance and storage building is needed to fully comply with state worker safety standards and to meet the park's maintenance needs. Currently, a small partially screened area is being used to store park furniture, supplies and equipment, but it is too small and not secured. Theft of supplies is an ongoing problem.

Many of the restroom facilities in the park need to be replaced and/or upgraded especially those at Lake Gertrude and the Group Recreation Area. Kodiak's maritime climate is very harsh on wooden furniture such as picnic tables and bulletin boards. Park fireplaces are in very poor condition and at least half require replacement. Park tables are in poor condition; wooden boards require frequent replacement and longer-lasting products should be explored.

When first constructed, the district headquarters was built with two salvaged modular units stacked on top of each other and then remodeled. Inexpensive and adequate at the time, the building suffers from poor insulation and low quality construction. The lower unit contains the district offices and visitor center/meeting area, and the upper unit contains an apartment that is available for rent. Rental income pays for most building utilities and has been an essential asset for the district's limited budget. The headquarters contains the only heated dry space in the district, and therefore is the only place for storage of sensitive materials. Office space there is extremely confined creating a very congested workspace and visitor information area. A single office entrance creates challenges for both staff and public to share, and creates a safety hazard for egress purposes in the event of an emergency. No additional staff can be accommodated without eliminating further visitor services. Additionally, office parking is substandard and should be expanded to include secured parking for fleet vehicles.

Pets in the Park

Roughly half of the daily visitors to the park bring dogs. This is particularly true for local residents, many who visit the park one or more times per day. Dog walking is a very popular recreational activity and is often a compelling reason for many people to visit the park. Many people, especially those with small children or those with physical challenges, prefer that dogs be restrained on leashes. The public has the right to enjoy the park without encountering some of the problems, including safety concerns, loose dogs can create. Other problems observed to date in the park include: dogs chasing wildlife, pet waste in high-use public areas, and dog fights.

Part of the park's purpose is to "provide safe recreational opportunities for park visitors" through carefully crafted regulations and policies. Park regulations (11 AAC 12.130) require that pets be leashed and under control at all times in developed facilities that include buildings, campgrounds, picnic areas, trailheads, parking areas, swim beaches, and similar areas. In undeveloped areas, pets are allowed to be unleashed, but the owner must be present and in constant control of their animal at minimum by voice command. Pets running loose in the park will not be permitted, and it will remain the policy of the park to vigorously enforce this regulation.

Because the park contains both developed and undeveloped areas, conflicts have arisen over what areas should be zoned as "leash-required" or "leash-free." As a compromise the park instituted leash zoning in 2000. The northwest side of Lake Gertrude and the trail around the lake was designated as a leash-required zone, and the rest of the park on the southeast side of the lake was designated a leash-free area (see Figure 5.2). This compromise has for the most part, been well received and gives those who prefer not to be harassed by loose dogs a place to feel comfortable and safe. This plan continues to provide areas for leashed and unleashed dogs and recommends further clarification of the regulation through establishment of a Director's Order. To insure that these efforts are successful to resolve this conflict, education efforts that address pet regulations should continue including those that apply to pet control or restraint, waste, and protection of the park's wildlife. Because voluntary compliance has been problematic, new strategies that encourage "self-policing" by pet owners of pet rules and etiquette should continue to be explored.

Land Acquisition

The previous plan recommended that the park acquire several vacant lots at the park entrance for infrastructure development and park access control. No action was taken and residences were subsequently built on the lots. Today, very few vacant lots adjacent to the park remain as residential development has rapidly consumed almost all privately owned vacant land in the greater Ft. Abercrombie area. There are two large parcels of public land remaining adjacent to the park. When planning the future uses of these lands, compatibility with the adjacent historic park and provisions for pedestrian access should be considered.

City of Kodiak "Cry of the Wild Ram Site"

A 77-acre parcel of city-owned land adjoins the park on the southwest side and extends across Monashka Bay Road. Most public use of this tract occurs on the approximately 50-acre portion between Monashka Bay Road and the park. This portion is mostly forested and situated in a small valley draining into Monashka Bay. Previously used as both a cemetery (one grave remains) and an outdoor theater, the "Ram Site" lands have now been cleared of most of the theater infrastructure and remain as open space. These lands are principally being used for recreational purposes including hiking, picnicking, tidepooling, birdwatching, and kayaking. Other uses include a boat drop-off/mooring

point for residents of Spruce Island, education and research of intertidal organisms, and subsistence food gathering on the beaches. The large parking area across the road from the park headquarters is partially owned by the city and the park, and used to access both properties. The site has a history of late night parties, litter, vandalism, and physical assaults.

The portion of the tract on the opposite side of Monashka Bay Road was formerly used as a Boy Scout camp. Currently, it is mostly forested open space with incidental use by hikers and ATV users. This plan recommends the Ram Site portion of the city property be acquired and added to the park through purchase or management agreement so that its future use is compatible with the park's mission.

Kodiak Island Borough

The approximately 60 acre tract (Tract B) is not contiguous to the park, but adjacent to the City's Ram Site property on the opposite side of Monashka Bay Road. The two properties form a large undeveloped tract of forested land with several small ponds that are adjacent to the rapidly developing subdivisions along Otmeloi and Lakeview drives. When planning for development of this land, reservation of greenways or trail corridors that provide access to the park should be considered.

Vegetation Management

Ft. Abercrombie hosts a variety of plant communities that are an important part of the character of the park. These include dense Sitka spruce forests, coastal meadows and a variety of beach dwelling plants adapted to salt water spray. This plan recommends the park be managed to protect, as much as possible, the park's natural ecosystems as a stronghold for natural processes and cycles. In keeping with the Statewide Framework however, development will be consistent with the historical period the park was established to represent. Some limited manipulation of vegetation can occur if compatible with park purposes, particularly in the cultural areas of the park where manipulation is permissible to maintain the historic setting of the fort.

Invasive or noxious weeds are a growing problem on Kodiak Island and throughout the state. Much attention in recent years has centered upon invasive plant control. The plan recommends preventing the introduction and spread of noxious weeds within the park. While many invasive plants can be found in the park, few noxious weeds have been noted to date.

Wildlife Management

The Kodiak brown bear is a well established species with a healthy population throughout the island. While bears generally frequent unpopulated areas, some inhabit areas close to the city. Ft. Abercrombie is not quality bear habitat and few have been seen, although they occasionally pass through. Wise food storage and garbage management practices in recent years have further reduced the number of bears seen within the park. All permanent garbage containers are designed to be bear-resistant and have not yet been

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compromised by any wildlife. Park regulations prohibit leaving food unattended in a place or manner reasonably accessible by bears. This regulation is strictly enforced. This plan continues to recommend the current management strategy for park habitat and handling of bear sightings: if there is a confirmed bear sighting, public and agency notification is required. Education and awareness are also important park management tools.

Birders are attracted to the park in summer because it affords the opportunity to closely observe horned puffins nesting on the bluffs at Miller Point. This is the only time of year that puffins stay close to shore and are readily observable from land. This plan recommends that activities that may disturb nesting puffins, such as rock climbing, be restricted while puffins are using their nests.

Chapter 5

Management Recommendations

As a part of this plan, the lands within the park have been classified using land use designations to define their long-term management direction. Three designations: Cultural, Natural and Recreational Development have been applied. The general intent for these designations derives from the Alaska State Park System: Statewide Framework which established a land-use classification system for management and development of land and resources within park units.

Land Use Designation Descriptions

Described below are summaries of the purposes, characteristics and developments/activities allowed under each designation from the Statewide Framework that apply to Fort Abercrombie State Historic Park. Table 5.1 provides guidelines for activities and facilities within land-use designations in the park and Figure 5.2 depicts the location of areas with these designations.

Cultural Resource: This designation applies to the areas of historical significance around Miller Point and Piedmont Point that contain the majority of the ruins of World War II. Should the City of Kodiak's Ram Site property be acquired, two small sites of cultural significance would be given this designation. This designation is used on lands which possess sites and/or artifacts of historical or archaeological interest. The preservation, interpretation and study of the resources are the dominant goal in these areas. Developments associated with public access, safety and interpretation are allowed to the extent they do not interfere with the primary purpose of the cultural resource area. To the extent practicable, developments in the cultural resource areas of Ft. Abercrombie will be historically appropriate such that they have the appearance of facilities that existed during World War II.

Natural Area: Areas designated "Natural Areas" provide for moderate to low impact and dispersed forms of recreation and act as a backdrop or buffer to the cultural areas. Land within these areas is to be relatively undisturbed and undeveloped and is managed to maintain high scenic qualities and to provide visitors with opportunities for significant, natural outdoor experiences. Landscape modifications may be allowed to protect, enhance, or maintain the natural setting according to this master plan. Developments within natural areas are intended to provide for visitor safety and to provide a moderate level of convenience in a high quality natural setting. Lake Gertrude, the wildflower meadow area, and the majority of the east side of the park have this designation.

Recreational Development: This designation is established to meet more intensive recreational needs of the public. The landscape can be modified to enhance educational or recreational activities and/or to enhance wildlife habitat and scenic qualities. The highest level of development within a park unit is meant to occur in areas with this designation. This designation applies to the area around the park headquarters facility, the group recreation site, and surrounding parking lots.

Table 5.1 Guidelines That Apply to Land Use Designations

Activity/Facility	Cultural	Natural	Recreation Development
*Resource Management			
<u>Research and Management Studies.</u> Collection of data necessary for park management decisions or to further science. Priority will be given to studies that contribute to the use and management of native fish and wildlife populations and their habitats. Studies may be conducted by the Division or by other researchers under Division permit.	Will be encouraged when in accord with established principles and when consistent with the purposes of the park.	Same.	Same.
<u>Ecological Monitoring.</u> Activities or studies that address how fish and wildlife and their habitats are changing, due to either natural or human causes.	Will be practiced as a part of normal park operations in cooperation with ADF&G and other appropriate agencies.	Same.	Same.
<u>Fish and Wildlife Inventories.</u> Using acceptable inventory techniques to obtain information on species distribution, harvests, abundance, habitats, and population dynamics, to meet park management objectives.	Compatible.	Same.	Same.
<u>Fisheries Enhancement.</u> Action taken to increase fishery stocks above historical levels, such as building hatcheries and fish passages, artificially incubating fish in streams and fertilizing lakes.	Not Applicable.	Compatible by permit as specifically allowed by law.	Compatible by permit as specifically allowed by law.
<u>Fisheries Restoration.</u> Action taken to restore fish access to spawning and rearing habitat or actions taken to restore populations to historical levels. Includes fish ladders, fish passages, and lake fertilization.	Not Applicable.	Compatible by permit as specifically allowed by law.	Compatible by permit as specifically allowed by law.
<u>Wildlife Habitat Manipulation.</u> Modification of habitat to increase target wildlife populations. Includes both enhancement and restoration activities, such as prescribed burning and mechanical manipulation.	Not Compatible.	Conditionally Compatible.	Conditionally Compatible.
<u>Wildlife Introduction.</u> Introduction of non-indigenous or exotic species.	Not Compatible.	Same.	Same.

Activity/Facility	Cultural	Natural	Recreation Development
<u>Wildlife Stocking.</u> Used to re-establish native, species within their original breeding range.	Compatible as managed by ADF&G.	Same.	Same.
<u>Predator Control.</u> Relocation or removal of predators to favor other wildlife species or populations, and the protection of re-introduced species.	Not Compatible.	Same.	Same.
<u>Pest and Disease Control.</u> The use of poisons or chemicals to control or eradicate insect pests and/or diseases to indigenous animals, plants, or forests.	Not compatible except to control species not indigenous to the area. Requires the Director's authorization.	Same.	Same.
<u>Tree Felling.</u> Actions taken to eradicate pests such as spruce bark beetle, remove fire or falling hazards adjacent to developed areas, or to improve views from developed waysides.	Compatible as managed by DPOR.	Compatible as managed by DPOR.	Compatible as managed by DPOR, with particular emphasis on hazard-tree mitigation directly adjacent to high-use public facilities such as campsites or structures.
Public Uses			
<u>Walking, Skiing.</u>	Compatible.	Same.	Same.
<u>Motorized Boats.</u> Includes use of inboard and outboard motorized boats and jet boats on rivers and lakes. Does not include small boats with electric trolling motors.	Not Applicable.	Not Compatible.	Not Compatible.
<u>Non-motorized boating.</u> Includes canoes, rafts, rowboats, kayaks, sailboats and sailboards.	Not applicable.	Compatible.	Compatible.
<u>Land-Based Motorized Vehicles.</u> Includes motorized devices for carrying persons or objects over land and includes automobiles and off-road vehicles.	Compatible only with registered highway vehicles on roadways.	Same.	Same.
<u>Bicycles.</u>	Compatible on roads, parking areas and designated trails.	Same.	Same.
<u>Fishing.</u>	Not Applicable.	Compatible.	Compatible.
<u>Hunting, Discharge of Weapons.</u>	Not Compatible.	Same.	Same.
<u>Trapping.</u> Trapping of fur-bearers for private or commercial use.	Not Compatible.	Same.	Same.
<u>Motorized Equipment.</u> Includes all internal combustion equipment (i.e. chainsaws and generators).	Not Compatible other than authorized use associated with park maintenance, construction or facility enhancement projects.	Not Compatible other than authorized use associated with park maintenance, construction or facility enhancement projects.	Not compatible other than use of motorized generators associated with camping or authorized use associated with park maintenance, construction or facility enhancement projects.

Activity/Facility	Cultural	Natural	Recreation Development
<u>Camping.</u> Includes overnight parking.	Not Compatible.	Not Compatible.	Compatible only in designated facilities.
<u>Campfires.</u>	Compatible only in designated fireplaces.	Not Compatible.	Compatible only in designated fireplaces or on gravel beaches below mean high tide.
<u>Rock Climbing.</u> Includes any type of climbing, with or without gear, on the rocky bluffs of the park.	Compatible, except in puffin nesting areas during nesting times. The use of any permanent rock anchors is prohibited.	Same.	Same.
<u>Wildlife Observation.</u> Viewing wildlife and its habitat in natural conditions. Includes photography, bird watching, and educational, interpretive activities and programs.	Compatible.	Same.	Same.
<u>Horses and Pack Animals.</u> Use of horses, mules, and burros for riding or packing supplies and gear.	Not Compatible.	Not Compatible.	Compatible only on roads and designated trails.
Facilities <u>Improved Campsites.</u> Permanent site clearings that may include tent platforms, hardened campsites, fire pits, shelters, picnic tables, sanitary facilities, and interpretive displays.	Not Compatible.	Not Compatible.	Compatible.
<u>Public Use Cabins and Shelters.</u> Small, permanent structures available for overnight used by the general public on a reservation basis.	Conditionally compatible as developed and maintained by DPOR providing cabins are in keeping with the purpose and historical period of the cultural zone.	Compatible as developed and maintained by DPOR.	Compatible as developed and maintained by DPOR.
<u>Visitor Information Facilities.</u> Structures where the public can learn about and obtain information on the park, its resources, recreation opportunities, and park regulations.	Compatible as developed and maintained by DPOR.	Same.	Same.
<u>Foot Trails.</u> Designated, maintained trails that are restricted to foot traffic.	Compatible as developed and maintained by DPOR.	Same.	Same.
<u>Boat Launch Sites.</u> Designated access sites where boats can be put into lakes and rivers. Sites may vary from simple clearings to permanent ramps and docks.	Not Applicable.	Conditionally compatible only for non-motorized boat access on park lakes.	Compatible.

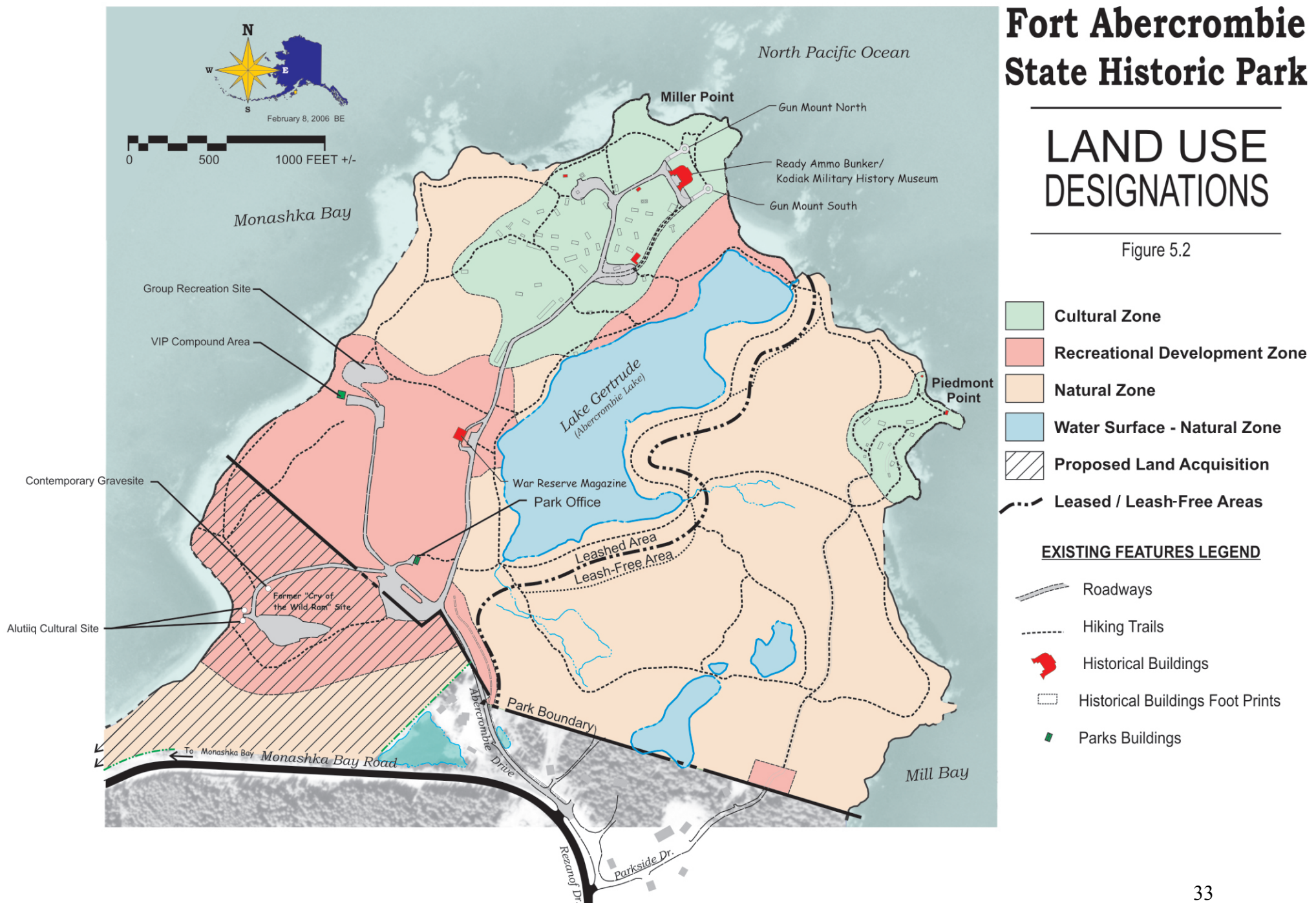
Activity/Facility	Cultural	Natural	Recreation Development
Memorials. The construction or erection of any type of permanent memorial, such as a plaque or monument.	<p>Conditionally compatible only if it serves a recreational or historic preservation purpose and is part of a significant donation of land, facilities, or similar and in keeping with the park's purpose.</p> <p>A centralized memorial is considered compatible only if developed and maintained by DPOR. All memorial authorizations require a permit.</p>	<p>Conditionally compatible only if it serves a recreational or historic preservation purpose and is part of a significant donation of land, facilities, or similar and in keeping with the park's purpose.</p> <p>All memorial authorizations require a permit.</p>	<p>Conditionally compatible only if it serves a recreational or historic preservation purpose and is part of a significant donation of land, facilities, or similar and in keeping with the park's purpose.</p> <p>A centralized memorial is considered compatible only if developed and maintained by DPOR. All memorial authorizations require a permit.</p>
Commercial Uses Guiding. Licensed backcountry guides or other commercial operators who use the park lands and waters, and charge for their services.	<p>Compatible only by permit or concession contract issued by DPOR.</p>	<p>Same.</p>	<p>Same.</p>

*Guidelines concerning fish and wildlife habitat management are advisory only. Alaska State Parks recognizes the authority of ADF&G and the Boards of Fish and Game to manage and regulate fish and wildlife within the park.

Fort Abercrombie State Historic Park

LAND USE DESIGNATIONS

Figure 5.2



Proposed Park Additions and Boundary Modifications

Development around the park is occurring at a rapid pace leaving few areas along the road system on Kodiak available for recreation. There are some areas adjacent to the park that may be available for acquisition and addition to Fort Abercrombie State Historic Park. These areas could provide additional cultural and natural resources for recreation and enjoyment.

Proposal	Management Objectives	Justification
<u>Ram Site Acquisition.</u> Acquire the City of Kodiak's former "Cry of the Wild Ram" site adjacent to the park (portion north of Monashka Bay Road) through either purchase, land exchange or management agreement.	This area could provide additional land to accommodate public use cabins, camping facilities, parking, trails, group use facilities, and a boat launch area.	The Ram site is difficult for the City to manage since it is outside its corporate boundary and has deed restrictions requiring it be used for a park area or recreational purposes. The additional land base will provide an alternative site for developing displaced facilities from Miller Point and will help reduce impact on the park's historic resources.
<u>Legislative Designation.</u> Seek park legislative designation.	This would provide legislative recognition and protection of the park's resources at a higher level.	Currently the park is administratively established. Provides additional protections and administrative benefits.
<u>Boundary Change-Tidelands.</u> Extend the park boundary to include tidelands surrounding Ft. Abercrombie from mean high tide to mean lower low tide.	This would consolidate management of area used for recreation under one agency's management. This action should be considered in park boundary descriptions if the park is legislatively designated and can be accomplished in the short term through an Interagency Land Management Agreement.	Recreational and educational tidepooling and subsistence harvest in tidal areas is very popular. Park staff use beach and tidal areas for guided nature walks. Insures that tidelands will be managed compatibly with uplands.

Cooperative Management Agreements

Cooperative agreements should be established between State Parks and large land owners in the vicinity of the park including the Kodiak Island Borough, City of Kodiak, and the Department of Transportation and Public Facilities. Cooperative agreements provide a common framework that enables land managing and regulatory agencies to inform others of their activities and avoid incompatible or duplicative efforts.

Proposal	Management Objectives	Justification
<u>Cooperative agreement.</u> Cooperative land management agreement between State Parks and other governmental land owners adjacent to the park.	Promote orderly development of these lands to prevent strip development and degradation of the view shed.	In recent years development adjacent to the park has progressed rapidly leaving very few undeveloped, open areas for recreation.
<u>Cooperative agreement- City of Kodiak.</u> If acquisition of the Ram Site is not feasible, a management agreement should be pursued between State Parks and the City of Kodiak for this site.	The site could provide additional recreational areas for trails, camping facilities, boat docking area, group use sites, parking, and public cabins.	The additional land base will provide an alternative site for developing displaced facilities from Miller Point and help reduce impact on the park's historic resources.
<u>Cooperative agreement- ADOT/PF.</u> Cooperative management agreement between State Parks and Alaska Department of Transportation and Public Facilities (ADOT/PF) concerning road maintenance and improvements.	Develop efficiencies between DNR and ADOT/PF.	This would use ADOT/PF expertise and equipment to improve and maintain park roads to a better standard.
<u>Park lands ILMA.</u> Continue the Interagency Management Agreement (ILMA) between State Parks and the Division of Mining, Land and Water (DMLW) for management of the park area.	This provides management efficiency for both agencies.	DPOR is best suited to administer and facilitate the recreational opportunities of the park area.
<u>Tidelands ILMA.</u> Develop an ILMA between State Parks and the Division of Mining, Land and Water (DMLW) for the tidelands adjacent to Ft. Abercrombie to expand the boundary and area under park management.	This would consolidate management of a highly used recreational area under one agency and provide management efficiencies.	The tidelands adjacent to Ft. Abercrombie are used by park visitors for both subsistence and recreational purposes.

Use Restrictions and Limitations

The following recommendations are intended to address use restrictions and limitations within the park to protect and reduce impacts on the natural and cultural resources of the park, improve public safety and mitigate conflicts between incompatible uses.

Proposal	Management Objectives	Justification
<p><u>Pets in the Park.</u> Continue to enforce leash and sanitation laws in the park per 11 AAC 12.130 and further clarify through a Director's Order. Widespread disregard of leash laws in the required area may invoke a zero tolerance program where mandatory citations will be issued for violations.</p> <p>The leash-free area is defined as everything east of a line 100' east of the Lake Gertrude trail on the eastern side of the park. See Figure 5.2 for a depiction.</p>	<p>Provide places in the park that all visitors can enjoy without being subjected to loose pets and places for pet owners who wish to recreate with their pets unleashed, but still under "voice-control". Protect the parks wildlife from being harassed by pets and prevent unsanitary conditions created by uncontrolled pet waste. Develop a self-policing program by pet owners to encourage voluntary compliance. Explore the concept of a "pet-etiquette" information program.</p>	<p>The park will be foremost managed for the safety and welfare of the public, and protection of the park's resources.</p> <p>National statistics indicate that injuries associated with loose pets exceed most other recreation-related injuries.</p>
<p><u>Bicycle Impact.</u> Evaluate the use and impacts of bicycle use within the park.</p>	<p>Consider the feasibility of providing an extension to the community bike trail into the park. Bicycling would be allowed only on specific designated trails.</p>	<p>Community connectivity of trails is a goal for the Kodiak Island Borough. This would provide an alternate means of accessing and enjoying the park. This option should only be pursued if it is found that bicycles do not negatively impact the park resources and experience.</p>
<p><u>Unattended Food.</u> Restrict unattended food in the park that could be accessible to wildlife.</p>	<p>Reduce bear and other wildlife problems.</p>	<p>There have been bear encounters in the park and implementation of food storage areas has helped to reduce these problems. Activity is restricted by 11 AAC 12.230 (leaving unattended food).</p>
<p><u>Vehicle Access- Miller Point.</u> Restrict vehicular access at Miller Point at certain times of peak use, and continue closures during night hours. Certain sized vehicles may also be restricted in the future should increased use and visitation warrant.</p>	<p>Reduce vehicular congestion during the peak season when commercial bus tours, whale watching, museum visitation, camping and nature hiking draw large numbers of vehicles to Miller Point that cannot be accommodated. Discourage vandalism that occurs during late night hours.</p>	<p>To protect public safety and minimize the effects of traffic on the view shed, air quality and quality of visitor experience. Nightly closure of the Miller Point gate has greatly reduced vandalism and improved security at the Kodiak Military History Museum.</p>

Chapter 5: Management Recommendations

Proposal	Management Objectives	Justification
<u>Large Events.</u> Restrict certain large events or special uses at Miller Point.	Maintain the scenic integrity and public access to this area. Restrict large events through Special Use Permit process and commensurate fees.	Since the clearing of brush and upkeep around the bunker has increased in the past few years, there has been a large increase in event requests. Because of the severe space limitations for parking, certain large events such as weddings or other gatherings of people will be carefully controlled for public and resource safety purposes.
<u>Driftwood Removal.</u> Restrict the removal of driftwood from Lake Gertrude Beach.	Maintain the structural integrity of the berm and the scenic qualities of the beach. Occasional removal for trail construction and local warming fires would be permissible.	The driftwood that naturally collects on the beach becomes buried in beach gravels, creating a binding structure that promotes vegetation and keeps the berm that dams the lake intact. Should the dam be compromised and threaten a lower lake level, efforts should be made to rebuild it with natural materials to block the potential migration of lake-stocked fish.
<u>Swimming.</u> Continue to manage Lake Gertrude as a “swim at your own risk” area.	Swimming is an incidental public use that will neither be promoted or restricted. For public safety, park users need to be aware of this policy.	No lifeguards are provided and there is no designated swimming area. No rope swings, diving boards, etc. will be constructed or allowed.
<u>Winter Recreation.</u> Continue to manage park lakes during the winter as “use at your own risk” areas.	For public safety, park users need to be aware of this policy. Winter recreational activities on lakes are an incidental public use that will neither be promoted or restricted.	With the unpredictable and mild nature of Kodiak’s winter weather, lake ice is frequently non-existent or marginal for safe use.
<u>Bear Management.</u> Continue current bear management strategy of public and agency notification when there is a confirmed bear sighting.	Provide education and prevent bear-human conflicts.	Promote public safety by minimizing the potential for adverse bear/human contacts. DPOR recognizes the authority of ADF&G to manage wildlife in the park and acts to notify agencies and the public of bear sightings as per the ADF&G Kodiak Bear Observation reporting network.
<u>Alcoholic Beverages-Miller Point.</u> Continue to restrict the consumption of alcoholic beverages at Miller Point.	Prevent the frequent and ongoing park vandalism in this area.	This activity is currently restricted by Director’s Order.
<u>Firewood.</u> Continue to restrict the cutting of firewood for personal use in the park.	This activity is restricted by regulation and is not compatible with park goals.	Activity is restricted by 11 AAC 12.170.

Vegetation Management

The park will be managed to protect the natural processes and cycles of the ecosystem. Some limited and small scale manipulation of park vegetation to provide a variety of wildlife habitat may be allowed if compatible with other park values but shall be reviewed by the Director's office and staff before being undertaken. As a rule, the park shall be managed to protect the natural vegetation, especially the Sitka spruce trees that are gradually being cut outside of the park for residential and commercial development. With a few exceptions, such as historical restoration, hazardous tree removal or other safety related projects, trees should be retained whenever feasible to maintain the parks densely forested character. In Cultural Resource zones, the cutting of vegetation to recreate the historic setting of the fort (circa 1943) shall be allowed. This treatment is particularly needed along the bluffs at Miller Point for view restoration purposes.

Introduction of exotic (non-native) species may only occur if the species is approved by the Director or if they are in accordance with the management plan or site development plan. At this time, no exotic species are approved other than grasses that are used for lawns or slope stabilization. All efforts will be made to use native grasses of Alaska whenever possible.

Recent outbreaks in Kodiak of invasive plants such as orange hawkweed (*Hieracium aurantiacum* L) have prompted community-wide attention to noxious plant control. A single occurrence of hawkweed has been found in the park, and was quickly removed before it could propagate. Other species that merit close monitoring include Ox-eye daisy and Japanese knotweed. Should any of these species be found in the park, measures will be rapidly taken to affect some type of control, depending on the population density, voracity of the species, and effect on other park resources. Eradication will be attempted first through mechanical (non-chemical) means on small infestations. The use of mild non-toxic chemicals, such as vinegar or rock salt, may be employed on more advanced infestations. The use of herbicides in the park will only be used as a last resort measure for serious infestations, and will require approval from the Director. Herbicides shall not be used for routine brush or weed control.

Monitoring efforts should be park-wide, but some areas are more susceptible than others for invasion. These include sensitive habitats such as the Wildflower Meadow, the bluff meadows at Miller Point, trailheads, and the wetland/lake system that drains into the park from adjacent neighborhoods. Monitoring efforts should also include any recently disturbed soils or worksites where exposed soils are highly susceptible to pioneering species such as along roadsides or trails.

The seriousness of other invasive species such as dandelions, clover, and yellow buttercup is insufficient to take any actions other than to not intentionally promote their further introduction. Reasonable measures should be taken to prevent the introduction of exotics into the park. Potential sources include pets, boots, equipment, fill material, potting soil, dumped compost, or any other organic material brought into the park.

Management and Staffing Efficiencies

Adequate staffing is required to ensure public safety, protection of cultural and natural resources, provide information to the public, operate and maintain the park facilities, and supervise contracted and volunteer help.

Proposal	Management Objectives	Justification
<u>Staffing Needs.</u> Expand summer staffing to include more rangers, maintenance staff, and volunteers. Permanent maintenance staff (natural resource technician or labor and trades worker) is desperately needed. Seek additional park hosts as facilities are developed and become more popular.	Provide an increased management presence to improve public safety and reduce vandalism. Provide better public services during the peak season including improved maintenance and repair of facilities and more opportunities for the public to receive information about the park.	Existing staffing includes one permanent ranger and one seasonal ranger position for the entire Kodiak District which includes six park units on Kodiak, Woody, Afognak, and Shuyak Islands. Rangers spend time traveling to various units and are performing tasks such as building maintenance, garbage pickup and fee collection. These are activities that could be performed by volunteers, technicians, or contractors so that rangers could do more park management and supervisory tasks as well as be readily available for emergencies and contacting the public.
<u>Reimbursable Service Agreement.</u> Develop a Reimbursable Services Agreements with local tour operators for park staff to provide nature walks and other interpretative services.	To provide high quality interpretative programs to visitors of the park.	Tour operators often do not have staff or training capabilities to provide staff with this expertise. Provides visitors an opportunity to interact with park rangers that are familiar with park resources.
<u>Non-profit Agreements.</u> Continue to expand agreements with non-profits to provide services, new facilities and the operation of park facilities.	To provide high quality, low cost staffing and facilities such as the Kodiak Military History Museum and assistance with projects such as trail building or maintenance. Agreements may be expanded to include construction of a new park visitor center and office facility that would provide space for compatible organizations.	Examples include Friends of Kodiak State Parks that provide educational material for sale that support park services and the Kodiak Military History Museum non-profit group and its volunteers that operate the Museum and generate funding for maintenance, historical objects and their restoration.
<u>New Volunteer Positions.</u> Establish a new volunteer park caretaker position to reside at Miller Point.	Foster volunteerism at the Kodiak Military History Museum and provide a “security presence” in that area.	Allows the park to provide a level of service and facilities it could not otherwise afford.
<u>Volunteers.</u> Continue to utilize campground hosts, park volunteers, and other service organizations to staff park facilities and assist with construction and maintenance.	Reduce staffing costs and free up rangers for other tasks.	Allows the park to provide a level of service and facilities it could not otherwise afford. Builds local support and a community sense of ownership and responsibility for the park.

Proposal	Management Objectives	Justification
<u>Day Use Fees.</u> Institute a day use fee program.	Day use fees will provide additional funding for park projects and staff.	Day use fees are an important component of the State Park System budget providing a significant funding source to individual parks.

Commercial Uses

There are a few commercial operators using Fort Abercrombie State Historic Park offering services such as guided nature walks and tours of the Kodiak Military History Museum. The Division of Parks and Outdoor Recreation currently operates a permitting system for commercial operators. A commercial permit requires operators to carry liability insurance, possess professional licenses and certificates, and provide basic equipment.

Proposal	Management Objectives	Justification
Continue to implement permit system for commercial activities in the park.	Permit appropriate commercial activities inside the park.	The permit system provides accurate and updated information on the number, types, location and possible impacts of commercial activity and ensures that operators are qualified and equipped to operate safely.

Chapter 6

Facility Recommendations

The recommendations for the recreational and interpretive facilities are designed to rectify management problems, correct deficiencies in the present number and type of facilities, and to provide opportunities for a variety of park visitors. Figures 6.1 and 6.2 show existing and proposed facilities.

Miller Point

The two major components of the Ft. Abercrombie military installation are Miller Point and Piedmont Point. Of the two, Miller Point receives the majority of the use and has become the cultural focus of the park. The Kodiak Military History Museum housed in the now-restored Ready Ammunitions Bunker and the various other World War II remnants in the area offer a unique historical experience. In addition, Miller Point offers opportunities for whale watching, hiking, and one of the best locations in Kodiak to view the seascape.

A major challenge at Miller Point is adequately accommodating the variety of uses occurring in the area. Commercial tours access the area to visit the museum and hike the trails but their buses have difficulty parking and turning around on the steep, narrow roads and small parking areas. Limited parking (about 4 parking spaces) is available at Miller Point for day-use visitors and overflow parking causes traffic flow problems. The campground located amongst the World War II remnants compromises the cultural resources and creates unique challenges for campground maintenance. As a result of these challenges and in an effort to provide a quality experience, many changes are proposed for the area. Figure 6.2 shows facility recommendations for Miller Point.









Below are recommendations related to solving the congestion problems at Miller Point. Other sections of this chapter contain more detailed facility proposals for campgrounds, public use cabins & shelters, caretaker housing, interpretative facilities, historic restoration, and road recommendations associated with Miller Point.

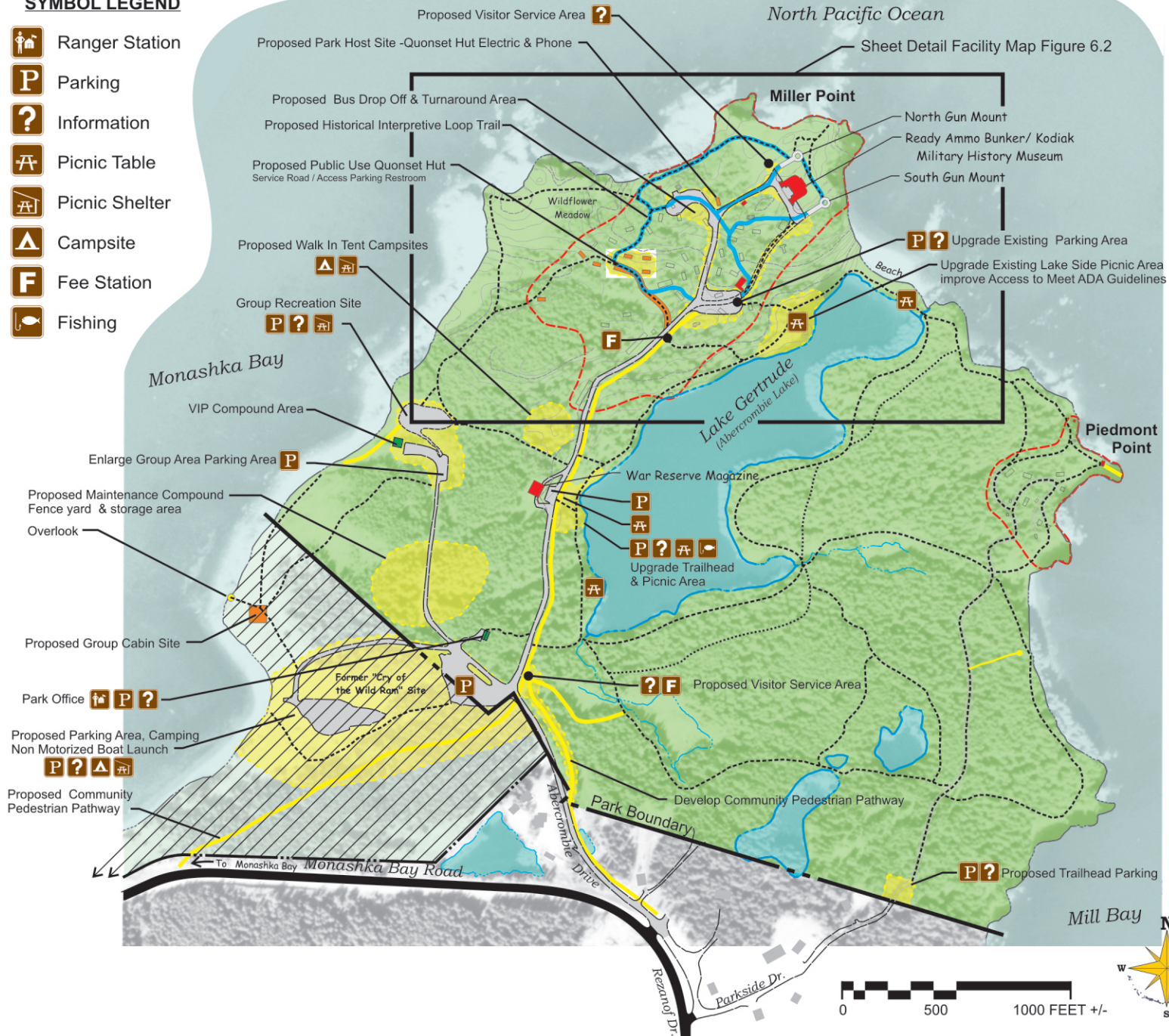
Chapter 6: Facility Recommendations

Proposal	Facilities	Management Objective/Justification
<u>Bus turnaround.</u> Develop a bus turnaround area near Miller Point.	The following location options are under consideration to accommodate a bus turnaround: <ol style="list-style-type: none"> 1) near the Ready Ammunitions Bunker/Museum, 2) in the existing campground, or 3) below the spotting and plotting room. The above location options are preliminary and subject to further review and study during the design and site planning process.	The current situation at Miller Point makes it difficult to safely turn a bus around. Park design should accommodate all levels of mobility and access, especially in the Miller Point area. Commercial tours often cater to elderly travelers who may not be able walk very far, therefore reasonable access needs to be provided.
<u>One-way road.</u> Develop a one-way road from the Ready Ammunitions Bunker/Museum to the parking lot below the Spotting and Plotting Room (Lake Gertrude Beach parking lot).	Single lane, one-way road would be developed if needed to facilitate traffic flow. This road proposal should be considered only as a last resort to solving the traffic congestion problems at Miller Point.	This road in conjunction with additional parking may be needed to route traffic efficiently around Miller Point and eliminate the need for a turnaround at Miller Point.
<u>Museum security.</u> Increase security in the museum area.	<ol style="list-style-type: none"> 1) Improve lighting to properly illuminate both entrances of the museum; 2) Provide electronic security for the museum; 3) Construct caretaker residence in the area for year-round presence. 	<p>The museum contains many valuable artifacts and resources. Since the introduction of a single floodlight at one entrance, the incidence of vandalism has decreased.</p> <p>Additional measures are needed such as an electronic alarm system that would alert not only of intruders, but also of environmental control failures.</p> <p>Should the campground be removed, a camp host will no longer reside on-site providing oversight of the area. A residence will then be needed to provide this valuable service.</p>
<u>Cultural resource survey.</u> Conduct a cultural resource survey at Miller Point prior to major facility enhancements. Once the survey is completed the ensuing archaeological report should be submitted to the State Historic Preservation Office (SHPO) for their review and concurrence prior to major facility development.	Survey would be conducted according to DPOR standards.	The previous cultural resource survey should be updated. A cultural resource survey will aid managers in the subsequent design & site planning phase to know where cultural resources are and protect them as appropriate.

Proposal	Facilities	Management Objective/Justification
<u>Visitor services area.</u> Develop a visitor services area at Miller Point.	Facilities such as a day-use fee station, restrooms, information kiosk, pet waste station, trash disposal and picnic tables could be included.	Miller Point is a major focus of the park. These types of facilities would enhance the visitor experience.

SYMBOL LEGEND

-  Ranger Station
-  Parking
-  Information
-  Picnic Table
-  Picnic Shelter
-  Campsite
-  Fee Station
-  Fishing






Fort Abercrombie State Historic Park




FACILITY MAP

Figure 6.1

EXISTING FEATURES

-  Park Boundary
-  Contours
-  Roadways
-  Hiking Trails
-  Historical Buildings
-  Historical Buildings Foot Prints
-  Parks Buildings

PROPOSED DEVELOPMENT

-  Development Areas
-  Cultural Zone
-  Interpretive Trail
-  Trails
-  Visitor Service Area
-  Public Use Cabin
-  Service Road Access
-  Land Acquisition

Camping Facilities

Overnight camping has been a long debated issue in the park. Currently a 13-unit camping area at Miller Point serves primarily car campers and walk-in type or backpacking users, many without vehicles. The campground is most beneficial to the latter type of user because of its close proximity (2 miles) to shopping amenities. The Miller Point campsites are scattered throughout the core historical portion of the park utilizing the only suitable flat places in the area, the historic foundations of WWII structures. The campground was not designed for this purpose making it difficult to maintain and potentially adversely affecting the integrity of the historical resources.

Parking in the campground is very limited with very small pullouts, difficult turnarounds, and no safe way to accommodate RVs. As a result RV camping in the park is discouraged but has been accommodated in the lot near the Spotting and Plotting Room. This use creates congestion and conflicts with those that use the lot to access the Lake Gertrude Beach. A second problem has been conflicts between recreational short-term campers and the seasonal transient worker/long-term campers. The park has adopted seven-day maximum stay limits to promote recreational camping and discourage the use of the park for seasonal housing.

Previous planning efforts have recommended that camping in the park be eliminated, relocated to more suitable borough or city land or at least deemphasized so as not to conflict with day use activities or the primary mission of the park. This plan also recommends moving the existing campground. Convenience camping will continue to be emphasized instead of attempting to provide a quality camping experience. The existing campground will be relocated away from Miller Point and the area will be rehabilitated to provide additional parking for day-use visitors.

There are two options for campground relocation that are to be considered. Between six to ten walk-in sites may be accommodated in a forested area above the War Reserve Magazine between the road and the Group Recreation Site where drinking water and restrooms are located nearby. Limited RV camping may be provided in the parking lot across from the park headquarters facility providing ownership of that area is resolved, or overnight RV parking would be eliminated altogether now that the Buskin River State Recreation Site provides camping more suitable to RVs.

The next relocation option is the City of Kodiak's former "Cry of the Wild Ram Site" (Ram Site). If this area is added to the park, camping would be sited there instead of above the War Reserve Magazine. The Ram Site has more space to provide quality campsites with good screening. See the following section for more information on the Ram Site and proposed facilities for the area.

Ram Site

The City of Kodiak’s former Cry of the Wild Ram Site abuts the southwestern edge of the park. This 77-acre tract of land is bisected by Monashka Bay Road. The portion between the road and the park is the primary area of interest in this plan. The Ram Site area was originally conveyed to the City by the Bureau of Land Management to be used as a cemetery site but attempts to use it for this purpose proved unsuccessful due to the area’s high ground water table. One monumented gravesite exists. Deed restrictions on the land require that it be used for recreational purposes only. For many years the land had an open air amphitheater where local residents produced the historic “Cry of the Wild Ram” drama. Long since disbanded, the site has been cleared of most of the production’s infrastructure with the exception of a few features. The land includes an important Alutiiq cultural site along Monashka Bay and is used by residents of nearby Spruce Island as a drop-off/pick-up point for boats, passengers, and supplies. The open waters off Miller Point can make mariner passage to town dangerous at times, and the Ram Site Beach offers an alternative.

The Ram Site is outside of the city limits making it difficult for the City to manage and maintain. The site has a history of vandalism, litter problems and there have been serious assaults at the site as well. For this reason consideration must be made for the additional patrols by park enforcement staff that will be required should the site be acquired. Should this area become available, it would be desirable to add it to the park to provide space needed for important recreational park infrastructure.

Below are recommendations for how the Ram Site may be used if the park acquires it in the future either through purchase, land exchange or management agreement. These recommendations are grouped here but portions may also be repeated under other facility headings. See figure 6.1 for a depiction of proposed Ram Site developments. Any development must avoid cultural sites to the extent practicable.

Proposal	Facilities	Management Objective/Justification
<u>Campground.</u> Develop a campground to replace the Miller Point Campground.	A 10-15 unit campground (primitive – no hookups) designed for car-camping or tent camping with a few pull through sites large enough to accommodate an RV.	Move incompatible use from a cultural zone to a recreational development zone. If demand warrants, the campground could accommodate limited RV camping.
<u>Storage yard.</u> Construct a secured (fenced) park storage yard.	Utilize the area near the current Weatherport for a secured storage yard.	Move incompatible use to a more appropriate location for security and aesthetics purposes.
<u>Group Use Cabin.</u>	Construct a public use cabin that is larger than a conventional cabin to be available for meetings, classes, events, or larger group overnight use.	Provide a new high recreational demand opportunity that currently does not exist.

Proposal	Facilities	Management Objective/Justification
<u>Public Use Cabin/Campground Shelter.</u>	Construct small simple cabins for overnight use in the campground in lieu of tent pads.	Provide a new high recreational demand opportunity that currently does not exist.
<u>Boat launch – Motorized.</u>	Construct a boat launch facility at the current beach access.	Provide a new high recreational demand facility that currently does not exist in this part of the Kodiak road system; improve boat access to Kodiak by residents of neighboring communities; improve recreational boating access to popular off-shore sportfisheries.
<u>Boat Launch – Non-Motorized.</u>	Construct a small launch facility to facilitate paddle boat (kayaks) launching and easier access for motor boat drop-offs and pickups.	Provide a new high recreational demand facility that currently does not exist; improve non-motorized boat access.
<u>Bike Path.</u> Continuation of the Community Bike Path Network.	Construct bike path from the terminus of the planned Abercrombie Drive extension, to continue southwest toward the Monashka Bay Road, Lakeview, and Bayview Drive areas.	Extension of the current trail system as part of an overall community trail network.
<u>Visitor center/offices.</u> Develop a new park visitor center and office facility.	Replace existing office facility with larger facility, possibly housing multiple offices for other compatible organizations.	Provide a more efficient office facility that would provide expanded visitor services to the public and generate revenue to offset expenses.
<u>Interpretative displays.</u> Develop an Alutiiq cultural exhibit near the existing cultural site.	Construct interpretive displays.	To help foster an appreciation for the island's rich cultural heritage.
<u>Restrooms.</u> Construct restrooms as appropriate for cabins, campground, or other high use site.	Double or single vaulted designs.	Health and safety considerations.

Public Use Cabins and Shelters

Public use cabins have been increasingly popular throughout the nation and well received in other units of the Alaska State Park System. They provide a type of overnight accommodation that is between camping and commercial hotel/motel/B&B lodging. These cabins may be located in an established campground or in more remote, secluded locations.

In an effort to provide an experience that is in keeping with the park's historical purpose, the feasibility and restoration of a Quonset hut for use as a cabin should be explored. If any overnight use structure is constructed within a cultural zone of the park, it must be historic in design to fit the location and should minimize impacts to cultural features. As part of a historic restoration project, the preferred location would be on an original Quonset hut site. To provide some privacy, a quonset hut should be located in a somewhat screened location, preferably with gated road access. While the structure will be authentic, the interior furnishings will be more contemporary with wood bunk beds, tables and chairs. Ease of maintenance must be considered with any design. Should the cabin be located outside of the cultural zone, it will not be required to be historic, but could be if desired. As a general rule, the cabins or huts will be primitive in nature with no electricity, running water, or flush toilets. Heat, if provided, would be generated from wood, oil or propane.

The concept of a campground shelter is being proposed. A shelter would be smaller than a conventional cabin, and basically eliminate the need for a tent. Shelters would occupy the space in a campground where a tent pad would normally be located. No heat source would be provided in the shelter.

Cabins and shelters would be available by advance reservation using State Park's current reservation system. Stay limits would be imposed for all cabins types similar to existing campground stay limits. Cabin design and siting should be done to carefully screen the cabins from prominent views, to promote visual aesthetics, and blend in with the site whenever possible through color, size and location. Final cabin or shelter locations will be determined at a later date after more design study and review.

Proposal	Facilities	Management Objective/Justification
<u>Campground Shelters.</u>	Several small unheated simple cabins to be located in a campground with basic wooden bunks and a small table. Shelter users will have access to common campground water and toilet facilities.	Shelters provide an alternative to tent camping for the short-term camper.

Proposal	Facilities	Management Objective/Justification
<u>Public Use Cabins.</u>	Quonset huts to be built on previous historical pads if sited in the cultural zone, or standard style cabin built in more secluded areas of the park screened from prominent view. Vaulted toilets will need to be provided unless sited near existing toilet facilities.	Quonset hut cabin would provide a cultural experience in keeping with the park's historical focus. Other style cabins would provide a more varied overnight experience.
<u>Group Use Cabin.</u>	A larger group use cabin to accommodate groups of up to 10 people. Facility will require a separate vaulted toilet, be located in a place of reasonable seclusion and likely need its own gated access. A suggested location would be on the knoll between the Ram Site Beach and the Group Recreation Area.	Cabin could be used for small meetings, events, retreats, classes, etc. If developed in a cultural zone, must be developed to be historically appropriate.

Interpretative Facilities

A primary management goal of the park is to interpret the natural and especially the historic features of the area. The unique historical features that established the park should continue to be the primary management focus. Over the years many of the World War II remnants have deteriorated and need stabilization and restoration. The Ready Ammunition Bunker was rehabilitated in 1999 to house the Kodiak Military History Museum. The museum compliments the park's historical focus providing great educational opportunities, and housing many unique objects of special military importance.

Proposal	Facilities	Management Objective/Justification
<u>Kodiak Military History Museum.</u> Continue to operate the Ready Ammunition Bunker as the Kodiak Military History Museum and improve facilities as needed and funds allow.	Provide heat, light, ventilation and special climate controls. Provide new interior entrance doors for the bunker. Construct nearby restroom that would specifically service the museum.	Continue relationship with non-profit organizations for the operation of the museum. Improve climate control efficiency to reduce high heating and humidity control costs. Strive for museum 100% self-sufficiency. Provide a more convenient restroom for museum staff and patrons, existing restroom is too distant for elderly visitors or those with mobility challenges.
<u>Outdoor displays.</u> Continue to enhance outdoor displays around the Museum.	Update interpretive kiosk panels.	Old information panels are outdated and in very poor condition.

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Proposal	Facilities	Management Objective/Justification
<u>Observation kiosk.</u> Continue to provide an observation kiosk adjacent to Miller Point.	Covered kiosk with information on recent wildlife sightings and a place to log observations.	Kiosk is popular with visitors and well used. Needs to be maintained.
<u>Miller Point displays.</u> Maintain natural history display at Miller Point.	Additional interpretive panels and supports.	Continue building on the whale identification panels currently in place, include information on cetacean life histories, including other marine mammals and birds commonly seen.
<u>Spotting & plotting bunker.</u> Restore the spotting and plotting bunker (war room).	Reinstall electrical service, provide lighting and ventilation. Replace floor vault covers. Short-term use as WWII artifact storage or tours. Long-term use to restore to original use as a war room.	Lack of power to this building makes it hazardous to use with open floor vaults. Lighting would permit tours or storage of displays or artifacts pending conservation.
<u>Quonset huts.</u> Acquire and reconstruct several Quonset huts.	Restore a hut with period furnishings. Furnish the hut as troop quarters with mannequins. Several viewing windows should be provided. Electrical service will be necessary for lighting and limited heating to control humidity and security. If multiple huts are acquired, they may be left empty to recreate the feeling of a hut compound in the area.	High priority historic preservation project that will serve a primary objective for the park. Original Quonsets are becoming very scarce, and they were a common feature in the park during the war.
<u>Piedmont Point Historic Area.</u> Maintain the historic structures in the Piedmont Point areas in a state of arrested decay.	No facility development other than bunker stabilization or trail improvements necessary to safely access the area. This includes judicious use of safety fencing along hazardous bluffs in the Searchlight Bunker and DEC Bunker areas. Interpretation of the structures and ruins should be limited to brochures or small unobtrusive signage due to vandalism concerns.	The management goal for this area is to maintain the abandoned or "ghost fort" atmosphere that currently exists.
<u>Eight-inch gun battery.</u> Reconstruction of Miller Point Eight-Inch Gun Battery.	Acquire parts needed for re-articulation, a representative model, and/or historic photos.	Only three guns of this type are known to survive in the world, two are at Miller Point. There are no surviving completely intact guns, nor any photos of the guns in place or being used.
<u>Park headquarters displays.</u> Develop ongoing natural history displays in the park headquarters.	Static displays that promote the appreciation of the park's natural resources.	A primary management goal of the park is to interpret the natural and especially the historic features of the area.

Proposal	Facilities	Management Objective/Justification
<u>Self-guided trail.</u> Continue development of a self-guided trail to showcase the park's WWII history.	Develop a new trail in the Miller Point area with high quality interpretive displays. Upgrade existing park brochures about WWII infrastructure.	A primary management goal of the park is to interpret the natural and especially the historic features of the area.
<u>Ram Site cultural exhibit.</u> Develop an Alutiiq cultural exhibit near the existing cultural site on the City's Ram Site property.	Construct interpretative displays.	If the Ram Site is acquired by the park, this sort of development would be appropriate and would help foster an appreciation for the island's rich cultural heritage.

Historic Preservation

Most of the military structures in the park have been lost to theft, vandalism, and natural elements. The wet, maritime climate is very hostile to structures that are not properly waterproofed. For this reason, only the most durable structures have survived to this point. This includes the concrete bunkers and concrete support structures, and some of the more massive steel structures such as the eight-inch gun tubes. These structures are also degrading, some at a rapid pace. All of the concrete bunkers are currently spalling and frost-shattering as the porous concrete has been exposed through the gradual loss of asphalt waterproofing layers. This spalling is most apparent on the two DEC bunkers, but is occurring on all concrete structures in the park. Many structures exhibit lime-leaching due to percolating water through cracks in the concrete, and resulting in stalactite-like growths in their interiors. All restoration efforts shall be coordinated with the Office of History and Archaeology.

Proposal	Facilities	Management Objective/Justification
Replace waterproofing asphalt on all concrete structures.	In order of priority: <ul style="list-style-type: none"> • Two DEC Bunkers • Two Searchlight Bunkers • Spotting and Plotting Bunker • War Reserve Bunker • Two Generator Bunkers • Showerhouse building 	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Apply sealant to other exposed concrete structures.	All concrete structures that require sealant, such as the entrance wings at the Ready Ammunitions Bunker and the War Reserve Bunker.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Replace steel supports in DEC Bunkers.	Both Miller Point and Piedmont Point structures.	Preserve safety and structural integrity.
Continued Restoration of the Miller Point Ready Ammunitions Bunker.	Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.

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Proposal	Facilities	Management Objective/Justification
Restoration of the Spotting and Plotting Bunker.	Reseal building exterior and replace soil revetments. Reset fresh air intakes. Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Restoration of a Quonset Hut.	Recover and restore authentic Kodiak Quonsets. Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Restoration of a Search Light Bunker.	Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility. Acquire authentic searchlight and generator.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Restoration of a Distant Electrical Control Bunker.	Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.
Restoration of the War Reserve Bunker.	Continue use as a maintenance/storage facility until alternative facility is constructed. Cover structure with overburden as originally constructed during the war. Continue authentic restorative efforts to recover actual or period-appropriate artifacts or structural components of the facility.	Historic preservation of rapidly deteriorating structures; preserve structural safety and integrity.

Park Headquarters/Storage Facilities

The park headquarters facility at Ft. Abercrombie serves many purposes. The building serves as the main information and visitor contact center for the park, office for staff, dry storage for sensitive documents and materials, ranger residence and is used for meetings and presentations. The building is small and the uses have far outgrown the space. Additionally, there is little protected storage and inadequate parking available at the current site.

Proposal	Facilities	Management Objective/Justification
<u>Parking.</u> Improve and expand parking in front of park headquarters building.	Redesign and expand to 10 vehicle lot with ADA parking and appropriate signage.	Parking is insufficient and does not comply with ADA requirements.
<u>Storage Yard.</u> Construct a storage yard that could be sited at one of the following: 1) wooded knoll area between the District Office and the War Reserve Bunker. Access would be from the Group Recreation Area access road. 2) area currently being used for storage between the Ram Site and the park; or 3) forested area along the north side of the Group Recreation Area access road.	Storage yard with locking gate and fence at minimum of 100 x 100 feet to securely store vehicles, boats, park furniture, and construction materials which do not need to be stored in a dry area. A pull through design would be preferred to allow for easy trailer storage.	Current storage area is small, visible, and not secure. There is little storage available at the current time for large items that need to be secured. Storage yard must be screened from view by either natural vegetation or fencing material that is aesthetically pleasing.
<u>Lighting.</u> Outdoor Lighting Improvements.	Improve lighting around the building and parking lot.	Enhance building access and security during darker parts of the year.
<u>Headquarter Facility.</u> Improve headquarters facility.	Construct addition or new facility. Structure should provide additional office space for staff, dual entrances for public and staff, heated storage, utility room, staff/volunteer showers, meeting area, visitor information, and interpretive displays. Structure could be built with and space provided for other compatible organizations.	Existing building is too small to adequately serve all the purposes for which it is used and has dangerous access issues. Provide a more efficient office facility that would provide expanded visitor services to the public and generate revenue to offset expenses.
<u>War Reserve Magazine.</u> Improve War Reserve Magazine use.	Continue using as maintenance shop and storage until better facility is provided. Should better storage be provided, then this facility could be available for interpretative tours.	Use of the War Reserve Magazine for storage could be improved. Currently, the area is overflowing with storage items and there is little room to use it as a maintenance shop.

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Proposal	Facilities	Management Objective/Justification
<u>Maintenance Shop.</u> Construct new maintenance shop and garage.	Construct new facility that will house work shop, dry and heated storage, garage space, and heated paint storage.	Replace existing maintenance shop in bunker that is damp, small, and difficult to heat.

Parking Areas

Ft. Abercrombie's size offers little space to accommodate adequate parking lots for facility use. The existing parking areas have evolved from previously disturbed areas but were never properly designed for maximum use and efficiency. Ideally, the park entrance intersection will be redesigned to more clearly identify directions to the park's features and facilities, provide better vehicular circulation, and increase parking capacity.

Proposal	Facilities	Management Objective/Justification
<u>Park Entrance.</u> Redesign park entrance at the junction of Abercrombie Drive and Miller Point Road.	Provide an entrance station, orientation facility, kiosks, bicycle parking area, fee station, vehicle turnaround and trailhead.	Design primary entrance near a park information facility with traffic flow control to all points of the park that could be used as a focus for park information or collection point for any fee programs.
<u>Ram Site.</u> Redesign and/or improve Ram Site parking lot.	Provide landscaped plantings, increased parking capacity with clearly defined spaces including ADA accessible spaces with appropriate signage. If used for overnight camping for RVs or pickup trucks with campers, construct vaulted toilets and water source.	Ownership is split between city and state. If Ram Site is acquired, this parking lot could be used in the redesign of the park entrance or as overflow RV parking/camping. See the camping section alternatives and Ram Site proposals for more information.
<u>Group Recreation Area.</u> Expand group recreation area parking lot.	Provide parking for up to 50 vehicles and 4 additional ADA accessible spaces with appropriate signage close to the facility; redesign steep hill down to the facility, provide better water drainage.	Site parking cannot accommodate the number of vehicles using the area causing frequent parking problems, including blocked access. Need to comply with ADA regulations.
<u>Parkside Drive Trailhead.</u> Expand Parkside Drive Trailhead parking lot.	Provide parking for up to 10 vehicles including an ADA accessible space with appropriate signage.	Trailhead has seen steady use increases in the last 5 years. Parking congestion is causing constricting traffic lanes and blockage of resident driveways.
<u>Museum.</u> Expand Miller Point parking lot by the Museum.	Provide up to 10 vehicles spaces including ADA accessible parking with appropriate signage and a bus turn around.	Ease traffic congestion, promote large vehicle turnaround and help resolve safety issues with large vehicles in small places.

Proposal	Facilities	Management Objective/Justification
<u>Miller Point.</u> Redesign Miller Point parking lot (if campground is moved).	Provide a space for up to 10 vehicles including ADA parking and appropriate signage.	When/if campground is moved from Miller Point, the existing area would help alleviate traffic flow and parking issues.
<u>Miller Point-Restrooms.</u> Expand and improve Miller Point restroom parking.	Provide for 4 vehicles including ADA accessible parking with appropriate signage.	Existing restroom has very little parking space for vehicles, problem is exasperated when Miller Point Gate is closed, forcing parked cars to crowd in this steep narrow road area.
<u>Lake Gertrude Beach.</u> Expand and improve Lake Gertrude Beach parking lot (formerly RV overflow, below the Spotting and Plotting Room).	Define area to accommodate 15 vehicles including ADA parking and appropriate signage. Install gate to restrict vehicle access to the Spotting and Plotting Bunker.	Current parking lot design promotes haphazard parking, is often full, and inefficient.
<u>War Reserve Bunker.</u> War Reserve Bunker parking lot.	Define area to accommodate 8 vehicles including an ADA accessible parking with appropriate signage.	Improved parking access.

Roads

Concerns over road maintenance have long been an issue with both the recreating public and park staff. The soft nature of the country rock used for road surfacing causes rapid “flouring” or a very fine silt breakdown of the gravels, causing frequent “potholing” of the road surface. This also creates a large amount of silt in rain runoff causing siltation of the lake. A third factor is the ability of the rock flour to quickly dry and become airborne with vehicle traffic, creating very dusty conditions on high traffic days. Frequent road grading is cost-prohibitive, and therefore park roads are often rough, especially during wet periods. Many complaints have been received concerning poor road conditions in the park.

A remedy to this is paving but there are concerns that with smoother roads there will be increased traffic speeds. Traffic calming measures such as speed bumps will be required since park rangers will not be able to otherwise keep vehicle speeds down. There is also public concern over the aesthetic change to the park if the road is paved. Many feel that a gravel road keeps the park more “natural” and less developed. Local school cross-country running teams have long used the park’s roads and trails for races expressly because they only run on unpaved surfaces and the roads offer better viewing opportunities for spectators. Advocates for paving contend that paving will give the park a more polished look, and be more inviting to both the public and commercial operators. Commercial bus tour operators prefer smoother roads for passenger comfort and to reduce vehicle wear. From a park maintenance perspective, paving is cheaper in the long run due to less road grading maintenance and cleaner facilities (dust control).

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In 2004, the possibility arose that the roads could be paved as part of the current paving program of gravel roads in Kodiak. In response, the Kodiak State Parks Advisory Board considered the merits of both sides and voted in favor of paving. Due to unrelated reasons however, this paving has not yet been completed.

Road paving will not be a high priority project for the park and will be accomplished when specific transportation funding becomes available only after additional public input is gathered. The road would be repaired with improved drainage, siltation fences, and paved when the opportunity was available. Paving would include Abercrombie Drive, Miller Point Road, and associated parking areas. Consideration will be given to “chip-sealing” in lieu of asphalt paving. Traffic calming devices such as speed bumps, roundabouts, or similar passive means will be employed where feasible. A parallel multi-purpose (partial or non-paved bike path) trail would be also constructed to provide pedestrians and bicyclists an alternative to pavement.

Proposal	Facilities	Management Objective/Justification
Repair steep, badly eroded roadway hill and provide suitable drainage for road that accesses the Group Recreation Area.	Construct new roadway to the site with reduce grades.	Reduce road grades to appropriate slopes to improve safety and decrease erosion.
Upgrade Miller Point Road.	Repair road with improved drainage, siltation fences, and pave or consider chip-sealing in lieu of asphalt paving.	Frequent road grading is cost-prohibitive, and therefore park roads are often rough, especially during wet periods. Many complaints have been received concerning poor road conditions.

Picnic Areas

Picnic Areas in the park are very popular but can be challenging to maintain in the area’s maritime climate. Instead of wooden tables, consideration should be given to alternative materials that are more durable but aesthetically pleasing. All tables should be anchored to prevent theft or vandalism. Metal fireplaces are needed to contain small fires to designated locations.

Proposal	Facilities	Management Objective/Justification
Maintain Lake Gertrude Beach Picnic Area and check into feasibility of adding more sites.	Area currently has 3 sites and can accommodate up to 2 additional sites.	Area is heavily used and additional picnic sites may be warranted in the future.
Maintain and repair Lake Gertrude Knoll Picnic Area.	Area currently has 2 sites.	Area suffers from soil compaction and erosion along the lake edge.
Maintain Lake Gertrude South Picnic Area.	Area currently has 1 site.	This area is often used in the winter by ice skaters.

Proposal	Facilities	Management Objective/Justification
Improve view of lake and replace restrooms at the Lake Gertrude View Picnic Area.	Area currently has 2 sites, restroom needs to be replaced.	Restroom structure is worn out and needs replacement. Consideration should be given to move this structure to also service the new proposed campground in the vicinity.
Miller Point Picnic Area (if campground is moved).	Retain six tables in the greater campground area to be used for picnicking.	Picnicking in the Miller Point area is a popular day-use activity, and is an appropriate use for the area.

Caretaker Quarters/Volunteer Housing

Volunteers are a very important component of Ft. Abercrombie's operations. They maintain and build trails, look after facilities such as the campground and the Kodiak Military History Museum, and provide visitor services such as naturalist programs. The campground host at Miller Point has been instrumental over the years to help provide security for the area that previously received vandalism damage. As a result more permanent or established quarters for Miller Point are recommended to attract a wider cadre of volunteers to stay in the park. Any permanent structure within the cultural resource zone must be historically appropriate. Since a majority of structures in this area were Quonset huts, it seems appropriate that a quonset hut be considered for this purpose.

To support the Kodiak District's volunteer labor force, existing volunteer housing must be expanded and enhanced. The current small housing compound adjacent to the Group Recreation Area will be expanded to address these housing needs. For privacy and aesthetics purposes, the compound should be screened from view. Amenities such as electricity, water, phone, and a latrine need to be provided (occupants currently must use the Group Recreation Area latrines).

Proposal	Facilities	Management Objective/Justification
Construction of a full time caretaker facility at Miller Point.	Construct either a temporary host parking pad for an RV or a preferably a permanent structure with water, septic, electricity and phone service. If a permanent structure is built, it should be historically appropriate to the area and the cultural zone such as a Quonset hut.	For security reasons, the location should be central with a commanding view of the area. A primary concern for security is the Ready Ammunitions Bunker/Kodiak Military History Museum, since it houses many valuable artifacts. Ideally, the caretaker could also maintain open hours at the museum.
Upgrade volunteer housing compound for short-term use.	Small bunk facility, screened from view, electricity, water, phone and latrine need to be provided.	Many traveling service organizations are willing to come to Kodiak and work in the parks in exchange for some type of housing. Construction of a small bunkhouse has started, but additional funding is needed for completion.

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Proposal	Facilities	Management Objective/Justification
Continue to maintain and upgrade summer naturalist housing.	Small cabin was constructed in the early 1990's. Requires regular maintenance.	Volunteer housing is critical for a quality volunteer program in the park. Without housing, the program would not function.

Trails and Trailheads

Perhaps the most heavily used resource within Ft. Abercrombie is the almost 5 miles of hiking trails. They offer a variety of walking opportunities for a large group of local park users, many of whom visit the park daily for exercise. The park's management intent is to continue an aggressive trail enhancement program through grants and fundraising efforts in order to maintain park trails at a high level. Priority will be given to trails that:

- 1) Have public safety issues (such as tripping hazards, undercut trails, etc); and
- 2) Are adversely affecting the park's resources through erosion, degraded vegetation, waterlogged tread material, etc.

For more detailed trail design standards and recommendations and a trail map, see the Ft. Abercrombie State Historic Park Trails Plan, Appendix A-1, developed in conjunction with this management plan.

Proposal	Facilities	Management Objective/Justification
<u>Group Recreation Area trail.</u> Build beach access trail from Group Recreation Area to old quarry site at tidewater.	100 feet of new trail is needed.	Would allow access from group area to the beach which is an underutilized area of the park.
<u>Bike path-Monashka Bay Rd.</u> Continuation of the Community Bike Path Network.	Construct bike path from terminus of the planned Abercrombie Drive extension to continue southwest toward the Monashka Bay Road, Lakeview and Bayview Drive areas. Also to include connections with existing Lake Gertrude Trail and Parkside Trail.	Extension of the current trails system would provide an overall community trail network.
<u>Lake Gertrude boardwalk.</u> Replace boardwalk at proposed Lake Gertrude fishing and small boat platform. (See other improvements section for more information).	Boardwalk would need replacement and the trail may need work for portion to be ADA compliant and provide access to proposed platform.	Lake Gertrude Trail boardwalk area is the easiest location along the lake for ADA access. The existing boardwalk would need to be replaced to accommodate the more gradual grades and width requirements.

Proposal	Facilities	Management Objective/Justification
<u>Mark & sign trails.</u> Properly mark and sign trails.	Develop a sign plan for the park; Install signs at most major trail junctions, assure that trails are clearly marked, add “you are here” maps at strategic locations and trailheads.	Assist park visitors that are unfamiliar with the park, and try to prevent lost hikers.
<u>Trail information.</u> Provide clear trail information.	Locate prominent bulletin boards at major trailheads depicting trail length, difficulty and special concerns or points of interest.	Facilitate visitor enjoyment of the park with clear information.
<u>Trail maintenance standards.</u> Identify maintenance standards for all trails and implement.	Develop and implement a park trail plan. See Appendix A-1.	Manage and maintain trails in an organized, consistent manner.
<u>Self-guided trail.</u> Develop a new self-guided interpretive trail through the core historic zone of the park.	Construct a 1 mile loop trail system clearly marked with interpretive panels, will follow existing trails where available.	Promote historic education and interpretation.
<u>Community trail network.</u> Work closely with the community for a well-integrated community trail network.	Design and plan trails in accordance to Borough, City and other organizational plans.	Promote ready access to the park and foster community health and fitness.
<u>Trail monitoring.</u> Monitor use with accurate trail counts, trail impacts, and resource degradation.	Install trail counters on trails.	Manage trail use and development according to use patterns, types of users, and environmental factors.
<u>Bike path- Miller Point.</u> Construct a new bike path to Miller Point. parallel to the Miller Point Road.	Extend from the proposed terminus of the Abercrombie Drive Bike Path to Miller Point. Route to be determined during site planning phase with further review and in a manner that minimizes tree removal.	Provide an alternative to walking on the park road, especially if the road is paved.
<u>Secondary loop trails.</u> Consider secondary hiking trails in the Leash-Free Zone to promote several loop trail routes.	Upgrade trails parallel to Lake Gertrude (South) Trail.	Dog walkers currently are required to walk along the Lake Gertrude Trail (Leash-Required Zone) if they wish to walk a trail loop circuit.
<u>Pet waste stations.</u> Install pet waste stations at primary trailheads and other locations as necessary.	Small station that provides a method, such as sanitary bags, for pet owners to clean up after their pets.	Stations would provide a means for pet owners to clean up after their pets and would help maintain sanitary park trails and facilities.
<u>Cultural resource survey.</u> Conduct a cultural resource survey in the Piedmont Point & Miller Point areas prior to major trail enhancements.	Will be conducted according to DPOR standards.	The survey will help managers determine the location of cultural resources and the level of protection needed.

Chapter 6: Facility Recommendations

Proposal	Facilities	Management Objective/Justification
<u>Piedmont Point trail.</u> Improve and manage the portions of the Piedmont Point trail that have historic significance as a cultural resource.	Develop and sign trail portions acknowledging its historical significance.	Portions of the Piedmont Point Trail are sited on a historic road bed and should be managed and maintained as a cultural resource.
<u>Trail signs-leash/no leash zones.</u> Install signs indicating leash zones along trails.	Small signs that designate leash-free/leash-required boundary where appropriate.	Signs will help inform users and promote compliance.
<u>Increase Accessibility of Trails.</u> Make more trails accessible to those with mobility challenges.	Identify and upgrade specific trails or segments of trails suitable for accessibility enhancements.	Make the park more user-friendly to all abilities.

Other Facilities

Proposal	Facilities	Management Objective/Justification
<u>Group Recreation Area improvements.</u>	Provide 8 tables, horseshoe court, volleyball net, and group fireplace. Replace BBQ grill. Repair restroom foundations. Replace roof on pavilion.	The group area improvements would create a better experience for users. Restroom repairs would lower maintenance and management costs.
<u>Fishing platform.</u> Construct a fishing platform and small boat launch at Lake Gertrude.	Construct a small ADA compliant platform designed to promote fishing and ADA compliant boat access to lake.	Platform would provide opportunity for fishing for those with mobility challenges or small children, and a staging point for small paddle boats (kayaks, canoes, etc). Recommended location is across from the War Reserve Bunker along the Lake Gertrude Trail boardwalk since this is the easiest location along the lake for ADA access.
<u>Food lockers.</u> Continue to provide food lockers in campground areas.	Two lockers have been installed in the campground and have worked well to discourage wildlife conflicts.	Another source of potential problem is unattended food left in campgrounds or picnic areas. In 2001, metal food lockers were provided for campers who did not have a place to safely keep their food.
<u>Dumpsters.</u> Continue to insure park dumpsters are maintained are wildlife resistant.	All park dumpsters will be of the wildlife resistant kind, and are usually only leased during the main visitor season – May through September.	Bears are not the only animals tempted by garbage, ravens, magpies, squirrels and loose dogs also can be problematic.

Chapter 7 Implementation

The guidelines in this plan are intended to be flexible so as to respond to changing conditions, shifts in demand and use patterns, and availability of funds.

Phasing

Implementation of management recommendations should begin immediately and proceed as opportunities allow. Facility recommendations are intended to be implemented in phases over the next several years as staffing and funding allow.

Site Planning

Prior to the construction of facilities proposed in this plan, site planning will occur. During the site planning process, a detailed site analysis will be performed which may suggest minor revisions of the numbers and locations of the facilities recommended in this plan.

Plan Review, Modifications

Due to changes in use patterns and demands, as well as changes in data associated with specific plan recommendations, adjustments to the plan will have to be made over time. If proposed adjustments are a major departure from the plan's intent, the director may determine the need to initiate a public review process.

This plan reflects the best efforts of the Division of Parks and Outdoor Recreation to analyze the resources of the park and to provide recreational/interpretive opportunities that do not significantly compromise the park's cultural and natural resources or character.

The planned outlook for the document is 20 years, with the realization that intermediate reviews and modifications may be warranted and are appropriate. The director may initiate a review at any time and it is strongly recommended that the plan be reviewed via a public process at least every 10 years.

The following procedure will be used for plan deviations and modifications:

1. **Periodic Review.** The division will coordinate periodic review of the Management Plan when the Director considers it necessary and so directs. The decision to review the Management Plan may be triggered by:

Chapter 7: Implementation

- written public or agency requests for review;
- policy changes within the Division of Parks and Outdoor Recreation;
- availability of new data;
- availability of new technology; or
- changing social or economic conditions that place different demands on the park or affect the Division's capabilities.

The management plan review will include meetings, as appropriate, with the local advisory board, interested groups, the general public, affected agencies, the area superintendent and other Division of Parks and Outdoor Recreation personnel. The periodic review will lead to one of the following actions:

- no modification of the plan;
- modification of the plan; or the
- granting of a special exception.

2. Modification of the Plan. Plan modifications are of two types:

- Minor changes – These are changes which, if accomplished, would not cause a deviation from the original intent of the Management Plan. Minor changes may be necessary for clarification, consistency, or to facilitate plan implementation. Minor changes do not require public review but should be coordinated with the area superintendent and appropriate staff.
- Major changes – These are changes which, if accomplished, would cause a deviation from the original intent of the Management Plan. Major changes require public notice and review prior to adoption.

3. Granting of a Special Exception. Exceptions to the provisions of the Management Plan may be made without modification of the plan. Special exceptions shall occur only when compliance with the plan is excessively difficult or impractical, and an alternative procedure can be implemented which adheres to the purposes and spirit of the plan.

The Division of Parks and Outdoor Recreation may make a special exception in the implementation of the plan through the following procedure.

- A. The person or agency requesting the special exception shall prepare a written finding which specifies:
 - the nature of the special exception requested,
 - the extenuating conditions which require a special exception,
 - the alternative course of action to be followed, and
 - how the intent of the plan will be met by the alternative.

- B. The Director will review the findings and issue a determination. If warranted by the degree of controversy or the potential impact, the director will hold a public hearing before reaching a decision.
- C. The decision of the Director may be appealed to the Commissioner of the Department of Natural Resources, whose decision will be final.

Fort Abercrombie State Historic Park Trails Plan

Introduction

Fort Abercrombie contains one of the Kodiak's finest developed trail systems. The predominant user group is local residents who frequent the park daily for the purposes of recreation and exercise. Island visitors also make a point of walking its quiet and scenic pathways. Over 20,000 visitors use the park trails annually and this number is increasing. Because of the island's fragile soils, park trails have suffered from use and have required extensive "hardening" to support the heavy foot traffic. Over the past 15 years, a substantial effort has been made to upgrade trails through a combination of special trail grants and community trail fundraising efforts.

Note: The Ft. Abercrombie State Historic Park Trail Plan was developed prior to an Alaska State Parks Trail Planning and Management Policy that is due in 2007. Once a statewide policy is adopted, this trail plan should be reviewed and revised accordingly.

Trail Plan Mission Statement

The purpose of this trail plan is to provide a quality system of environmentally sustainable trails, ranging from minimally to fully developed, that affords a variety of natural outdoor opportunities for visitors of varying abilities without compromising the overall purpose of the park.

Trail Management Goals

1. When feasible, trail development shall strive to subscribe to the elements of Sustainable Trails (see Trail Specifications section) for all future trail upgrades in the park. General fundamentals will include the use of:
 - a. Curvilinear layout (contour trails)
 - b. Integrated water control
 - c. Grade control
 - d. Full bench construction
2. Design and manage trails that reflect the management intent and the land use designation of the area in which the trails are located through an identified set of Trail Management Objectives (TMO) for each trail. Complete TMO forms for each managed trail by 2008.
3. Establish standards by considering public safety, aesthetics, resource protection, expected use, and user preferences.
4. Improve access to and within the park for bicycles but not necessarily by upgrading existing trails to accommodate bicycles. This would require dramatic design and construction challenges that would seriously change the atmosphere of the park. Bicycle trails would result from new construction along road corridors,

- with improvements such as bike racks to promote the use of bicycles as access vehicles to the park.
5. Increase the number of accessible trails with various degrees of ADA compliancy. Develop ADA trails in keeping with the management intent and land use designation of the area where undo impact to the natural or scenic qualities of the area will not occur.
 6. Provide a logical sequence of rehabilitation and new construction that will provide maximum public benefit and resource protection.
 7. Consider the potential for future upgrades and ease of maintenance during design, layout, and construction. Wetlands will be avoided when possible.
 8. Keep visual impacts associated with construction or maintenance to a minimum.
 9. Use trail classification standards to guide the development and maintenance direction of all trails. Note that in certain unique situations these standards may be modified so as to not unduly compromise the visual and natural qualities of a location.
 10. Bring current trails and associated structures up to a desired level of development. Note that in some cases due to terrain or other topographical features, it may not be possible for a particular trail to comply 100% with a trail standard assignment.
 11. Institute a trail-use monitoring program to ascertain use levels and impacts through regular observations of trail integrity and by the use of trail counters to provide defensible use statistics.
 12. Retain the parks natural character while providing safe hiking opportunities. The intent of this plan is not to fence and sign all hazardous locations in the park, but to provide general guidelines on how or when additional safety measures are necessary or how they can be avoided through proper design or location.
 13. Develop a sign plan for the trail system that embraces uniformity, simplicity and visual aesthetics.
 14. Incorporate a limited system of color-coded trail loops that would be helpful for those new to the park or for other purposes.
 15. Provide high quality trail maps for the park that could minimally include trail names, difficulty, segment mileage, and park features.
 16. Where feasible, locate trails and incorporate design features to highlight dramatic views and the natural beauty of the park. Where appropriate, consider resting benches at select prominent points.
 17. Provide direction for issues pertaining to pets on park trails, including pet waste, leash compliancy, leash-free pet access to Lake Gertrude, and proper pet trail-etiquette through an awareness program. Consider forming an advocacy group for pet owners.
 18. Consider future trail development on adjacent lands outside the park when planning for in-park trails.
 19. Adopt a method of efficient trail assessments and inventory for the purpose of efficient trail maintenance and monitoring.

Table A-1. Types of Trail Users at Fort Abercrombie SHP

Trail User Group	Park Trail Use Patterns	Sustainability Requirements (to comply with park mission)	Special Trail Needs And/or Issues	Appropriate
Pedestrian – Walkers	Most popular and predominant use of park by cross-section of community. <ul style="list-style-type: none"> • Family • Recreational, relaxation • Fitness • Transportation • Education (school field trips) • Natural, cultural history 	Achievable through careful trail layout, design, and maintenance; most Class 2+ trails will require aggregate hardening eventually for sustainability. Minimal cost for development.	Diverse network of trails, of many different standards to provide numerous options for a wide variety of trail uses and abilities. Loop system desired.	Yes.
Pedestrian – Pet Walkers	Very popular user group, possibly up to 50% of trail users have pets, especially in the leash-free zone. <ul style="list-style-type: none"> • Pet and owner exercise • Personal fitness 	Achievable through careful trail layout, design, and maintenance; most Class 2+ trails will require hardening eventually for sustainability. Consideration must be made for public safety purposes – not all pets are friendly. Encourage Proper Pet Etiquette on trails that will address potential areas of conflict between pet walkers and non-pet walkers.	Lack of Leash Law Compliance: problem in leash required areas, leash-free zone purpose.	No, seek remedy through increased awareness and more vigorous enforcement.
			Pet Waste on Trails: problem especially near trailheads on trails, many animals need relief shortly after starting walk.	No, seek remedy through active education program to encourage pet owners to clean up after pets with: <ul style="list-style-type: none"> • Signage at trailheads • Pet waste receptacles in a few locations • Provide bags at trailheads • Public education
			Leash-free Area for Water Dogs: provide a place for pets and owners to enjoy water activity.	Not on Lake Gertrude unless a special area is identified on the south side of lake, AND pets are leashed crossing Lake Gertrude Trail for access.
			Add Leash-free Loops: create multi-looped system to improve leash compliance on Lake Gertrude Trail (south).	Yes, upgrade/reroute social trails that parallel the south side of Lake Gertrude between Pacific and Parkside Trails.

Trail User Group	Park Trail Use Patterns	Sustainability Requirements (to comply with park mission)	Special Trail Needs And/or Issues	Appropriate
Pedestrian – Runners	Popular use with individual runners, school cross-country teams, and special events. <ul style="list-style-type: none"> • Fitness • Race events 	Achievable through careful trail layout, design, and maintenance; most Class 2+ trails will require hardening eventually for sustainability.	Prefer non-paved surfaces, minimum 12-inch tread width. Loop system desired.	Yes. Races by Special Use Permit only.
Bicyclists	As the park is connected to the bike path system, cyclists are being encouraged to travel to the park. <ul style="list-style-type: none"> • Family • Recreational • Fitness • Race events • Transportation (minimal) 	Continuous track sustainability achievable through careful trail layout, design, and maintenance. Requires highly durable surfacing and adequate sight distance for safety of pedestrian traffic.	Paved surfaces preferred for primary bike path egress routes. Bike racks, signage on paved trails. Road crossing issues. Loop system required for all-terrain trails.	<u>All-Terrain Trails:</u> Not appropriate due to high cost and small area. <u>Multi-use Bike Pathways:</u> Appropriate as primary access routes to the park. Races by Special Use Permit only.
In-Line Skaters, Roller-Bladers, Skate-Boarders	As the park becomes connected to the bike path system, other trail users may be encouraged to travel to the park. <ul style="list-style-type: none"> • Family • Recreational • Fitness • Race events 	Requires paved surfacing and adequate sight distance for safety of pedestrian traffic.	Minimum 5-foot wide paved surface.	<u>Multi-use Bike Pathways:</u> Appropriate as primary access routes to the park. Races by Special Use Permit only.
Cross Country Skiers	Occasional use on only a few trails with low grades and adequate width; most use occurs on Lake Gertrude when frozen. <ul style="list-style-type: none"> • Recreation • Fitness 	Sustainable since use occurs when ground is frozen.	Minimum width of 24 inches (nordic) and 72 inches (skate). Loop system desired.	Poor average snow conditions negate effectiveness of trail development for this use; appropriate only as a secondary trail use on bike paths.

Trail User Group	Park Trail Use Patterns	Sustainability Requirements (to comply with park mission)	Special Trail Needs And/or Issues	Appropriate
Equestrian	Equestrian use of the park has been minimal. Currently only permitted on park roadways. <ul style="list-style-type: none"> • Recreation • Animal exercise • Transportation 	Because of high weight to surface area ratio, sustainable only on trails hardened with a minimum 8-inch base aggregate or paving.	Special height requirements for rider; tethers and watering areas needed; concerns with waste management; potential conflict with vehicles on narrow park roads. Loop system desired.	Small size of park and lack of suitable soils would make sustainable trail development cost prohibitive; allow equestrian use only on multi-use bike paths and roadways.
Fully Accessible Trails (ADA)	Expand opportunities for individuals of various abilities to use the park. <ul style="list-style-type: none"> • Recreation, relaxation • Fitness • Pet exercise • Transportation 	Achievable through careful trail layout, design, and maintenance; Class 4+ trails will require aggregate, pavement, or boardwalk hardening for sustainability.	Diverse network of trails, of many different standards to provide numerous options for a wide variety of trail uses and abilities. Issues with attaining slope requirements.	Yes, where financially feasible, and will not adversely impact the park's natural and cultural resources.

Trail Specifications

The following general specifications apply to all trails developed in the park. The specifications are intended to be guidelines for a more detailed operational plan to be developed once this plan is approved.

1. **Aesthetics** – Visual indicators of trail construction or maintenance will be kept minimal, or eliminated when possible. Trail design and materials will attempt to blend when possible with the character of the park.
2. **Sustainable Trails** – When feasible, trail development shall subscribe to the concept of Sustainable Trails for all future trail upgrades in the park. The following list is a few select recommendations:
 - a. The Half Rule – Trail grades should not exceed half the grade of the hillside or sideslope that the trail traverses.
 - b. Ten Percent Target Grade – When feasible and as a general rule, future trail design and maintenance will construct grades at or less than 10%. The overall trail grade averaged over the entire trail from one end to the other should not be greater than 10%.
 - c. Maximum Sustainable Grades – Grade of the steepest section of trail that is more than about 10 feet in length, dependent on soils, rainfall, types and numbers of users, and other factors. See Table A-2, *Trail Classification Matrix*.
 - d. Grade Reversals – A location at which a climbing trail levels out and the changes elevation direction, dropping subtly for 10-50 linear feet before climbing again.
 - e. Outslope – On sidehill traverses, the downhill or outer edge of the tread should tilt slightly down and away from the uphill side to shed water.
 - f. Durable Tread Material – Use of mineral (NOT organic) soils, aggregates, treated lumber, or other suitable materials for trail treads.
 - g. Fall Line Trails – Shall generally be avoided.
3. **Obstructions** – The trail corridor will be kept clear of fallen trees, brush, and other obstructions.
4. **Brushing/Logging Out** – Branch stubs will be cut flush with the tree trunk. Tree stumps will be cut flush with the ground. Bucking cuts should be angled away from the trail whenever possible. Brush will be placed on the downslope side of the trail, cut into three to four foot lengths, and scattered out of view of the trail.
5. **Lumber** – All bridge and boardwalk lumber will be pressure treated according to specifications intended for their appropriate grade applications. For example, boardwalk support sills in direct contact with the ground shall be of a suitable retention value for that purpose. Unless specifically approved by the district manager, native log materials will not be used in trail construction. An exception to this requirement is the use of native logs for trail lining or cribbing. Use of local beach logs, preferably cedar, may be used in this application.
6. **Staking** – The use of reinforcement rod (re-rod) for wood cribbing or liner log retention will be discouraged unless the rod is completely out of sight or encased in wood. Wood stakes will be a preferred retainer when possible, and will be cut flush for visual and safety purposes.

7. **Drainage Design** – All trail work will promote the rapid and direct shedding of water laterally off the tread. Outsloping, reverse grades and crowning techniques to shed water will be applied at all times. Waterbars or checks will be generally avoided.
8. **Trail Equipment** – All trails will be built to be accessible by trail construction equipment to keep construction costs down. Trail width standards will be followed closely to permit the use of all-terrain-vehicles (ATVs) with trailers on Class 4+ Trails, and powered track-barrows on Class 2-3 Trails. Trail bridges and boardwalks should be constructed to accommodate such equipment (fully loaded) where feasible.
9. **Bridges** will be constructed to the following standards:
 - a. Set flush to the ground to eliminate step-ups when feasible.
 - b. Constructed preferably with <5% grades.
 - c. Designed to support trail equipment.
 - d. Should optimally be 20% wider than the trail tread.
 - e. Have handrails on at least one side when decking surfaces are greater than 36 inches above grade or water.
10. **Boardwalk** will be constructed to the following standards:
 - a. Minimum width corresponding with trail class.
 - b. Constructed with application-appropriate pressure-treated wood (or composite material).
 - c. Sill supports no greater than 40 inches apart.
 - d. Minimal bounce, flex or sag upon average loading.
 - e. Sill footprint large enough to prevent flexing or sinkage.
 - f. Surface will have some type of added traction aid, such as 1-2 inch web (net, preferably black), ½” mesh galvanized hardware cloth, permanently affixed grip tape, or other similar functioning material that will not require regular maintenance.
 - g. Constructed with <5% grades to reduce slipping hazards.
 - h. Butt-run planks will be mitered for tight fits, and have uniform gaps (typically ¼ inch) between planks for drainage.
11. **Tread Hardening Material** will be preferably compactable crushed rock, such as D-1 aggregate. Mineral soils may be used in areas with low erosion potential. Organic soils will not be used, and will typically be removed prior to new tread construction and hardening. The use of a Typar or similar sub-grade support fabric is encouraged for use in areas that contain high levels of organic or waterlogged soils where removal is not feasible or that may not warrant boardwalk or bridging. Unconsolidated rounded gravels (such as beach gravel) will not be used unless a fine binder is added.
12. **Native Rock “Flagstones”** will be encouraged when feasible for steps, cribs, waterbars, or as a hardening material when set in crushed rock aggregate. Flagstones should be large enough to span the tread width and must be set solidly to not move when weight is applied.
13. **Braided Trails** will be consolidated to keep tread impacts to a minimum. Braiding usually is a result of steep or wet trail conditions that force hikers to seek an alternative place to walk.
14. **Trail Remediation** techniques will be employed when trails are abandoned due to consolidation, rerouting, or to prevent unwanted use. Remediation should be built

- into project costs and include practices such as scarification and revegetation (with native plants), or physical closure with appropriate barricades (logs, brush, etc.).
15. **Culverts** will preferably be 6-8 inch diameter (depending on trail type), be black or neutral in color, with exposed ends visually screened along trails. Flexible culvert material is preferred (must be set straight for ease of cleaning).
 16. **Switchbacks** – Due to problems associated with “shortcutting” and subsequent erosional concerns, switchbacks will be avoided when possible through the use of wider climbing turns or longer traverses on sidehills. If switchbacks are unavoidable, barriers (physical or visual) should be incorporated inside the turns to deter shortcutting.
 17. **Safety Fencing** along hazardous bluffs will be constructed of simple post and rail, and should be consistent throughout the park. In locations where a full fence is not appropriate and a simple visual barrier is sufficient, native logs on the ground may be employed or a low fence with posts and draped heavy anchor chain (minimum 5/8-inch links) may be used.
 18. **Tree Roots** will be covered with soil or aggregate vs. removing whenever feasible.
 19. **Trail Information** – For the purpose of this section, a trailhead is defined as a trail interface with a roadway or other significant change in modal type (highway vehicle to pedestrian or bicycle). The following standards apply to trail information:
 - a. **Primary Trailhead:** Main park entry points (such as Parkside Trailhead and Abercrombie Bike Path Trailhead):
 - i) Full size bulletin board.
 - ii) “You are Here” trail maps.
 - iii) Park Regulations.
 - iv) Trail use and regulatory sign symbols.
 - v) Possible interpretive signs.
 - vi) Pet Waste Station.
 - vii) Bicycle rack.
 - b. **Secondary Trailhead:** Smaller roadside trailheads located within the park, such as Lake Gertrude access trailheads, Miller Point, and the Group Recreation Area:
 - i) Small bulletin board.
 - ii) “You are Here” trail maps at key points.
 - iii) Park Regulations.
 - iv) Trail use and regulatory sign symbols.
 - c. **Strategic Trail Junctions:** A few selected junctions that will provide general directional information to walkers unfamiliar with the park:
 - i) Small bulletin board.
 - ii) “You are Here” trail maps.
 - iii) Directional signage.

20. **Signage** – Sign standards will vary according to park zoning and trail classification. A uniform appearance is desired. All signage should be kept to the degree minimal to convey the necessary information. Sign materials should be durable, minimal maintenance, and easy to replace. International symbols will be used whenever possible.
- a. Sign Material: Most signage will be six-inch wide standard DOT-approved aluminum, park brown, with white reflective lettering. An exception to this will be regulatory signage on bike paths, such as approved smaller version stop signs.
 - b. Sign Mounting: Mounted center of post, with top sign edge ½ inch below top of post cut.
 - c. Sign Fasteners: All signs will be fastened with tamper-resistant and rust-resistant (stainless steel) fasteners, preferably on four sides.
 - d. Sign Posts/Supports:
 - i) Class 2-4 Trails - Signposts will be constructed of either a treated or a rot-resistant wood, with a flat fastening face at least as wide as the sign (to prevent clam-like folding of sign). Eight-inch by eight-inch pressure treated wood set with cross-brace anchor and concrete will be the norm. Post tops will be beveled and sealed. All Class 2+ trail junctions will be signed with trail name and direction arrow. If two trail junctions are within 30 feet, one post may suffice for both.
 - ii) Class 5 Trails – Same as Class 2-4 Trails, plus the use of ADOT/PF approved metal telspar posts and fasteners.
 - e. Sign Post Height:
 - i) Trail Junctions: “Low Profile” posts will have the bottom of lowest sign will be set no less than 24 inches above grade. Post height will be kept low as possible, generally less than 42 inches above grade.
 - ii) Primary and Secondary Trailheads: “High Profile” posts will be set no less than 60 inches above grade.
 - f. Color-Coded Routes: In lieu of mileage signs, several (4-5) routes will be identified to provide distances for personal fitness and purposes and for those unfamiliar with the park. The routes will be identified by one-inch round reflective colored dots applied to directional arrow signs at applicable trail junctions. The routes will be displayed on maps posted at all primary and selected secondary trailheads.

Table A-2. Ft. Abercrombie SHP Trail Classifications (based on USFS National Trail Classification System)

Designed Use		Trail Class 1 Undeveloped	Trail Class 2 Simple/Minor Developed	Trail Class 3 Developed/Improved	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Purpose		Natural game-type or "social" trails maintained only by use.	Primitive paths maintained for low-level use. Provides private, natural experience.	Semi-primitive paths maintained for moderate use. Provides a more primitive experience.	Moderately developed trails maintained for a high level of use. May be fully or partially ADA compliant.	Highly developed trails maintained for a high level of shared uses. Will be fully ADA compliant.
Design Tread	Width	0" – 12"	12" minimum	2 ft minimum	4 ft minimum	8 ft minimum
	Height	6 ft	8 ft	8 ft	8 ft	>8 ft
	Clearing	Sufficient to define trail corridor, if any.	24" – 36" corridor	12" – 18" outside of tread edge	12" – 18" outside of tread edge	12" – 24" outside tread edge
Design Surface	Type	Native, ungraded, intermittent, rough.	Native with limited grading, continuous, rough, hardened only where waterlogged organic soils cannot be avoided.	Native with some on-site borrow if available, or imported compactable materials.	Improved with compactable gravels is common, such as D-1 aggregate	Uniform, firm, and stable; such as asphalt, pavement or compacted D-1 aggregate
	Obstacles	Roots, rocks, logs, steps to 24"	Roots, rocks and log protrusions to 6"; steps to 14".	Generally clear, protrusions to 3"; steps to 10".	Smooth, few obstacles, protrusions 2-3"; steps to 8".	Smooth, no obstacles. Protrusions <2"
Design Grade 1% = 1ft rise/100ft 100%=45°	Target Range (>90% of Trail)	< 25%	< 12%	< 10%	< 10% (<5% typical, <8% max ADA)	< 5% (<5% for FULL ADA)
	Short Pitch Max (Up to 20' lengths)	50%	40%	20%	15%	8% at 200 ft max 10% at 100 ft max
	Max Pitch Density***	< 10% of trail	< 5% of trail	< 5% of trail	< 3% of trail	< 3% of trail
Design Outslope	Target Range	Not applicable.	5 – 20%	5 – 10%	3 – 7% (<2% max. ADA)	2 – 3% (or crowned) (<2% max for FULL ADA)
	Maximum	Up to natural side-slope.	Up to natural side-slope.	15%	10%	3%
Structures	Boardwalk	None	Minimal, 12" single-plank (butt-run).	24" minimum double-plank (butt-run).	4 ft minimum higher standard (cross-plank).	Highest standard (cross-plank).
	Bridges	None	Minimal to none (ford or rock steps); boardwalk.	30" preferred, <3 foot spans may be boardwalk width.	5 ft minimum.	8-10 ft minimum, engineered.
	Waterbars	None	Only if unavoidable.	Only if unavoidable.	Highly discouraged, only if unavoidable.	No
	Culverts	None	None	Yes	Yes	Yes
	Benches**	None	Yes, only if a bona-fide need, designed and situated to fit location.	Yes, only if a bona-fide need, designed and situated to fit location.	Yes, only if a bona-fide need, designed and situated to fit location.	Yes
	Safety Fence (along coast bluffs)	None	None, tread set back from bluffs min 3 ft.	Yes, if tread is <3 ft from bluff.	Yes, if tread is <4 ft from bluff.	Yes, if tread is <5 ft from bluff.

** Installation of benches in Natural Use Zones will require review by the State Park Citizens Advisory Board

*** See TRAIL DEFINITIONS for terminology

Designed Use		Trail Class 1 Undeveloped	Trail Class 2 Simple/Minor Developed	Trail Class 3 Developed/Improved	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Signs	Directional	None	Low profile directional signs at junctions with Class 2+ trails. High profile posts to be set at both primary and secondary trailheads. Minimum signage needed for basic direction.	Low profile directional signs at junctions with Class 2+ trails. High profile posts to be set at both primary and secondary trailheads.	Low profile directional signs at junctions with Class 2+ trails. High profile posts to be set at both primary and secondary trailheads.	High profile posts to be set at both primary and secondary trailheads.
	Informational/Regulatory	None	Leash zone signage if crossing in/out. Appropriate or prohibited trail use symbols at trailheads.	Leash zone signage, may have interpretive or informational signs. Appropriate or prohibited trail use symbols at trailheads.	Leash zone signage, may have interpretive or informational signs. Appropriate or prohibited trail use symbols at trailheads.	Regulatory, interpretive or informational signs. Appropriate or prohibited trail use symbols at trailheads.
Trail Assignments *ADA – indicates trail will be developed to be American with Disabilities Act compliant		Un-named trails	-Mill Bay Trail -Leashless Zone loop trails (proposed) -Monashka Trail -Quarry Trail (proposed)	-Lake Gertrude Trail (South Side) -Parkside Trail -Connector Trail -Wildflower Meadow Trail -Ranger Station Trail -Lake Gertrude TH 4 (water pump) -Lake Gertrude Beach TH (parking lot) -Water Pump Trail -Miller Point Interpretive Trail (proposed) -Moss Trail -Forest Trail	-Lake Gertrude Trail (North) *ADA -Piedmont Point Trail -Miller Point Bluffs Access Trail -Miller Point Interpretive Trail (proposed, portions will be ADA compliant) -Lake Gertrude Trail Extension (proposed connect with bike path) -Lake Gertrude TH 1 (Aber Dr) -Lake Gertrude TH 2 (big tree) -Lake Gertrude TH 3 *ADA -Lake Gertrude TH 5 (fee stn)	-Abercrombie Drive Bike Path -Proposed Miller Point Road Bike Path -Proposed Ram Site Bike Path

TH = Trailhead/access trail to Lake Gertrude Trail, as numbered along Miller Point Road, starting at the intersection of Miller Point Road and Abercrombie Drive

Trail Development

While there is not a need to greatly expand park trails, most new development will either be coordinated with bike path extensions in the park, or upgrading existing social trails. For example, the Quarry Trail is a reconstruction/reopening of an old trail.

New Trail Development

1. **Abercrombie Drive Bike Path – Proposed for construction fall/winter 2006/2007. Composed of 3 components:**
 - a. Main path to park: A ¼-mile trail, mainly within the roadway right-of-way, Class 5 with 8-foot wide surface, 6 feet asphalt paved, and 2 feet compacted gravel. Fully compliant with ADA guidelines. Open to most traditional non-motorized uses.
 - b. Extension through Ram Site: Continuation of the bike path through the Ram Site back toward Monashka Bay Road. Same standards as above.
 - c. Connecting links to Lake Gertrude Trail and Parkside Trail: Links to trails will be of the same class as the trails being connected.
2. **Quarry Trail**: Re-open old service road into beach-side quarry, replace portion lost during 1964 tsunami, to connect back to the Group Recreation Site.
3. **Miller Point Interpretive Loop** – A self-guided interpretive trail in the main Miller Point installation. To include interpretive panels on the various structures of the area. Most of the route will follow existing trails, some new trail will be required to reduce steep grades. Two trail class standards may apply since there will be various loops of trail. One section will be Class 4 and will be partially ADA compliant, the other section will be Class 3.
4. **Secondary loop trails in the Leash-Free Zone** – Upgrade social trails that have developed as a result of leash zoning in the park. Will allow the leash-less walking of pets with several loop options. Will connect the coastal portion of the Piedmont Point Trail to Parkside Trail, along a route that will preferably be out of sight of Lake Gertrude Trail. Upgrade to Class 2.
5. **Miller Point Pathway** – Extension of the Abercrombie Drive Bike Path to Miller Point. Provide pedestrian and bicycle off-roadway access through the park. This will be especially critical if park roads are paved. May be independent trail, expanded shoulder, or combination. Paving would be optional, no more than 3/4 of trail width would be paved, the other 1/4 left compacted gravel for runners or walkers.
6. **Mill Bay Overlook** – Short approximate 200-foot spur off Piedmont Point Trail to a scenic overlook, constructed to appropriate ADA compliancy.

Existing Trail Upgrade Priorities

For the most part, all trails will be upgraded over time to meet the Trail Assignments in Table A-2, since most do not current meet the standards defined. The following list is prioritized, but may change with park use, trail funding, and other issues and may not be strictly followed. [Note: certain trails may be categorized in dual classes since they may not fit nicely into one class.]

1. Upgrade all boardwalks and bridge surfaces with traction aids.
2. Lake Gertrude Trail (North) – Complete minor gravel base upgrades to eliminate pooling water and areas of exposed tree roots.
3. Piedmont Point Trail – Upgrade to Class 4. Include ADA provisions as feasible (due to grades, full compliance may not be practical). Re-route very steep hill at Piedmont Point, harden, consolidate braided trail areas, re-route away from hazardous bluffs, new boardwalk, safety fencing, improve safety access to 2 bunkers, upgrade to Class 4.
4. Wildflower Meadow Trail – Complete gravel hardening, upgrade to Class 3.
5. Mill Bay Trail – Harden soft areas, reduce steep grade and protect tree roots (one especially bad area), increase trail setback at one particularly hazardous bluff area, upgrade to Class 2. Consider possible new re-route to eliminate steep, rocky section at most westerly point.
6. Monashka Bay Trail – Re-route north end, reduce grades, improve views, upgrade to Class 2.
7. Water Pump Trail – Harden, and upgrade to Class 3.
8. Moss Trail – Replace old wooden bridges, harden, upgrade to Class 3-4.
9. Old Miller Point Road South Trail – Harden, erosion control, upgrade to Class 3-4.
10. Miller Point Bluffs Trail – Replace steps below north gun mount. Improve ADA access along old roadway to bluffs area. To eliminate the need for fencing along bluffs, trails will NOT be routed to or along bluffs.
11. Lake Gertrude Trail (North) – Upgrade to Class 4. Include ADA provisions from at least Trailhead 3 to Lake Gertrude Beach.

Trail Definitions

Backslope – The angle of cut just above the tread, on the uphill side.

Braided Trail – Problem areas along a trail where multiple parallel paths exist, usually around steep or wet areas.

Checks – A device similar to a waterbar, except the purpose will be to serve as a small in-tread crib or gravel retainer on steep slopes that exceed most sustainability standards. Set perpendicular to the tread. Often used in tandem with waterbars.

Climbing Turn – A wide, ascending curve that gradually reverses the direction of the trail when trying to change elevation.

Contour Trail (also tranverse trail) – To cross a slope horizontally by going gradually up and across rather than a more direct “straight up” (fall-line) approach.

Crib – A retaining device used to hold the trail in place along side slopes, may be layered on steep slopes.

Fall-Line – The direction water flows down a slope under most circumstances.

Grade – Relative steepness of the trail as compared to a flat horizontal plane. Grade is commonly measured in slope, usually as a percentage.

Grade Reversals, Rolling Grade Dip (or Grade Dip) – A short change in grade (such as a dip) designed into the trail to allow or force water away from the tread.

Integrated Water Control – A means of instituting water management into the trail design, usually during construction. Includes the judicious use of grade reversals and outslope.

Logging Out – Clearing a trail of fallen trees.

Outslope – The amount the tread slopes from side-to-side to promote drainage off the trail instead of down the trail.

Right-of-Way – The total cleared area on both sides of the trail. Also known as trail corridor.

Short Pitch Maximum – The steepest grade expected along the trail, at a specified maximum distance and density for the entire trail.

Sill – The timber that a boardwalk plank or bridge end rests upon.

Slope – Refers to the relative steepness of the terrain. Slope is the number of feet of vertical rise per one hundred feet of horizontal distance. It can be calculated in degrees, but more commonly expressed as a percentage. For example, a 10% slope has 10 feet of rise per 100 feet of horizontal distance. ($100\% = 45^\circ$)

Sustainable Trails – Low maintenance trails that have minimum impact on natural systems.

Switchback – A sharp turn, often 180 degrees, along a slope to keep a trail’s grade from being too steep.

Tread – The walking surface of the trail upon which a hiker walks. The tread, or treadway, is the most important component of a trail.

Waterbar – A device (typically wood or rocks) that is set at an angle across tread to force any water off the treadway. Generally discouraged in favor of grade reversals or outsloping.

Technical Provisions for Accessible Trails and Outdoor Access Routes

The following provides technical provisions for accessible trails as recommended by the National Center on Accessibility, Indiana University Department of Recreation and Park Administration. The guidelines are a summary of various findings and rules established by the U.S. Access Board, which is the Federal agency responsible for creating guidelines and standards for accessible environments. While the following table is provided as a reference and is advisory in nature, every effort will be made to comply with its standards and provisions as feasible, or if further restricted by future Division policy.

	Outdoor Recreation Access Route	Accessible Trail
Purpose	Relates to facilities in the outdoor environment where reasonable access is required, such as between a parking lot and a picnic area or campground.	Relates to a natural trail that is designated as being suitable for all levels of ability and consistent with the guidelines defined here.
Surface	Firm and stable.	Firm and stable (Exception: *).
Maximum Running Slope	5% or 1: 20 (for any distance). 8% or 1: 12 (for max 200 ft). 10% or 1: 10 (for max 30 ft).	5% or 1: 20 (for any distance). 8% or 1: 12 (for max 200 ft). 10% or 1: 10 (for max 30 ft). 12.5% or 1: 8 (for max 10 ft). (Exception: 14% or 1: 7 for 5 ft maximum for open drainage structures or when * applies).
Maximum Cross Slope	3% or 1: 33. (Exception: 1:20 for drainage purposes.)	5% or 1: 20. (Exception: 1:10 at the bottom of an open drain where clear tread width is a minimum of 42 inches.)
Maximum Clear Tread Width	36 inches. (Exception: 32 inches when * applies.)	36 inches for any distance. (Exception: 32 inches when * applies.)
Tread Obstacles	1 inch high maximum. (Exception: 2 inches high maximum where beveled with a slope no greater than 50% or 1: 2 and where * applies.)	2 inches high maximum. Exception: 3 inches maximum where running and cross slopes are less than 5% or 1:20. (Exception: *)
Passing Space	Every 200 feet where clear tread width is less than 60 inches, a minimum 60 x 60 inch space, or a T-shaped intersection of two walking surfaces with arms and stem extending minimum of 48 inches. (Exception: Every 300 feet where * applies.)	Every 1000 feet where clear tread width is less than 60 inches, a 60 x 60 inch minimum passing space or a T-shaped intersection of two walking surfaces with arms and stem extending minimum of 48 inches. (Exception: *)
Resting Intervals	60 inches minimum length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a max slope of 3% or 1: 33. (Exception: A max slope of 5% or 1: 20 is allowed for drainage purposes.)	60 inches minimum length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a maximum slope of 5% or 1: 20. (Exception: *)

* The provision may not apply if it cannot be provided because compliance would cause substantial harm to cultural, historic, religious or significant natural features or characteristics; substantially alter the nature of the setting or purpose of the facility; require construction methods or materials that are prohibited by Federal, state or local regulations or statutes; or would not be feasible due to terrain or the prevailing construction practices.

Fort Abercrombie State Historic Park

TRAIL MAP

Figure A-1

EXISTING FEATURES

- Park Boundary
- Contours
- Roadways
- Hiking Trails
- Historical Buildings
- Historical Buildings Foot Prints
- Parks Buildings

PROPOSED DEVELOPMENT

- Interpretive Trail
- Trails
- Leash / Leash Fee Boundary
- Visitor Service Area
- Public Use Cabin
- Service Road Access
- Land Acquisition
- Leashed Area
- Leash-Free Area



Appendix B

Glossary

ACC. Alaska Administrative Code that includes state regulations.

ADA. Americans with Disabilities Act of 1990.

ADF&G. Alaska Department of Fish and Game.

ADOT/PF. Alaska Department of Transportation and Public Facilities.

AS. Alaska Statutes.

BLM. Bureau of Land Management.

Boat or Vessel. A device that is used or designed to be used for the movement of people or goods in or on the water, whether manually or mechanically propelled, but does not include personal floatation devices or other floats such as inner tubes, air mattresses, or surf boards (11 AAC 20.990).

Borough. Kodiak Island Borough.

Camp, Camping. To use a vehicle, tent, or shelter, or to arrange bedding, or both, with the intent to stay overnight in a park (11 AAC 12.340).

Campground. An area developed and maintained by the division which contains one or more campsites (11 AAC 12.340).

Campsite. Any space designated for camping within a campground (11 AAC 12.340).

City. City of Kodiak.

Commercial Activity. The sale of, delivery of, or soliciting to provide, goods, wares, edibles, or services in exchange for valuable consideration through barter, trade, or other commercial means; a service offered in conjunction with another sale of goods, wares, edibles, or services, which service involves the use of state park land or water, is a commercial activity whether or not it is incidental to, advertised with, or specifically offered in the original sale; all guide, outfitter, and transportation services are commercial activities if any payment or valuable consideration through barter, trade, cash, or other commercial means is required, expected, or received beyond the normal and customary equally shared costs for food and fuel for any portion of the stay in the park (11 AAC 12.340).

Department. The Department of Natural Resources.

Appendix B: Glossary

Developed Facility. Includes a building, a boat ramp, campground, picnic area, rest area, visitor information center, swim beach, trailhead, parking area, and a developed ski area (11 AAC 20.990 and 11 AAC 12.340).

Director. The Director of the Division of Parks and Outdoor Recreation, Department of Natural Resources, or Director's authorized agent (11 AAC 12.340).

Division. The Division of Parks and Outdoor Recreation, Department of Natural Resources (11 AAC 12.340).

DMLW. Division of Mining, Land and Water.

DNR. Alaska Department of Natural Resources.

DPOR. Division of Parks and Outdoor Recreation.

Firearm. Includes a pistol, rifle, shotgun, revolver, or mechanical gas or air-operated gun (11 AAC 20.990 and 11 AAC 12.340).

Guideline. A specific course of action that must be followed when a DPOR resource manager permits, leases, or otherwise authorizes use of state lands. Guidelines range from giving general guidance for decision-making or identifying factors that need to be considered, to setting detailed standards for on-the-ground decisions.

ILMA. Interagency Land Management Agreement.

May. Same as "should", see *should*.

Parking Area. See *Road*.

Permit. A written authorization to engage in uses or activities that are otherwise prohibited or restricted (11 AAC 18.200).

Road. For the purposes of 11 AAC 12.020, "road" or "parking area" means the traveled portion of a vehicular way or area maintained by the state for the purpose of allowing access or parking by registered highway vehicles.

RV. Recreational Vehicle, such as a motor home or camper.

Shall. Same as "will", see *will*.

Should. States intent for a course of action or a set of conditions to be achieved. Guidelines modified by the word "should" state the plan's intent and allow the manager to use discretion in deciding the specific means for best achieving the intent or whether particular circumstances justify deviations from the intended action or set of conditions.

SHP. State Historic Park.

State Park. Any land or water managed by the division (11 AAC 12.340).

State Park Unit. An individual or group of facilities, structures, or natural resources and lands that are managed by the division (11 AAC 12.340). A unit of the state park system (AS 41.21.026).

Structure. Something constructed or built in, or transported to, a state park unit, including a dock, cabin, floatcamp, building, shanty, or facility used for residential or commercial purposes; it does not include a vessel with overnight berthing whose primary use is not as a domicile, but for commercial or sport fishing, general recreational boating, or transportation (11 AAC 12.340).

Vehicle. Means a mechanical device for carrying persons or objects over land, water, or through air, including automobiles, motorcycles, snowmachines, bicycles, off-road vehicles, motorized boats, and aircraft (11 AAC 20.990). “Vehicle” does not include non-motorized sailboats, canoes, kayaks, rafts, sailboards, hang gliders, gliders, or parasails (11 AAC 12.340).

Weapon. Includes a bow and arrow, slingshot, crossbow, and firearm (11 AAC 20.990).

Will. Requires a course of action or a set of conditions to be achieved. A guideline modified by the word “will” must be followed by land managers and users. If such a guideline is not complied with, a written decision justifying the noncompliance is required.

Appendix C

Tidepool Species Found at Ft. Abercrombie SHP

Green Algae

Sea lettuce
Enteromorpha
Cladophora
Finger algae

Ulva lactuca
Enteromorpha intestinalis
Cladophora trichotoma
Codium fragile

Brown Algae

Laminaria
Split kelp
Bull kelp
Holey kelp
Frisly kelp
Rockweed

Laminaria saccharina
Laminaria setchelli
Nereocystis lutkeana
Agarum cribrosum
Alaria marginata
Fucus distichus

Red Algae

Nori, laver
Coral algae
Crustose algae
Iridescent algae
Sea sac, Rabbit ears
Dulse
Pine branch algae
Sea Brush

Porphyra perforata
Corallina vancouveriensis
Lithothamnium pacificum
Irridaea cordata
Halosaccion glandiforme
Palmaria palmata
Rhodomela larix
Odonthalia floccosa

Misc. Invertebrates

Encrusting sponge
Nemertean, red ribbon worm
Echiurid
Polychaete
Tiny calcareous tube worm
Encrusting bryozoan

Halichondria panicea
Tubulanus spp
Echiurus alaskensis
Nereis brandti
Spirorbis borealis
Membranipora spp

Cnidarians

Green, or burrowing anemone
Christmas tree anemone
Red anemone

Anthopleura artemisia
Urticina crassicornis
Urticina coriacea

Appendix C: Tidepool Species Found
at Ft. Abercrombie SHP

Crustaceans

Flat Acorn barnacle
Large acorn barnacle
Beach Hopper
Common Isopod
Pill bug
Broken-back shrimp
Red hermit
Hairy hermit

Cthamalus spp.
Balanus balanoides
Orchestia spp
Idotea wosnessenski
Gnorimosphaeroma spp.
Heptacarpus brevirostris
Elassochirus gilli
Pagurus hirsutiusculus

[Provided by
Bradley G. Stevens, Ph.D.
National Marine Fisheries Service
Kodiak Fisheries Research Center]

Appendix D

Invasive Plant Information

Invasive plant species that have been confirmed in Kodiak as of 12/2005:

<u>Common name</u>	<u>Scientific Name</u>
<u>Species of special concern to Fort Abercrombie State Historic Park due to known locations and methods of spread.</u>	
Orange hawkweed	Hieracium aurantiacum
Ox-eye daisy	Leucanthemum vulgare or Chrysanthemum leucanthemum
Canada thistle	Cirsium arvensis
Bull thistle	Cirsium vulgare
Common tansy	Tanacetum vulgare
Cat's ears	Hypochaeris radicata
Creeping buttercup	Ranunculus repens
Tall buttercup	Ranunculus acris
Japanese knotweed (or bohemian?)	Polygonum cuspidatum or Polygonum bohemicum
Butter and eggs / yellow toadflax	Linaria vulgaris
Foxglove	Digitalis purpurea

Species of concern but probably not a current threat to Fort Abercrombie due to limited locations or method of spread (according to current knowledge).

Hempnettle	Galeopsis bifida
Cornspurry	Spergula arvensis
White sweetclover	Melilotus alba
Blackberry (himalayan?)	Rubus discolor
Reed canarygrass	Phalaris arundinacea
Sweetrocket or Dame's rocket	Hesperis matronalis
Fall dandelion	Leontodon autumnalis

Common roadside or disturbed site species.

Common dandelion	Taraxacum officinale
Common plantain	Plantago major
Common chickweed	Stellaria spp
Pineapple weed	Matricaria discoidea
European mountain ash	Sorbus aucuparia
Common groundsel	Senecio vulgaris

Species not confirmed but "need to watch for".

Garlic mustard	Alliaria petiolata
Yellow hawkweeds	Hieracium spp
English ivy	Hedera helix
Purple loosestrife	Lythrum salicaria

Vegetative Restoration Recommendations

Revegetation procedures will vary with the intent of the restorative effort. In keeping with the policy of non-exotic specie introduction, use of natural seeding will be encouraged and used when possible. However, in cases where rapid revegetation is needed some exotic annual grasses may be employed. The following guidelines are suggested, but consultation with the USDA Natural Resources Conservation District or the University of Alaska Plant Materials Center in Palmer** may be warranted on larger restoration projects.

Forest Areas (such as restoring re-routed trails)

Scarify and aerate heavily compacted soils to promote natural seeding where erosion is not a problem. Grasses are typically not appropriate in forest areas. Import forest litter (leaves, mosses, branches, twigs, etc.) from nearby in a non-destructive manner, place larger branches on top to hold litter in place. Where continued undesired public use is anticipated (such as a short-cut trail), larger barriers such as logs may be employed to encourage natural restoration.

Meadow Areas (such as restoring re-routed trails)

Scarify and aerate heavily compacted soils to promote natural seeding where erosion is not a problem. Import meadow litter (leaves, mosses, branches, twigs, etc.) from nearby in a non-destructive manner, place larger branches on top to hold litter in place. Natural fiber textile mats may be used in areas highly erosive. Where continued undesired public use is anticipated (such as a short-cut), larger barriers such as logs may be employed to encourage natural restoration.

High Public Use Areas (such as lawns, campsites, picnic sites, etc.)

Establishment of a highly durable, impact resistant foliage cover is needed in high use areas. The following are a few prescriptions for areas where something simple, broad in range of site conditions, inexpensive, quick to provide cover, not too intrusive, and native to Alaska is required.

Example Seeding Plans for Kodiak:

1. Spread weed-free topsoil
Cover all bare ground with loamy to silt loam topsoil. Spread soil to a minimum depth of 5 inches (less if a soil base already exists). Top dress soil surfaces with starter fertilizer and lightly rake, using rate of 80-80-40 lbs/ac as N-P₂O₅-K₂O-S.
2. Establish weed-free vegetation cover on bare surfaces
Because rapid establishment of cover is critical to protect the soil from frequent rain events, and there may be the desire to inter-seed/plant other native species as plugs or containerized material as time and opportunity permits, a single species planting is recommended. Perennial species can be used, such as red fescue varieties of "Arctared" or "Boreal", or "Norcoast" Bering hairgrass, but will probably establish a little slower, cost more, and persist longer (which might not be wanted). For rapid cover, use of annual grasses may be employed quickly to

stabilize soils while perennial grasses become established. Native root material and native seed already in the topsoil will more than likely take over the site in a year or two, depending on the topsoil source.

a. Seeding Rates (note seed tag info)

Example: To seed 40 pounds per acre of pure live seed, the procedure would be:

$$0.98 \text{ purity} \times 0.80 \text{ germination} = 0.784$$

$$40 \text{ lb/ac} / 0.784 = 51 \text{ lb of seed needed}$$

b. Red Fescues

12 lbs/ac Pure Live Seed (broadcast), certified noxious weed free

c. Bering Hairgrass

6 lbs/ac Pure Live Seed (broadcast), certified noxious weed free

d. Common Oats (an annual that works good) verify if this is an exotic]

100 lbs/ac Pure Live Seed (broadcast), certified noxious weed free

e. Annual Rye (annual that may have potential allopathic issues)

20 lbs/ac Pure Live Seed (broadcast), certified noxious weed free

3. Cover lightly with mulch: Spread straw or other weed-free mulch material over seeded areas (about 90lbs/1000 sq. ft.). Mulch should cover soil completely, but not to bury the seeding to restrict plant growth.

The following should be completed later:

4. Place willow and alder stakes/bundles (locally cut) along water edges.
5. Find and transplant native herbaceous and shrubby plants on to surfaces as desired to enhance wildlife and fish habitat.

**The UA Plant Materials Center has native Alaska grass seed available for purchase.

Information in this Appendix is courtesy of the USDA Natural Resources Conservation District, Kodiak.