

ENVIRONMENTAL ASSESSMENT
for
PROPOSED INSTALLATION AND OPERATION OF WEATHER
CAMERA SYSTEMS AT MERRILL PASS AND LAKE CLARK PASS
REMOTE COMMUNICATION OUTLET
in
LAKE CLARK NATIONAL PARK AND PRESERVE, ALASKA



Prepared for
NATIONAL PARK SERVICE
ALASKA REGIONAL OFFICE,
LAKE CLARK NATIONAL PARK AND PRESERVE
&
U.S. FEDERAL AVIATION ADMINISTRATION
ALASKA REGION

March 2006

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Cover Photo -- View to Northeast from Merrill Pass High Site October 2005.

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ACRONYMS AND ABBREVIATIONS

ANILCA	Alaska National Interest Lands Conservation Act
BCS	Bristol Construction Services, LLC
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
DO	Director's Order
EA	Environmental Assessment
FAA	Federal Aviation Administration
LACL	Lake Clark National Park and Preserve
MTBA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NPS	National Park Service
RCO	Remote Communications Outlet
RCO/WCAM	Remote Communications Outlet and Weather Camera System
SHPO	State Historic Preservation Officer
USFWS	U.S. Fish and Wildlife Service
VFR	Visual Flight Rule
WCAM	Weather Camera System

1.0 INTRODUCTION

The National Park Service (NPS) is considering a proposal from the Federal Aviation Administration (FAA) to install two automated Weather Camera System (WCAM) at Merrill Pass, and the continued operation of the Remote Communications Outlet (RCO) and WCAM at Lake Clark Pass in Lake Clark National Park and Preserve (LACL) (Figure 1). The NPS would issue a right-of-way to the FAA for the installation and operation of the WCAMs. The FAA proposes to install the WCAM sites during the summer of 2007.

The two Merrill Pass sites are located in the Alaska Range, approximately 115 miles west of Anchorage, Alaska. The proposed sites are identified hereafter as the Low Site, an approximately 39,722-square-foot (0.91-acre) tract, and the High Site, an approximately 38,644-square-foot (0.89-acre) tract. The Low Site is located on the valley floor, one-half mile east of Merrill Pass. The High Site is located in a saddle on a northeast-southwest-running ridge line, approximately three-quarters of a mile south of Merrill Pass. The two sites are approximately one and one-quarter miles apart.

Lake Clark RCO/WCAM is located near Lake Clark Pass, approximately 100 miles southwest of Anchorage, Alaska. The property measures approximately 38,322 square feet (0.88 acre).

2.0 PURPOSE AND NEED FOR ACTION

2.1 PURPOSE OF ACTION

The purpose of the action would be to decrease the risk of aviation accidents and increase safety for smaller aircraft flying through the passes. The FAA is addressing the need to reduce risks and improve flying safety by proposing to provide a means to determine weather conditions in the passes without having to fly into the passes.

The FAA selected the Merrill Pass sites and the Lake Clark site for the WCAM and RCO because of the unique geography and the established flight paths through both passes for civilian and military aircraft. The Merrill Pass Low Site would provide a view of weather conditions within the pass, while the High Site would provide a long-range view of climatic conditions.

The installation of the two WCAMs at Merrill Pass, and continued operation of the Lake Clark Pass RCO/WCAM, would enhance aircraft safety in the park, and for aircraft transporting hunters, fisherman, and sightseers from Southcentral Alaska to the Stony and Kuskokwim river watersheds. The proposed action would increase aircraft safety in the passes by allowing private, military, and commercial pilots, access to current weather conditions prior to departure. The WCAM images at Merrill and Lake Clark passes would be updated every ten minutes, or as often as possible. This would provide an additional tool for pilots to plan and conduct flight operations, and for use by Flight Service Station personnel in briefing pilots. The "real time" images of weather conditions in the passes would be provided to the Automated Flight Service Stations, Flight Service Stations, Anchorage Air Traffic Control Center, National Weather Service Center Weather Service Unit, and military Base Operations.

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2.2 NEED FOR ACTION

Alaska, with its rugged topography, rapidly fluctuating metrological conditions, and reliance on aviation for local transportation, has an increased risk of general aviation accidents. Alaska contains only 0.2 percent of the U.S. population, but it is estimated to have about six times as many pilots and 16 times as many aircraft per capita as the rest of the U.S. (USCB, 2006). General aviation hours flown annually in Alaska total 995,000, or about 3 percent of the U.S. total. For the period of January 1, 2001, to January 10, 2006, there were 6,990 general aviation accidents in the U.S., with 454 (6.5 percent) occurring in Alaska (SLED, 2006).

Lake Clark and Merrill Passes are major air transportation routes, with Lake Clark Pass having five to 10 times the amount of air traffic on an annual basis as Merrill Pass. Numerous accidents have occurred in the passes because of poor weather conditions. Pilots flying in small, piston-powered aircraft, between Anchorage and western interior Alaska, normally fly through Merrill Pass. When inclement weather conditions warrant, pilots need to decide if the pass is unsafe to fly through. Sometimes pilots risk flying into the pass from one end and must make a split second decision to either continue through the pass, or make a U-turn because of poor visibility or low cloud cover. This practice increases the risk for accidents because pilots deciding to continue through the pass in clear conditions on one side of the mountain, still may encounter poor visibility on the other side of the pass. Once they miss their opportunity to make the U-turn, they are committed and must continue through the pass regardless of the weather conditions. Merrill Pass is littered with numerous crash sites left by pilots who thought the pass was clear on one end of the pass, only to encounter poor visibility on the other side.

Private and commercial pilots have a need for pictorial images of current weather conditions to assist them in making weather-related decisions, and for improving aviation safety for traveling to remote communities in Alaska. The FAA received funding to install an Aviation Closed Circuit Television WCAM in Merrill Pass as an aid to Visual Flight Rule (VFR) pilots operating in the Lake Clark area.

Statewide, general aviation pilots and small commercial companies have been praising the use of weather cameras to help reduce accident rates. These cameras provide near real-time images of meteorological conditions critical to flight planning of VFR pilots.

The need for action is to reduce the risk of unsafe flying practices by reducing the number of flights into the pass when conditions are unsafe. This, in turn, would reduce the number of wrecks and efforts to recover wreckage. The WCAM would improve aviation safety and reduce the environmental impact of these events on resources within LACL.

This environmental assessment (EA) analyzes the potential environmental impacts that could result from the alternatives considered, including Alternative A, the No Action Alternative and Alternative B, the Preferred Alternative. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council of Environmental Quality (CEQ) (40 Code of Federal Regulations 1508.9), and the NPS NEPA

compliance guidance handbook (Director's Order (DO)-12, *Conservation Planning, Environmental Impact Analysis, and Decision-making*).

2.3 PURPOSE AND SIGNIFICANCE OF THE PARK

The LACL was one of thirteen National Park System Units created or expanded by the Alaska National Interest Lands Conservation Act (ANILCA, PL 96-487) on December 2, 1980. As a unit of the National Park System, LACL shall be administered to preserve and protect the park's natural, cultural, and wildlife resources, while providing for traditional use, inspiration, recreation, subsistence, and scientific study for the enjoyment and benefit of current and future generations.

The general purpose of the conservation system units established under ANILCA, defined in sections 101 (a), (b), and (c), are as follows:

"§101. (a) In order to preserve for the benefit, use, education and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values, and units described in the following titles are hereby established.

(b) It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems, to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing fishing, and sport hunting, within large arctic and subarctic wildlands and on freeflowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.

(c) It is further the intent and purpose of this Act consistent with management of fish and wildlife in accordance with recognized scientific principles and the purposes for which each conservation system unit is established, designated, or expanded by or pursuant to this Act, to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so.

Section 201(7) of ANILCA establishes LACL to specifically, and in conjunction with Section 101 and the 1916 Organic Act of the National Park Service, protect the watershed necessary for the perpetuation of the red salmon fishery in Bristol Bay; maintain, unimpaired, the scenic beauty and quality of portions of the Alaska Range and the Aleutian Range, including active volcanoes, glaciers, wild rivers, lakes, waterfalls, and alpine meadows, in their natural state; protect habitat for populations of fish and wildlife, including, but not limited to, caribou

(*Rangifer tarandus*), Dall sheep (*Ovis dalli dalli*), brown/grizzly bears (*Ursus arctus horribilis*), bald eagles (*Haliaeetus leucocephalus*), and peregrine falcons (*Falco peregrinus*).

The LACL encompasses 4,050,000 acres of undisturbed public land, representing a microcosm of the Alaska ecological resources, characterized by rugged mountains and spires, glaciers, a coast, deep valleys and lakes, high tundra, wild rivers, and a wide cross-section of flora and fauna. The LACL contains two majestic and active volcanoes, Mt. Iliamna and Mt. Redoubt, rising above 10,000 feet from the coastal plain and listed on the National Register of Natural Landmarks. The LACL contains 2,619,550 acres of designated Wilderness for management under the provisions of the Wilderness Act of 1964 (PL 88-577), and in accordance with applicable ANILCA provisions.

The LACL contains portions of these designated Wild and Scenic Rivers (Chilikadrotna, Mulchatna, and Tlikakila) to be managed in their entirety, free of impoundments and diversions, inaccessible by road, with their shorelines primitive, and their waters unpolluted.

The LACL contains the upper reach of the Kvichak River watershed; the world's most productive spawning and rearing habitat for sockeye salmon (*Oncorhynchus nerka*), which contributes approximately 50 percent of the sockeye caught in Bristol Bay; 33 percent of the entire U.S. catch, and 16 percent of the total world catch.

Significant prehistoric and historic sites are widely scattered throughout LACL. One hundred and forty-two cultural sites have been documented from research, covering less than one-tenth of one percent of these lands. These sites include historic cabins, mining and trapping sites, cemeteries, prehistoric camps, villages, and rare rock paintings. A significant complex of late prehistoric and historic Dena'ina sites are within the Kijik Archaeological District National Historic Landmark.

Congress recognized the uniqueness and importance of a subsistence way of life to rural residents, by identifying it as one of the purposes of ANILCA in 1980. Title VII of ANILCA provides rural residents an opportunity to live a subsistence lifestyle, consistent with sound management principles and the conservation of healthy fish and wildlife populations. Congress directed subsistence use of public lands in Alaska to cause the least adverse impact possible on rural residents who depend upon subsistence resources, and the subsistence uses of fish and wildlife to be the priority consumptive use.

2.4 LAWS, REGULATIONS, AND POLICIES

The following laws and associated regulations provide guidance for the development of this EA, design of the Preferred Alternative, analysis of impacts, and creation of the mitigation measures to be implemented as part of the Preferred Alternative.

The NPS Organic Act and the General Authorities Act prohibit impairment of park resources and values. The NPS 2001 Management Policies and Director's Order Number 55 uses the term "resources and values" to mean the full spectrum of tangible and intangible attributes for which the park was established and is managed, including the Organic Act's fundamental purpose and any additional purposes stated in the park's establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically

provided by statute. The primary responsibility of the NPS is to ensure that the park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities to enjoy them.

The evaluation of whether impacts of the Preferred Alternative would lead to an impairment of the park's resources and values is included in this EA. Impairment is more likely when there are potential impacts to a resource or value whose conservation is:

- Necessary to fulfill the specific purpose identified in the establishing legislation or proclamation of the park;
- Essential to the natural or cultural integrity of the park, or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's General Management Plan or other relevant NPS planning document.

Certain provisions of Title XIII of ANILCA govern navigational aids and other facilities within the conservation system units established or expanded by this act. Section 1310 (a) addresses reasonable access to, and the operation and maintenance of existing air navigational aids and communications sites. Section 1310 (b) addresses new navigational aids and related facilities. This provision permits the establishment, operation, and maintenance within any conservation system unit of new air navigation aids and related facilities, facilities for national defense purposes, and related air navigation aids.

The Wilderness Act (Public Law 88-577) in Section 2A definition of Wilderness states:

(c) A Wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of Wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements of human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

The 2005 LACL Aviation Policy lists specific guidelines regarding use of helicopters in the park.

2.5 HISTORY OF THE LAKE CLARK REMOTE COMMUNICATIONS OUTLET AND MERRILL PASS WEATHER CAMERA SITES

The Lake Clark Pass site was originally used for a remote FAA communication facility and is now used as an RCO and weather camera site.

At one point in its history, the RCO site, maintained by the FAA, used a radio isotope thermal generator that used strontium-90 as a fuel source. The generator was installed in 1978 and removed in 1981. The generator was removed because of security concerns rather than environmental concerns. The Atomic Energy Commission monitored the generator removal process very closely (E & E, 1994). No evidence of hazardous waste spills or disposal was identified at the site. The Environmental Data Resources, Incorporated database search indicated that no hazardous materials exist at this site (BEESC, 2005).

The RCO was installed at Lake Clark Pass in 1981. The WCAM at the Lake Clark RCO was installed in 2004. The site has three existing camera/solar panel towers and a fiberglass building for the weather camera equipment, and an antenna tower for the RCO radios (Appendix A, Photograph 5). The towers and fiberglass building are mounted on a steel framework (Appendix A, Photograph 7).

Lake Clark Pass provides pilots a safer route from Kenai and Anchorage to the Port Alsworth, Nondalton, and Lake Iliamna areas than routes along the coast. Coastal routes can experience more problems with poor visibility from low clouds and fog than mountain passes.

In 2005, the FAA installed a trial WCAM station in Merrill Pass. This station is still in operation and undergoing further testing and evaluation by the agency.

2.6 ISSUES AND IMPACT CATEGORIES

Issues of concern for this project are grouped into distinct impact categories to facilitate the analysis of environmental consequences, and allow for a standardized comparison of alternatives, based on the relevant information. The impacts categories are based on federal laws, regulations and orders, NPS Management Policies 2001, and NPS knowledge of potentially affected resources.

The rationale used for selecting or dismissing the category from further consideration is provided for in Sections 2.8. Issues and impact categories selected for detailed analysis, or considered but dismissed from further analysis, are shown in Table 2-6.

Table 2-6 Issues and Impact Categories Selected or Dismissed For Further Analysis

Impact Category	Status	Impact Category	Status
Wilderness Values	Selected	Socioeconomic	Dismissed
Wildlife	Selected	Subsistence	Dismissed
Vegetation	Selected	Hazardous Materials	Dismissed
Natural Soundscape	Selected	Environmental Justice	Dismissed
Visual Resources	Selected	Light Emissions	Dismissed
Visitor Experience	Selected	Solid Waste	Dismissed
Floodplains	Dismissed	Air Quality	Dismissed
Fishery Resources	Dismissed	Farmland	Dismissed
Wetlands	Dismissed	Coastal Barriers	Dismissed
Threatened, Endangered, or Species of Concern	Dismissed	Cultural Resources	Dismissed
Water Resources	Dismissed	Wild and Scenic Rivers	Dismissed
Soils	Dismissed	Safety	Dismissed

2.7 ISSUES SELECTED FOR DETAILED ANALYSIS

2.7.1 Wilderness Values

The proposed WCAMs at Merrill Pass and the existing RCO/WCAM at Lake Clark Pass, are located in designated Wilderness areas. Installation of two new WCAMs and the operation and maintenance of the existing RCO/WCAM in designated Wilderness could affect the area's solitude and naturalness.

2.7.2 Wildlife

Installation and maintenance of the WCAMs at Merrill Pass and continued operation and maintenance of the RCO/WCAM at Lake Clark Pass, could temporarily displace wildlife in the immediate vicinity of the facility and affect a small area of habitat.

2.7.3 Vegetation

The installation and maintenance of the WCAMs at Merrill Pass could affect a very small amount of vegetation. A footprint of not more than 150 feet by 150 feet is the maximum area expected to be impacted by the WCAMs at each site in Merrill Pass.

The four towers for the RCO/WCAM at the Lake Clark RCO were constructed on a site previously used by the FAA as a communications site. Most of the vegetation in an area

roughly 150 feet by 200 feet surrounding the facility has been previously cleared and or disturbed. Maintenance trips to this site would have very minimal impact to existing vegetation.

2.7.4 Natural Soundscape

Rotor and turbine noise from helicopters supporting the installation and maintenance of the two Merrill Pass WCAMs, and continued operation and maintenance of the RCO/WCAM at Lake Clark Pass, could impact the natural soundscape.

2.7.5 Visual Resources

Installation and maintenance of the two Merrill Pass WCAMs and continued operation and maintenance of the RCO/WCAM at Lake Clark Pass could adversely impact the visual resources of the park.

Backcountry visitors would likely be able to view the towers, solar panels, and the equipment shelter from the valley floor and other vantage points in the area. The WCAMs and RCO would also be visible to low-flying aircraft passing through the passes.

2.7.6 Visitor Experience

Installation and maintenance of the two WCAMs at Merrill Pass and continued operation and maintenance of the RCO/WCAM at Lake Clark Pass could negatively impact the visitor experience of backcountry users in this area of the park. Backcountry visitors would be expecting a wilderness setting lacking man-made structures.

2.8 ISSUES CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

The following issues were considered, but dismissed from further analysis for the existing structure at Lake Clark RCO/WCAM and the proposed WCAMs at Merrill Pass.

Floodplains

There are no floodplains in, or adjacent to, the existing Lake Clark RCO site, or the proposed WCAM systems at Merrill Pass.

Fishery Resources

There are no fishery resources within the vicinity of the either the Lake Clark RCO site, or the proposed WCAMs at Merrill Pass (ADF&G, 2005b).

Wetlands

The existing Lake Clark RCO facility and proposed WCAM at Merrill Pass are not located in, or adjacent to, any wetlands (NWI, 2005).

Threatened, Endangered, or Species of Concern

According to the U.S. Fish and Wildlife Service (USFWS), there are no federally listed or proposed species and/or designated or proposed critical habitat within either project area. No further consultation under Section 7 of Environmental Site Assessment is required unless new information reveals project impacts to listed species or critical habitat in a manner not previously considered (FWS, 2005).

Water Resources

Both facilities are not located in, or adjacent to, any surface or groundwater. There are no Clean Water Act 303(d) impaired water bodies in, or near, the project area (ADEC 2003, NPS 2004).

Soils

Much of the ground around the facilities consists of loose rock with very little soil (BEESC, 2005a, 2005b). It is unlikely that the soils around the immediate vicinity of both WCAMs would become compacted from foot traffic and helicopter skids during the construction and maintenance of the stations. Any adverse impacts to soils would be minimal and temporary.

Socioeconomic

Station installation and maintenance would be performed by contracted services and the FAA, respectively. No net impact on the local economy is expected because personnel from the local community would not be performing the work.

Subsistence

Effects of subsistence were dismissed from analysis because the existing and proposed WCAMs would not have any effect on subsistence activities. An ANILCA Section 810 (a) summary and analysis for this project is provided in Appendix B.

Hazardous Materials

There are no known hazardous material sites or leaking underground storage tanks located within, or adjacent to, the proposed Merrill Pass WCAM sites or the existing Lake Clark RCO (ADEC, 2005).

Environmental Justice

Executive Order 12898, dated February 11, 1994, requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects their proposed actions might have on minority communities or low-income communities. The proposed action would not affect any minority communities or low-income populations.

Light Emissions

Security lights would not be required at the WCAM or RCO/WCAM sites. There would be no light emissions from monitoring equipment or towers. Obstruction-avoidance lighting is not required for towers less than 199 feet.

Solid Waste

Construction and operation of the proposed Merrill Pass WCAMs should generate only minimal quantities of solid waste. Some solid waste may be generated from the periodic maintenance, and/or replacement of equipment at the Lake Clark RCO/WCAM. See mitigating measures for stipulations regarding disposal of solid waste.

Air Quality

The alternatives described in this EA would not cause any measurable changes to air quality. There would be no emissions from the monitoring equipment; and emissions from helicopters may result in negligible, localized, temporary reductions in air quality.

Farmland

Farmland does not occur within the affected environment at Merrill Pass and Lake Clark Pass.

Coastal Barriers

There are no coastal barriers designated by the Coastal Barriers Act of 1982 within the State of Alaska.

Cultural Resources

Preliminary site surveys conducted by Bristol Construction Services, LLC, have indicated that no artifacts or other archaeological, historic, or cultural resources are present on, or near, the existing Lake Clark Pass RCO/WCAM (BEESC, 2005a) or the two proposed Merrill Pass WCAM sites (BEESC, 2005b).

Wild and Scenic Rivers

There are no wild, scenic, or recreational rivers within Merrill Pass and Lake Clark Pass (NPS, 2005a).

Safety

The FAA and their contractors and subcontractors would follow all appropriate occupational health and safety guidelines.

2.9 PERMITS AND APPROVALS NEEDED TO COMPLETE THE PROJECT

The installation, operation, and/or maintenance of the WCAMs at Merrill Pass and Lake Clark Pass, would require a right-of-way permit from the NPS. No other permits or approvals are required.

3.0 DESCRIPTION OF ALTERNATIVES

The CEQ regulations for implementing NEPA requires federal agencies to explore and objectively evaluate all reasonable alternatives to the Preferred Alternative, and to briefly discuss the rationale for eliminating any alternative not considered in detail. This section describes the No Action Alternative (Alternative A) and the Preferred Alternative (Alternative B), and those alternatives that were considered, but eliminated from further analysis.

The two alternatives analyzed in this EA differ in their ability to fulfill the FAA requirements for the construction, operation, and maintenance of the WCAM and RCO/WCAM sites, and the potential impact of these facilities on the natural environment. These differences are presented in the environmental consequences section of this EA.

A typical WCAM consists of three 30-foot galvanized towers (tower array) and one equipment shed. The tower array is supported on a steel frame anchored to a 12- to 18-inch diameter concrete foundation and steel piers. Towers support several solar panels, cameras, one wind generator and one three-foot-diameter V satellite dish. The station's electronics and sealed glass mat battery are housed in a fiberglass equipment shelter, elevated three feet off the ground. A detailed description of the WCAM and RCO monitoring equipment applicable to this alternative is provided in Appendix C.

3.1 ALTERNATIVE A: NO ACTION ALTERNATIVE

Under the No Action Alternative, two new WCAM sites would not be constructed at Merrill Pass, but the operation and maintenance of the RCO/WCAM at Lake Clark Pass would continue (Figure 2).

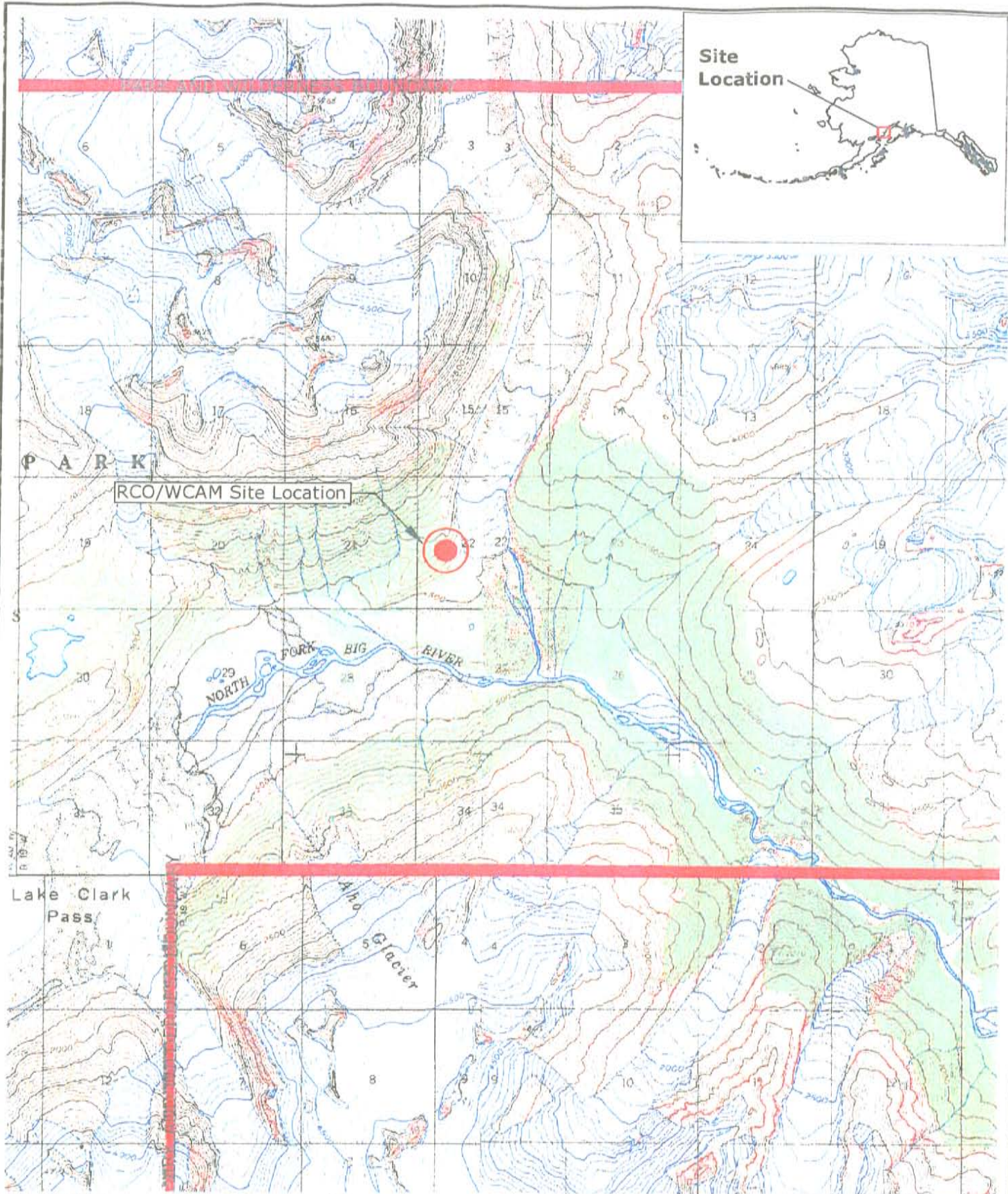
Under this alternative, the FAA personnel or consultants under contract to the FAA would continue performing routine maintenance and repair of the facility. These activities would require at least one helicopter round trip per year, however, additional trips may be necessary to repair equipment on an as needed basis. Based on the most recent maintenance records for existing WCAMs in Alaska, the FAA anticipates the RCO/WCAM site at Lake Clark Pass would require a total of three helicopter round trips annually for maintenance and repairs.

3.2 ALTERNATIVE B: INSTALL TWO WCAMS AT MERRILL PASS AND CONTINUE OPERATIONS OF LAKE CLARK RCO/WCAM (FAA AND NPS PREFERRED ALTERNATIVE)

Under the Preferred Alternative, the NPS would issue a right-of-way permit to the FAA to install, operate, and maintain two WCAMs at Merrill Pass (Low Site and High Site) (Figure 3), and continue the operation and maintenance of the existing RCO/WCAM at Lake Clark Pass (Figure 2).

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rawing: 1A-26081 BCS-FAA EDDA, SURVEYING EAS/VACAD-ENV/ROACAD EAD/DWG/26081.LC FIG2 RCO/DWG - Layouts FIG3
 ser: RGARCIA Mar 29, 2006 - 11:34am Xref:si - Images: BCS1_L0501.TIF 16012G3.TIF 16012G6.TIF



MAP INFORMATION:
 USGS QUAD MAPS
 KENAI D7
 1:63,360
 KENAI D8
 1:63,360

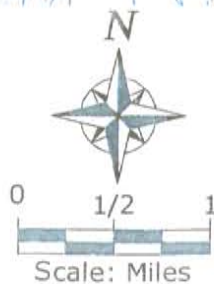


FIGURE 3
RCO/WCAM SITE LOCATION MAP
LAKE CLARK NATIONAL PARK & RESERVE
LAKE CLARK PASS, ALASKA



Phone (907) 563-0013 Fax (907) 563-6713
 Project No. 26081

DATUM
 NAD 27
 PROJECTION
 UTM

DATE 2/28/06
 DWN MHN
 SCALE SHOWN
 APPRVD JR

SHEET
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Merrill Pass

The WCAM at both sites in Merrill Pass would consist of two or three 30-foot galvanized towers (tower array) and one equipment shed. The tower array is supported on a steel frame, anchored to a 12- to 18-inch-diameter concrete foundation and several steel piers. There are six guy wires leading to three ground anchors for each of the three towers. Towers support several solar panels, cameras, one wind generator and one 3-foot-diameter V satellite dish. The station would be powered with solar panels and wind-driven generators. The stations' electronics and sealed glass mat battery would be housed within a prefabricated fiberglass equipment shelter. The equipment shelter would be elevated approximately three feet off of the ground on the steel frame. A description of the WCAM equipment applicable to each site is provided in Appendix C. Photographs 1 through 4 show views from the Merrill Pass High and Low Sites.



Photograph 1. View to southwest from Merrill Pass (Low Site) October 2005 with Test Camera System in Foreground.



Photograph 2. View to northeast from Merrill Pass High Site October 2005.

Lake Clark Pass RCOW/CAM

The existing RCO/WCAMs at Lake Clark consists of one 20-foot and three 30-foot galvanized towers (tower array) and one equipment shed (Photograph 5). The tower array is supported on a steel frame anchored to a 12- to 18-inch diameter concrete foundation and several steel piers. There are six guy wires leading to three ground anchors for each of the four towers. Towers support several solar panels, cameras, one wind generator, and one three foot-diameter V satellite dish. The station is powered with solar panels and a wind-driven generator. The system's electronics and sealed glass mat battery are housed within a prefabricated fiberglass equipment shelter. The equipment shelter is elevated approximately



Photograph 3. Lake Clark Remote Communications Outlet and Weather Camera System.

three feet off of the ground on the steel frame. The Antenna and galvanized towers are designed to blend into the surrounding environment as much as possible. A description of the RCO/WCAM equipment applicable to this site is provided in Appendix C.

An area measuring approximately 150 feet by 150 feet has been cleared of tall vegetation around the RCO/WCAM tower array and equipment shelter.

Facility fencing, tower security lights, or obstruction avoidance lighting for aviation safety are not required for new or existing facilities.

Maintenance of WCAM Systems in Merrill and Lake Clark Passes

Maintenance activities require at least one helicopter round trip per year to each site, however, additional trips may be necessary to repair equipment on an as needed basis. Based on the most recent maintenance records for existing WCAM in Alaska, the FAA estimates the WCAM sites at Merrill Pass and the RCO/WCAM Lake Clark Pass will require a total of three helicopter round trips annually for maintenance and repairs for each site (Table 3-2).

Table 3-2 Annual Number of Helicopter Flights and Hours Estimated for Installation, Maintenance, and Repair of RCO/WCAM and WCAM Sites in Lake Clark and Merrill Pass.

Site	Minimum No. of Helicopter Trips for Installation	Minimum No. of Helicopter Trips for Maintenance Per Site	No. Hours Needed to Perform Maintenance Activities/Trip	Maximum No. Trips for Maintenance Per Site/Year	Maximum No. Hours Needed to Perform Maintenance Activities/Year
Merrill Pass Low Site	20	1	8	3	24
Merrill Pass High Site	20	1	8	3	24
Lake Clark RCO	0	1	8	3	24
Total Number of Helicopter Trips	40	3		9	

Note: No. = number

Installation of Merrill Pass WCAMs

Approximately 40 helicopter round trips would be required to install the WCAMs in Merrill Pass (Table 3-2). The frequency of the flights would be greater at the beginning of construction as equipment and supplies are transported to the sites. Later, the number of daily flights would be reduced to one round trip to transport crews to the WCAM sites. Short flights would be required to transport crews between the Low and High Sites.

Helicopter operations would be based out of Anchorage. Helicopters would approach the RCO/WCAM sites from the east to minimize flying time within the park boundary.

Several different helicopter types could be used to transport the crew to the RCO/WCAM sites including: Astar, Bell 206, and Bell 206 Long Ranger. Transporting towers and other equipment to Merrill Pass will likely require helicopters with a heavier lift capability, such as a Bell 212 or 214.

The FAA anticipates construction crews would need approximately 150 hours to install both WCAMs in Merrill Pass. The FAA also anticipates maintenance crews would need anywhere from a minimum of eight hours at each site to perform routine maintenance (one trip per year) to a maximum of 24 hours at each site (three trips per year), for unexpected repairs or equipment upgrades.

Length of Service

The length of service for the WCAMs is difficult to predict. The WCAMs could be superseded by less obtrusive technology, such as satellites. In the event that the WCAMs become obsolete, the FAA will remove all equipment, structures, and solid waste created by the decommissioning of the site, in consultation with the NPS. Any additional mitigation measures will be determined at the time of the action.

3.3 MITIGATION FOR ALTERNATIVE B (FAA AND NPS PREFERRED ALTERNATIVE)

3.3.1 Wilderness Values

3.3.1.1 Solitude and Naturalness

Guidelines in the 2005 LACL Aviation Policy will be followed for construction of the Merrill Pass WCAMs and maintenance of these facilities and the Lake Clark RCO/WCAM. In planning flight paths, all feasible measures will be taken to avoid and/or minimize impacts to wilderness values. Sensitive areas, including high public use areas will be avoided when feasible. Helicopter altitude and horizontal distances will be maintained according to the park helicopter policy.

3.3.1.2 Visitor Experience

The FAA will provide the NPS with a schedule for equipment installation and maintenance activities, and will notify the park superintendent prior to commencing helicopter operations. Use of helicopters during hunting season in known hunting areas would be avoided. Signs could be posted at the WCAMs explaining the purpose of the site, and a list of contacts for more information.

3.3.1.3 Soundscapes

The installation of the WCAMs at Merrill Pass, and continued operation of the Lake Clark Pass RCO/WCAM, will temporarily and periodically increase man-made sounds in the park. Human-caused sounds could be mitigated by limiting construction and maintenance activities to early spring or late fall when visitor use is at a reduced level.

3.3.2 Wildlife

Installation and maintenance activities would be timed to avoid sensitive periods, such as nesting, or calving season, for both WCAMs. Helicopters would not fly over these areas. If wildlife, such as brown bear, is observed at the WCAMs, flights would be rerouted or rescheduled to avoid or minimize disturbance. Maintenance visits may also be scheduled during the winter when wildlife would be less likely to be encountered.

In addition to meeting all FAA and NPS helicopter policy and aircraft requirements, mitigation for helicopter flight paths will include:

- Maintenance of a 1,500-foot vertical or horizontal clearance from traditional summer and calving areas, or other habitats supporting reproduction or adult animals. This includes brown bear, moose, caribou, and wolves (*Canis lupus*);
- Pilots shall not hover, circle, harass, or pursue wildlife in any way;
- A minimum of a quarter-mile distance will be maintained from all active bald eagle nests. All nests are considered active from March 1 through May 31, and nests with eagles present are considered active through August 31;
- The most direct flight path practicable, given weather conditions and safety considerations, will be taken through Wilderness areas to reach the WCAMs at Merrill Pass and Lake Clark Pass. Flight paths will avoid areas where users are known to concentrate or visit frequently;
- Pilots will avoid known areas supporting brown bear and Dall sheep; and
- Pilots will not compromise safety.

3.3.3 Visual Resource

The equipment shed and steel-framed structures will be colored as to blend with the environment. The FAA will submit equipment coloration patterns to the superintendent for approval prior to installation.

3.3.4 Vegetation

Mud, dirt, and plant material will be removed from project equipment, footwear, and clothing prior to traveling to the project area, to minimize the possibility of invasive plants from gaining access to the park.

3.3.5 Cultural Resources

Should historic properties be discovered during project implementation, work in the discovery area will be stopped and the Superintendent will be notified. Procedures would be followed, as per DO-28 and as found in the guiding regulations in 36 CFR 800.13.

3.3.6 Solid Waste

A small quantity of roofing material, wire, tin cans, and styrofoam litter the site. All existing solid waste will be removed from the Lake Clark Pass RCO/WCAM site and disposed at an approved landfill. All solid waste generated from maintenance activities at Lake Clark RCO/WCAM and from construction and maintenance at the two sites at Merrill Pass will be handled and disposed of in accordance with the solid waste management guidelines of the Alaska Department of Environmental Conservation.

3.4 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally Preferred Alternative is the alternative that will promote the national environmental policy expressed in the NEPA section 101(b) of the NPS DO-12 Handbook

and Director's Order (NPS, 2005b). The Preferred Alternative is the action which results in the least damage to the biological resources and environment while protecting, preserving, and enhancing the historic, cultural, and natural resources. Alternative B (Preferred Alternative) is the environmentally preferred alternative because it would provide the widest range of benefits to public safety with minimal wildlife habitat degradation, and effects on visitor experience, natural soundscape, viewsheds, or other undesirable and unintended consequences.

3.5 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM FURTHER CONSIDERATION

No other alternatives were considered or eliminated from further consideration. The FAA selected the Lake Clark RCO Site and Merrill Pass for the WCAMs because of the unique geography, and the established flight paths through both passes for civilian and military aircraft. The Lake Clark RCO site and the two sites in Merrill Pass provide the only practicable alternatives for the WCAMs in this part of the park. Aircraft use of both passes is expected to continue, and possibly increase, as the population grows in Southcentral Alaska. Lake Clark handles five to 10 times the amount of air traffic on an annual basis, compared to Merrill Pass.

3.6 COMPARISON OF ALTERNATIVES

A comparison of the direct, indirect, and cumulative impacts of the alternatives is presented in Table 3-6. The two alternatives in this EA have negligible to minor, direct, indirect, and cumulative adverse impacts to Wilderness values, visitors experience, wildlife, and vegetation. Human-caused sound, most notably from helicopters, is anticipated to have moderate, but temporary adverse impacts on the soundscape over a large area.

Table 3-6 Comparison of Alternatives

Resource Category	Alternative A: Continued Operation of Lake Clark RCO/WCAM (No Action)	Alternative B: Install Two WCAM Systems in Merrill Pass and Continue Use of Lake Clark RCO/WCAM (Preferred Alternative)
Wilderness Values	Alternative A would have temporary, regional, and negligible adverse impacts on wilderness values.	Alternative B would have long-term, regional, and minor adverse impacts on wilderness values.
Visitor Experience	Park visitors encountering the WCAM, or subjected to helicopter noise, would have a diminished experience. Temporary, localized, minor impact on visitor experience would be expected.	Park visitors encountering the WCAM or subjected to helicopter noise would have a diminished experience. Temporary, localized minor impact on visitor experience would be expected.
Visual Resources	Long-term, local, minor adverse impact to visual resources.	Long-term, local, minor adverse impact to visual resources.
Soundscape	Temporary, negligible adverse impact ambient soundscape on a regional level.	Temporary, minor adverse impact on ambient soundscape on a regional level.
Wildlife	Temporary, localized, negligible impact on wildlife by maintenance activities at Lake Clark Pass facility.	Long-term, localized, negligible impact on wildlife from construction and maintenance activities at Merrill and Lake Clark Pass facilities.
Vegetation	Temporary, localized, negligible impacts on vegetation from foot traffic near RCO/WCAM site.	Temporary, localized, negligible impacts on vegetation from foot traffic and installation of two WCAM sites.

Notes:

RCO/WCAM = Remote Communications Outlet/Weather Camera System

RCO = Remote Communications Outlet

WCAM = Weather Camera System

4.0 AFFECTED ENVIRONMENT

The LACL encompasses approximately 4,050,000 acres. The national park contains 2,637,000 acres, and the preserve 1,400,000 acres. Of the total, 2,619,550 acres have been classified as Wilderness.

The LACL can be divided into four distinct physiographic realms: the Cook Inlet coastal region, the Alaska-Aleutian mountain ranges, the foothill and lake regions, and the tundra plains region. The Alaska Range joins the Aleutian Range at the north of the park to form the dominate feature of the park – the Chigmit Mountains. These are rugged mountains carved by glaciers and frost action with deep river canyons between them. There are three active volcanoes in or near the park – Mt. Spur (11,070 feet), Mt. Redoubt (10,197 feet), and Mt. Iliamna (10,016 feet).

Both the Merrill Pass and Lake Clark Pass RCO/WCAM are located in Park Wilderness in alpine and moist tundra at an elevation of approximately 3,500 feet and 1,000 feet,

respectively. Merrill Pass is located approximately 83 air miles northwest of Kenai Alaska, whereas, the Lake Clark RCO/WCAM is located approximately 50 air miles west of Kenai, Alaska.

General discussions of the characteristics of the Lake Clark environment potentially affected by the installation and operation of the Merrill Pass WCAMs, and/or the continued use or decommissioning of the Lake Clark RCO/WCAMs are presented in this section.

4.1 WILDERNESS VALUES

Wilderness areas preserve the primeval and pristine character of wild spaces. Wilderness areas offer exceptional opportunities for solitude or primitive and unconfined recreation. Approximately 2,619,550 acres have been designated as Wilderness.

The LACL Wilderness is the sixth largest unit of the National Wilderness Preservation System in Alaska. The LACL provides outstanding opportunities for Wilderness recreational activities. The northern boundary of the LACL is located approximately 100 miles southwest of Anchorage, accessible only by private air or water charter. Within the LACL boundary, about 507,000 acres are under application under the Alaska Native Claims Settlement Act, and an additional 185,000 acres are nonfederal-owned. Of these acres, the state of Alaska has title to 95,000 acres; the remainder is divided between Cook Inlet Regional Corporation, Nondalton Village Corporation, Iliamna Village Corporation, Pedro Bay Village Corporation, and the Tanalian, Incorporated Native Group (NPS, 2005c).

Wilderness values potentially affected by the installation and operation of the two Merrill Pass WCAMs, and the continued operation of the Lake Clark Pass RCO/WCAMs, are described below.

4.1.1 Solitude and Naturalness

The Wilderness Act of 1964 defines wilderness as areas providing naturalness and outstanding opportunities for solitude, or a primitive and unconfined type of recreation.

The Lake Clark Pass and Merrill Pass are located in designated Wilderness in a remote and rugged area of the Alaska Range. The proposed sites are situated in mountain passes surrounded by snow-capped peaks, overlooking expansive river valleys. Because both passes are located along a general aviation route, these areas are subject to the sights and sounds of passing aircraft.

The naturalness and solitude associated with the Lake Clark Pass is currently diminished by the facilities associated with the existing RCO facility. The three 30-foot tall galvanized towers, solar panels, and equipment shelter, are visible in the pass and from the valley. The sight of facilities in an area devoid of human presence detracts from the area's wilderness setting.

Noises generated from helicopters supporting periodic maintenance activities (up to three round trips a year) temporarily affect the solitude and naturalness of the site. The sights and sounds associated with maintenance activities also diminish wilderness values.

No facilities currently exist in Merrill Pass. The sights and sounds of human presence are generally lacking, except for passing aircraft and the remains of aircraft wreckage.

4.2 WILDLIFE

The park supports several species of large game, including black bear (*Ursus americanus*), brown (grizzly) bear, Dall sheep, moose (*Alces alces*) and caribou. Black bear are found throughout the park and preserve except at higher elevations. Brown bear are common in all habitats with concentrations found in Chinitna Bay along the coast. Moose, the largest of the deer family are found below timberline throughout the park. Dall sheep with an estimated population around 600 individuals are distributed in the higher elevations along the western flank of the Chigmit Mountains. Dall sheep are found in relatively dry country, they frequent a special combination of open alpine ridges, meadows, and steep slopes for escape terrain, feeding, and resting.

Lake Clark is also home to coyote (*Canis latrans incolatus*) and wolves. Wolves are mainly found in the park's mountainous areas, generally below 5,000-feet, in coniferous forests and in open tundra. Red fox and lynx (*Lynx canadensis*) are found throughout the park at almost any elevation, primarily in coniferous-hardwood forests and open tundra. Other fur-bearers include, marten (*Martes americana*), river otter (*Lutra canadensis*), wolverine (*Gulo gulo*), weasel (*Mustela* family), mink (*Mustela vison*), hares (*Lepus sp.*), and beaver (*Castor Canadensis*) (NPS, 2005d).

Over 125 species of birds are found in the Lake Clark Region. The foothills/lake region west of the Chigmit Range and the Chulitna Flats adjacent to Lake Clark, provides important feeding and nesting habitat for migratory and native birds, including waterfowl, shorebirds, raptors, falcons, owls, and songbirds.

4.3 VEGETATION

Large areas of the park are blanketed with snow and ice fields or unvegetated mountainous areas. Alpine tundra is found at elevations between 3,000 and 5,000 feet. Dry tundra, consisting of mostly low, matted alpine plants dominated the vegetation community on the steeper mountain slopes and exposed ridges. Moist tundra, consisting of sedges, grasses, and low shrubs occur on the lower, more gradual slopes. Meadow-like tundra is an extremely productive Arctic/alpine vegetation type, providing summer grazing for caribou, summer and winter grazing for Dall sheep, and nesting habitat for migrating birds.

The mountains around Merrill Pass have very little permanent ice and snow. High elevations have mostly exposed rock with sparse vegetation. The vegetation at Merrill Pass consists of sedge dwarf shrub tundra with mosses, and dwarf willow in thin rocky soils (BEESC, 2005).

Similarly, the mountains around the Lake Clark RCO/WCAM facility have very little permanent ice and snow. The vegetation at this location consists of a mesic graminoid herbaceous shrub tundra community with mosses, grasses, dwarf willow, and green alder stands (BEESC, 2005).

4.4 VISITOR EXPERIENCE

The LACL is open year round with the highest visitation in June through September, and offers the following activities: sightseeing, hiking, camping, backpacking, sportfishing, mountaineering, river running, flightseeing, bird- and wildlife-watching, lake kayaking, photography, fishing vacations at various lodges; and camping for a week at remote lakes, river float trips and hunting. Hunting season in the preserve occurs in the fall and subsistence use in the park occurs year round.

Both WCAM sites in Merrill Pass and the Lake Clark RCO are located in extremely remote Wilderness, fairly isolated from many park visitors. The mountain location, the steepness of the terrain, and lack of established trails, precludes most visitor access. Consequently, the majority of park visitors enjoying the range of activities the park has to offer are not likely to encounter the WCAM sites. Park visitors flightseeing or flying to remote lakes and lodges would encounter the WCAM sites if the aircraft flies through or near the passes.

4.5 NATURAL SOUNDSCAPE

Natural sounds are part of the special places that defines LACL. The natural soundscape is the acoustic component of any park setting that is intended to be managed or appreciated as natural, such as most backcountry and wilderness areas. It includes the natural sounds and their acoustic properties that exist in LACL in the absence of any human-produced noise. The natural soundscape is treated and managed as park resources with truly unique and inherent value, and as an important component of the park experience for visitors.

Background sounds at the existing WCAM at the Lake Clark RCO and the proposed Merrill Pass systems consist largely of natural sound, including wind and rain. Within this setting, sounds of transiting private aircraft navigating through the mountain passes, high altitude commercial airlines, authorized helicopters transporting FAA and/or their contractors to the WCAMs, or aircraft supporting park management operations, can occasionally be heard.

4.6 VISUAL RESOURCES

According to *2001 Management Policies*, the NPS strives to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks. Scenic views and visual resources are considered highly valued associated characteristics that the NPS should strive to protect.

Preservation of visual resources and scenic views are important to retaining the natural setting and feeling for the backcountry visitor in LACL.

The viewshed around both sites in Merrill Pass consists of rugged mountain peaks, green broad valleys, snow-fed rivers absent any man-made structures, but some evidence of anthropogenic change (aircraft wreckage).

The viewshed around Lake Clark Pass consists of unobstructed views of mountain ranges, green river valleys, and absence of any man-made structures except for the RCO/WCAM Site.

5.0 ENVIRONMENTAL CONSEQUENCES

This section discusses the consequences of resource and environmental impact categories of each of the alternatives described in the Purpose and Need for Action.

5.1 METHODOLOGY

The analysis of impacts was conducted in a consistent manner, based on standardized impact definitions. The direct, indirect, and cumulative impact for each issue or resource have been characterized as negligible, minor, moderate, or major. Impacts identified for each issue or resource was based on the duration, extent, and intensity as defined below:

5.1.1 Duration of Impact

Temporary – Impact would occur only during the installation, upgrade or maintenance of the WCAM. During the time period between these activities, resource conditions would return to pre-activity conditions.

Short-Term – The impact would extend beyond the time of installation, upgrade, or maintenance activities, but would not last more than two years.

Long-term – The impact is expected to last more than two years, and may continue beyond the lifetime of the project.

5.1.2 Extent of Impact

Localized – The impact would only occur at the WCAM, or its immediate surroundings, and would not extend into the region.

Regional – The impact would affect the resource on a park or regional level, extending well beyond the immediate WCAM.

National – The impact would affect resources on a national level, extending well beyond the park and region.

5.1.3 Intensity of Impact

Negligible – Minimal or no adverse impact on the resource is anticipated; any change would not be noticeable or measurable.

Minor – Some change in a resource would occur, but no substantial resource impact would result; the change in the resource would be barely perceptible, and would not alter the condition or appearance of the resource.

Moderate – Noticeable change in a resource would occur and the change would alter the condition or appearance of the resource, but the integrity of the resource would remain intact.

Major – Substantial impact to a resource would occur, that are easily defined, highly noticeable, and measurably alters the condition of appearance of the resource.

5.2 CUMULATIVE IMPACTS

Cumulative impacts were assessed by combining the potential environmental impacts of the alternatives with the impacts of current, previous, and future proposed projects in LACL. Known past, present, and reasonably foreseeable future projects and actions within LACL boundary, include 1,775,000 acres excluded from Wilderness designation. About 507,000 acres are under application under the Alaska Native Claims Settlement Act and the Alaska Statehood Act. There are also approximately 185,000 acres of nonfederal-owned land, of which the state of Alaska has title to 95,000 acres and the remainder is divided between the Regional and Village Corporations and the Tanalian Incorporated Native group. Ten thousand acres of small tract holdings include Native Allotments (76), home sites and a farm, nine patented mining claims, and ten 14h (1) cemetery and historical sites.

There are no man-made structures such as cell towers, communications sites, or seismic stations near the existing or the proposed FAA facilities.

Fixed-wing aircraft flights occur on a daily basis in LACL operated by general aviation, air taxi operators, and the NPS. Fixed-wing aircraft routinely fly through Lake Clark Pass and Merrill Pass, and are allowed to fly over and land in designated Wilderness or Wilderness-suitable lands.

Statistics on the total number of aircraft that fly through Lake Clark and Merrill Passes are not available. The passes are used by general aviation, mostly smaller aircraft, such as single- and twin-engine piston aircraft, turbo prop aircraft, light utility, and medium utility helicopters. Many of the commuter aircraft flying through the park are De Havilland, Cessna, Beech, Piper, Bell, and Sikorsky. Noise generated by these aircraft would be heard by park visitors at great distances.

Pilots using the WCAMs will be able to determine if the passes are open before departure, or while enroute to the park rather than fly into the pass and turn around because of poor visibility. Given the increase Alaska's population and growth in the use of small commuter aircraft, it is reasonable to assume that the overall number of aircraft flying through the park will increase. However, the WCAMs will reduce the number of flights through the pass as compared to not having the system in place.

There is one existing WCAM at the RCO at Lake Clark Pass. The footprint of the existing WCAM directly affects approximately 60 square feet. About 22,500 square feet of land (about .52 acres) were cleared at the Lake Clark RCO.

5.3 ALTERNATIVE A: NO ACTION ALTERNATIVE

5.3.1 Wilderness Values

Under the No Action Alternative, the Merrill Pass WCAMs would not be installed and no impact to wilderness values would occur at this site.

The operation and maintenance of the Lake Clark Pass RCO/WCAM would continue. Wilderness naturalness and solitude would be affected by scheduled maintenance activities.

As many as three annual helicopter round trips to the facility would have flight paths over designated Wilderness. Helicopter rotor and turbine, noise can be heard over long distances, and could mask natural sounds and diminish the areas solitude. These sounds would be heard along the helicopter's flight path, as well as at the facility site. The helicopter's flight path from Anchorage would traverse about 3 miles of park land (wilderness) to reach the Lake Clark Pass site. Helicopter noise could be present over portions of three days annually.

The FAA and/or their contractors would be expected to spend up to eight hours per visit at the site to complete maintenance or upgrade equipment (up to three visits annually). The sights and sounds of personnel, equipment, and helicopters, would be temporary (eight hours) and generally confined to the site.

The effects on wilderness naturalness and solitude from maintenance activities would be temporary in duration, extend beyond the immediate RCO/WCAM Site, and have a negligible impact.

5.3.1.1 Cumulative Impacts

Cumulative impacts on wilderness values in the Lake Clark Pass area have resulted from general aviation, the prior installation of the Lake Clark RCO/WCAM, and maintenance of the facility. No structures exist in Merrill Pass. The sights and sounds of human presence are generally lacking, except for passing aircraft and the remains of aircraft wreckage.

Fixed-wing aircraft flights occur on a daily basis in LACL, operated by general aviation, air taxi operators, and the NPS. Fixed-wing aircraft routinely fly through Lake Clark Pass and Merrill Pass, which are in designated Wilderness. The sights and sounds of general aviation activities over wilderness would reduce the areas naturalness and ability to provide solitude.

The naturalness and solitude of Lake Clark Pass is currently diminished by the facilities associated with the existing RCO/WCAM facility. The existing facility affects about 0.52 acres. The four galvanized towers, solar panels, and equipment shelter, are visible in the pass and from the valley. The sight of facilities in an area devoid of human presence detracts from the area's wilderness setting. These impacts are long-term, and will have noticeably altered the condition of wilderness values in the Lake Clark Pass area.

Noises generated from helicopters supporting future periodic maintenance activities (up to three round trips a year) will temporarily affect the solitude and naturalness of the site. The sights and sounds associated with maintenance activities also will temporarily diminish wilderness values.

The cumulative impacts of general aviation, the existing Lake Clark RCO, and the maintenance of the facility, are of long-term duration, regional in nature, extending beyond the WCAM site, and moderate in intensity, altering the condition of the resource, but the integrity would remain intact. Most of the impacts would be associated with the sights and sounds of general aviation activities, rather than the RCO/WCAM site.

5.3.1.2 Conclusion

Alternative A would have temporary, regional, and negligible, adverse impacts on wilderness values. The level of impact on wilderness will not result in any impairment of park resources, fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.3.2 Wildlife

Impacts to wildlife at the Lake Clark Pass RCO/WCAM site include: habitat loss, an increase risk of bird collisions with the towers and guy wires, and displacement of wildlife during maintenance activities.

The FAA staff and/or their contractors would cause temporary, localized, and negligible displacement of wildlife while on site performing equipment repairs or maintenance. The RCO/WCAM site is located within the range of brown bear, red fox, and Dall sheep. No known brown bear dening or feeding habitat is proximate to the project site. Use of this area by brown bear or red fox would be incidental. Brown bear and red fox tend to concentrate in the river valleys where food and shelter are more readily available. Wildlife disturbance and displacement would be temporary, as upgrades and/or maintenance are expected to be completed in less than one day.

Impacts to avian resources at the existing Lake Clark RCO/WCAM site would continue under the No Action Alternative. On the basis of the best available information, the potential for migratory birds, raptors, and resident bird species striking the towers and the guy wires at the Lake Clark FAA facility would be unlikely. Ninety percent of all bird strikes occur near airports. Bird strikes are more commonly associated with lighted towers, or facilities located near known raptor or waterbird concentration areas, daily movement routes in major diurnal migratory bird movement routes, or at stopover sites (USFWS, 2000). Studies investigating the potential for bird strikes at this site have not been conducted. Quantitative information on the use of this mountain pass by migratory waterfowl, waterbirds, raptors, and passerines is not available.

Technical specialists conducting maintenance and repairs of this facility have not reported any incidence of avian strikes as evident by the presence of bird carcasses. In the event bird mortalities are occurring at this site, it is very likely red fox (*Vulpes vulpes*), brown bear, or other mammals would scavenge the avian remains, leaving no trace behind. Based on these reports, visual markers to mitigate bird strikes have not been installed at this site.

5.3.2.1 Cumulative Impacts

The existing facility would have long-term, localized, and negligible impact to wildlife habitat. The alpine habitat surrounding the Lake Clark site could support Dall sheep. Dall sheep are typically found above tree line, using a combination of open alpine ridges, meadows, and steep slopes, with rugged escape habitat. They are known to use the meadows and steep slopes for feeding and resting (ADFG, 2005b). The footprint for the three towers and equipment shelter foundations is approximately 60 square feet or 0.001 acres. An area

approximately 150 by 150 feet around the existing RCO/WCAM site has been cleared by the U.S. military, creating a maximum footprint for this facility of 22,500 square feet or 0.52 acre.

The presence of field technicians, maintaining or repairing station equipment, may cause localized, temporary displacement of wildlife such as brown bear, red fox (*Vulpes vulpes*), and Dall sheep. The cumulative effects of the Lake Clark Pass RCO/WCAM would be long-term, localized, and negligible.

5.3.2.2 Conclusion

Alternative A would have temporary, localized, and negligible, adverse impacts on wildlife, habitats, and on avian resources. The level of impact on wildlife would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.3.3 Vegetation

Impacts to dryas sedge dwarf shrub tundra vegetation at the existing RCO/WCAM site would continue under the No Action Alternative. Trampling of tundra by field crews servicing the equipment or maintaining the landing area for the helicopter would continue. The area of vegetation trampling from foot traffic during maintenance, repair, or upgrades is expected to remain at its current level of approximately 22,500 square feet. These disturbances would be temporary, localized, and negligible because servicing or upgrading equipment would likely only require one day at the site three times a year.

5.3.3.1 Cumulative Impacts

The vegetation in Lake Clark Pass is almost exclusively affected by the existing Lake Clark RCO/WCAM. The Lake Clark Pass facility would have long-term, localized, and negligible impact to vegetation. The footprint for the three towers and equipment shelter foundation is approximately 60-square-feet or 0.001 acres. An area approximately 150 by 150 feet around the existing RCO/WCAM site has been cleared by the FAA creating a maximum footprint for this facility of 22,500-square-feet or 0.52 acre. The cumulative impact of field technicians maintaining or repairing station equipment over the life of the facility would be negligible.

5.3.3.2 Conclusion

Alternative A would have temporary, localized, and negligible adverse impacts on tundra vegetation. The level of impact on vegetation would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.3.4 Natural Soundscape

Impacts to the natural soundscape of the park would continue under Alternative A. The FAA and/or their contractors would be expected to spend up to eight hours per visit at the site to complete maintenance or upgrade equipment at the Lake Clark Pass RCO/WCAM (up to three visits annually). The sounds of personnel, equipment and helicopters would be

temporary, lasting up to eight hours per visit. Helicopter noise could be present over portions of three days annually. Helicopters produce noise that can be heard over long distances which could mask natural sounds and diminish the natural soundscape. These sounds would be heard along the helicopter's flight path as well as at the facility site. The helicopter's flight path from Anchorage would traverse about 3 miles of park land to reach the Lake Clark Pass site. The natural soundscape would return to ambient conditions immediately after helicopter operations transient the park. Alternative A would have temporary, regional, and negligible adverse impacts on natural soundscape.

5.3.4.1 Cumulative Impacts

The existing RCO/WCAM has directly affected the natural soundscape of the park. The noise generated by general aviation and helicopters transporting personnel would cause temporary, regional, and moderate adverse impacts to the natural soundscape. However, given the infrequency of the helicopter flights, the noise generated by helicopter is not anticipated to significantly add to noise generated by aircraft flying through the mountain passes on a daily basis. It is unknown if the continued operation of the RCO/WCAM would change the number of small general aviation aircraft flying through the pass.

5.3.4.2 Conclusion

Alternative A would have temporary, regional, and negligible, adverse impacts on natural soundscape. The level of impact on natural soundscape would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.3.5 Visual Resources

Impacts to visual resources in Lake Clark Pass would continue under Alternative A. The towers, solar panels and equipment shelter at Lake Clark Pass RCO would be visible to park users on a clear day. Backcountry visitors in the lower valley would likely see the towers, solar panels, and equipment shelter, during the summer.

The Lake Clark RCO would also be visible from the air by low-flying commercial aircraft and air taxi operators. If flagging of the guy wires is required to reduce bird strikes, it would enhance the visibility of the site from land and air.

The visibility of the RCO/WCAM site depends on seasonal and lighting conditions. Most of the colors of the RCO/WCAMs are black, white, or galvanized (silver). The steel supports of the foundation for the Lake Clark RCO are red.

During the snow-free months, these colors appear more visible because they contrast with the surrounding green landscape, and there is more daylight. During the winter, snow would bury the red steel foundation and the remaining structure; the solar panels and equipment shelter would have a tendency to blend into the white and gray landscape of the pass during the day.

Alternative A (No-Action) would result in long-term, localized, and minor adverse impacts on visual resources.

5.3.5.1 Cumulative Impacts

The visual resources in Lake Clark Pass are almost exclusively affected by the existing Lake Clark RCO/WCAM. Alternative A would not change the feeling, character, or setting associated with the viewshed. The visual resources of the Lake Clark Pass are also affected by wreckage from small, piston-driven aircraft. The total number of wrecks occurring in or near the pass would be expected to remain about the same under this alternative. The improvements in aviation safety provided from the WCAM site in Lake Clark should reduce the number of new crash sites in the park. Long-term, local, and minor adverse cumulative impacts on viewsheds in the park would continue.

5.3.5.2 Conclusion

Alternative A would have a long-term, localized, and minor adverse impacts on visual resources in the park. The level of impact on visual resources would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.3.6 Visitor Experience

Most park visitors would not directly encounter the Lake Clark RCO/WCAM because of its remote location in the Alaska Range. The facility would have a temporary, localized, and minor effect on visitor experience.

Maintenance activities could result in up to three helicopter round trips per year to the facility. The visitor experience for backpackers, hikers, photographers, and hunters in Lake Clark Pass could be diminished by the sight and sound of helicopter flights.

Helicopter noise would be heard along the helicopter's flight path as well as at the facility site. The helicopter's flight path from Anchorage would traverse about 3 miles of park land to reach the Lake Clark Pass site. Helicopter noise would have a temporary (lasting the duration of the trip), localized, minor effect on a visitors experience occurring over the life of the project.

5.3.6.1 Cumulative Impacts

The visitor experience in Lake Clark Pass would be almost exclusively affected by the existing Lake Clark RCO/WCAM. Alternative A would have temporary, localized, and minor adverse cumulative impacts on visitor experience in the park.

5.3.6.2 Conclusion

Alternative A would have temporary, localized, and minor adverse impacts on visitor experience.

5.4 ALTERNATIVE B: PREFERRED ALTERNATIVE

5.4.1 Wilderness Values

Under Alternative B, two WCAMs would be installed in Merrill Pass and the operation and maintenance of the Lake Clark RCO/WCAM would continue.

The naturalness and solitude associated with Merrill Pass would be diminished by the development of two WCAMs. The two facilities would each contain two or three 30-foot-tall galvanized towers, solar panels, and an equipment shelter, and have a footprint of about 60 square feet. Both facilities would be visible in the pass and from the valley. The sight of these facilities in an area devoid of human presence would detract from the area's natural wilderness setting. Facility construction would require about 40 round-trip helicopter flights and about 150 hours of on-site construction. The helicopter's flight path from Anchorage to Merrill Pass would traverse about 14 miles of park land (wilderness). Helicopters likely would fly from Kenibuna Lake on the park's eastern boundary through the Another River valley to Merrill Pass. During this time the sights and sounds of construction activities would diminish wilderness values. Impacts associated with the facility would be long-term, and would noticeably alter the condition of wilderness values in the Merrill Pass area (minor effect).

The operation and maintenance of the Lake Clark Pass RCO/WCAM and two Merrill Pass WCAMs would affect wilderness values. Wilderness naturalness and solitude would be affected by scheduled maintenance activities. As many as nine helicopter roundtrips to the two sites in Merrill Pass and Lake Clark RCO/WCAM may be required for repair and maintenance annually. The helicopter's flight path from Anchorage would traverse about 3 miles of park land to reach Lake Clark Pass and about 14 mile of park land to reach Merrill Pass. Helicopters produce noise that can be heard over long distances, which could diminish the naturalness and solitude of both areas. These sounds would be heard along the helicopter's flight path, as well as at the facility site. Helicopter noise could be present over portions of nine days annually.

The FAA and/or their contractors would be expected to spend up to eight hours per visit at the site to complete maintenance or upgrade equipment (up to nine visits annually). The sights and sounds of personnel, equipment and helicopters would be temporary (eight hours per visit) and generally confined to the site.

These intrusions on solitude and naturalness from operation and maintenance activities would be temporary in duration, and extend beyond the immediate WCAM sites, but have a negligible impact on wilderness values.

5.4.1.1 Cumulative Impacts

Cumulative impacts on wilderness values in the Lake Clark and Merrill Pass areas would result from general aviation, the prior installation of the Lake Clark Pass RCO/WCAM, installation of the Merrill Pass WCAMs, and future maintenance of these facilities.

Fixed-wing aircraft flights occur on a daily basis in LACL by general aviation, air taxi operators, and the NPS. Fixed-wing aircraft routinely fly through Lake Clark Pass and Merrill Pass, which are in designated Wilderness.

The naturalness and solitude associated with Lake Clark Pass is currently diminished by the facilities associated with the existing RCO/WCAM. The existing facility affects about 0.52 acres. The four galvanized towers, solar panels, and equipment shelter, is visible in the pass and from the valley. The sight of man-made facilities in an area devoid of human presence detracts from the area's wilderness setting. These impacts would be long-term and have noticeably altered the condition of wilderness values in the Lake Clark Pass area.

The naturalness and solitude associated with Merrill Pass would be diminished by the development of two WCAMs. Impacts associated with facility development would be long-term, and would noticeably alter the conditions of wilderness values in the Merrill Pass area (minor effect).

Noises generated from helicopters supporting future maintenance activities at both sites (up to nine round trips a year) would temporarily affect the solitude and naturalness of the areas. The sights and sounds associated with maintenance activities would also temporarily diminish wilderness values.

The cumulative impacts of general aviation, the existing Lake Clark RCO/WCAM, two WCAMs in Merrill Pass, and future maintenance of the both facilities, would be of long-term duration, regional in nature, extending beyond the WCAM sites, and moderate in intensity, altering the condition of the resource, but the integrity of the resource would remain intact. Most of the impacts would be associated with the sights and sounds of general aviation activities rather than the WCAM sites.

5.4.1.2 Conclusion

Under Alternative B, the WCAM facilities would have long-term, local, and minor adverse impacts on wilderness values. Impacts from maintenance activities, including helicopter flights, would have temporary, regional, and negligible impacts on wilderness values. The level of impact on wilderness would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.4.2 Wildlife

Impacts to wildlife at the Lake Clark RCO/WCAM site would continue, and additional impacts to wildlife would result with the installation of the WCAM at Merrill Pass. The Merrill Pass installations would require about 40 round-trip helicopter flights, and 150 hours of construction time. The FAA staff and/or their contractors would cause temporary, localized displacement of wildlife while on site performing equipment repairs or maintenance. Possible upgrades to existing equipment would also temporarily displace wildlife close to the WCAM sites during installation. These disturbances would be temporary, as upgrades and/or maintenance would likely be completed in less than one day.

The WCAM sites will have long-term, localized, and negligible impact to wildlife habitat. The total footprint, for the foundations for the tower arrays and three equipment shelters supported on steel framework, is approximately 180 square feet or 0.004 acres. An area approximately 150 by 150 feet around the RCO/WCAM site at Lake Clark Pass has been cleared, creating a maximum footprint for this site of 22,500 square feet or 0.52 acre. No site clearing will be required at either site in Merrill Pass for the installation of the proposed WCAM. The footprint of additional equipment would also directly impact wildlife habitat in the long-term, but the area of habitat loss would be negligible.

On the basis of the best available information, the potential for migratory birds, raptors, and resident bird species striking the towers and the guy wires at the Lake Clark and Merrill Pass facilities would be unlikely (see Alternative A).

5.4.2.1 Cumulative Impacts

Under this alternative, the continued operation of the existing RCO/WCAM at Lake Clark and the installation of the two WCAMs in Merrill Pass, would directly affect about 0.52 acres of wildlife habitat. The presence of field technicians maintaining or repairing station equipment would cause localized, temporary displacement of wildlife, such as brown bear, red fox, and Dall sheep. The cumulative effects would be long-term, localized, and negligible.

5.4.2.2 Conclusion

Alternative B would have long-term, localized, and negligible adverse impacts on wildlife populations and their habitats. The level of impact on wildlife would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.4.3 Vegetation

Construction of the two Merrill Pass WCAMs would impact dwarf willow, sedge, and several species of mosses. The footprint for the foundations for the towers and equipment shelter at each site is approximately 60 square feet or 0.001 acres. The WCAM facilities in Merrill Pass would be temporary, localized, and negligible impact on vegetation.

Trampling of tundra by field crews servicing the equipment or maintaining the landing area for the helicopter would occur at the Lake Clark and Merrill Pass sites. These disturbances would be temporary, localized, and negligible.

5.4.3.1 Cumulative Impacts

The footprint of the Lake Clark RCO/WCAM and additional clearing/disturbance around this site has directly affected about 0.52 acres of tundra vegetation. The two proposed Merrill Pass sites would each impact an additional 0.001 acres of tundra vegetation, for a total direct maximum impact of 0.52 acres for all three sites. Long-term, localized, and negligible impacts would result from the loss of vegetation at the existing Lake Clark Pass site. The presence of field technicians maintaining or repairing communication equipment may cause additional temporary, localized, and negligible adverse impacts to vegetation.

5.4.3.2 Conclusion

Alternative B would have temporary, localized, and negligible adverse impacts on tundra vegetation. The level of impact on vegetation would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.4.4 Natural Soundscapes

The construction of two WCAMs in Merrill Pass, and maintenance activities at these sites and at the Lake Clark Pass RCO/WCAM site, would affect the natural soundscape of the area.

The Merrill Pass installations would require about 40 round-trip helicopter flights and 150 hours of construction time. The 40 round-trip helicopter flights would diminish the area's natural soundscape. Helicopters produce noise from rotors and turbine engines that can be heard over long distances, which could mask natural sounds and diminish the natural soundscape. These sounds would be heard along the helicopter's flight path, as well as at the facility site. The helicopter's flight path from Anchorage to Merrill Pass would traverse about 14 miles of park land. Helicopters likely would fly from Kenibuna Lake on the park's eastern boundary through the Another River valley to Merrill Pass. The natural soundscape would return to ambient conditions immediately after helicopter operations cease or transient the park. Facility construction in Merrill Pass would take about 150 hours. During this time the sounds of personnel and equipment would be heard in a localized area around the site.

The FAA and/or their contractors would be expected to spend up to eight hours per visit at the site to complete maintenance or upgrade equipment, at the Lake Clark Pass RCO/WCAM and the two Merrill Pass WCAM sites (up to nine visits annually). The sounds of personnel, equipment and helicopters would be temporary, lasting up to eight hours per visit. Helicopter noise could be present over portions of nine days annually. The helicopter's flight path from Anchorage would traverse about 3 miles of park land to reach Lake Clark Pass and about 14 mile of park land to reach Merrill Pass. Activities associated with Alternative B would have temporary, regional, and minor adverse impacts on natural soundscape.

General aviation using the passes, would degrade the natural soundscape of the park. However, because of the improvements provided by the WCAMs, the number of aircraft flying through the park may actually decrease during periods of low visibility. Pilots would be less likely to fly through the park when the passes are marginal. This would result in less aircraft traffic and reduce the noise impacts to the natural soundscape.

5.4.4.1 Cumulative Impacts

Noise from helicopter operations supporting the existing Lake Clark RCO/WCAM and the proposed Merrill Pass WCAMs would directly affected the natural soundscape in the vicinity of the sites, and flight paths enroute to the sites. The noise generated by helicopter flights supporting WCAM operations is not anticipated to significantly add to noise generated by aircraft flying through the mountain passes on a daily basis. The noise generated by general aviation and helicopters transporting personnel would cause temporary, regional, and moderate adverse impacts to the natural soundscape.

5.4.4.2 Conclusion

Alternative B would have temporary and minor adverse impacts on the natural soundscape, extending well beyond the immediate WCAM sites. The level of impact on natural soundscape would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.4.5 Visual Resources

Impacts to visual resources at the existing RCO/WCAM site would continue (see Alternative A), and additional impacts to visual resources would occur from the construction and operation of the WCAMs in Merrill Pass.

The towers, solar panels, and equipment shelter, at both Merrill Pass sites would be visible to park users on a clear day. Backcountry visitors in the lower valley would likely see the towers, solar panels, and equipment shelter during the summer.

The sites would also be visible from the air by low-flying commercial aircraft and air taxi operators. The visibility of the sites would depend on the season and lighting conditions. Most of the colors of the WCAMs are black, white, or galvanized (silver). During the snow-free months, these colors appear more visible because they contrast with the surrounding green landscape and there is more daylight. During the winter, snow would bury the red steel foundation, and the remaining structure, solar panels, and equipment shelter, would have a tendency to blend into the white and gray landscape of the pass during the day.

Overall, the WCAMs at Lake Clark Pass and Merrill Pass would have long-term, local, and minor impacts to visual resources.

5.4.5.1 Cumulative Impacts

The visual resources of Lake Clark and Merrill Passes would be almost exclusively affected by the WCAM. The visual resources of both passes are affected by wreckage from small, piston-driven aircraft. The improvements in aviation safety provided from the WCAM site in Lake Clark should reduce the number of new crash sites in the park. Long-term, local, and minor adverse cumulative impacts on the passes viewsheds would continue.

5.4.5.2 Conclusion

Alternative B would have long-term, local, and minor adverse impacts on visual resources. The level of impact on visual resources would not result in any impairment of park resources fulfilling specific purposes identified in LACL enabling legislation, or that are essential to the cultural integrity of the park and preserve.

5.4.6 Visitor Experience

Some impact to visitor experience would occur under Alternative B. Visitor use of the park would largely be unaffected by the continued operation of the RCO/WCAM in Lake Clark

Pass and the WCAM in Merrill Pass. Most park visitors would not be expected to directly encounter any of the three sites because of their remote locations in the Alaska Range. The presence of the RCO and WCAM equipment would slightly diminish the visitor experience of those encountering the sites. The facilities would have a temporary, localized and minor effect on visitor experience.

Maintenance activities could result in up to nine helicopter round trips per year to the facilities. The visitor experience for backpackers, hikers, photographers, and hunters could be diminished by the sight and sound of helicopter flights. Helicopter noise would be heard along the helicopter's flight path, as well as at the facility site. The helicopter's flight path from Anchorage would traverse about 3 miles of park land to reach Lake Clark Pass and about 14 mile of park land to reach Merrill Pass. Helicopter noise would have a temporary (lasting the duration of the trip), localized, minor effect on a visitors experience. However, these effects would occur over the life of the project.

5.4.6.1 Cumulative Impacts

The visitor experience in Lake Clark and Merrill Passes would almost exclusively be affected by the existing and proposed WCAMs. Temporary, localized, and minor adverse cumulative impacts on visitor experience would be expected in the park.

5.4.6.2 Conclusion

Alternative B would have temporary, localized, and minor adverse impacts on park visitors.

6.0 CONSULTATION AND COORDINATION

6.1 AGENCY SCOPING

Letters were sent to U.S. Fish and Wildlife Service (USFWS) and the State Historic Preservation Officer (SHPO) requesting scoping level comments for the preparation of this EA. No comments were received from SHPO.

Comments were received from the USFWS with regards to the Threatened and Endangered Species Act and the Migratory Bird Treaty Act (MBTA). No federally listed or proposed species, or designated or proposed critical habitat was identified within the action area. With regards to MTBA, the USFWS recommended a review of any available information on bird migration within the Lake Clark area and provided articles and web sites for information on bird strikes and related issues.

7.0 LIST OF PREPARERS

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