

National Park Service
U.S. Department of the Interior

Denali National Park and Preserve
Alaska



Finding of No Significant Impact

Telecommunications and Climate Monitoring

August 2013

Recommended:


Superintendent, Denali National Park and Preserve

8/13/13
Date

Approved:


Regional Director, Alaska

8/20/13
Date

FINDING OF NO SIGNIFICANT IMPACT

Telecommunications and Climate Monitoring Denali National Park and Preserve, Alaska August 2013

The National Park Service (NPS) prepared an environmental assessment (EA) to evaluate impacts of establishing or upgrading telecommunications systems at several locations and adding new weather stations in Denali National Park and Preserve (DENA).

The NPS has selected **Alternative 3 – Wireless Network w/ Eielson Bench and Three Met Stations** (Preferred Alternative), with the mitigation measures. Under Alternative 3, the park will continue to use, maintain or permit grandfathered or approved park radio repeater sites and seismic installations and will continue to use wireless repeater sites tested over the past few years. Three new weather stations will be installed.

Responses to public comments are found in Attachment A.

ALTERNATIVES

The following three alternatives were evaluated in the EA.

Alternative 1, No Action (Environmentally Preferable Alternative)

Under the No Action alternative, there would be continued use and maintenance of grandfathered or approved park radio repeater sites at Healy Ridge, Savage, Thoro Ridge, Wickersham Dome, VABM Broad near Cantwell, and Tokosha Ridge. Seismic stations would continue to be co-located and operated at Thoro Ridge, Wickersham Dome, Tokosha Ridge, and at Castle Rocks, and a seismic relay station would continue on the Northeast Knob of Double Mountain. Test repeater equipment would be removed from wireless-only sites at Double Mountain, East Branch Ridge and Herning Cabin and the wireless equipment from Thoro Ridge and Wickersham Dome would also be removed. No new permanent weather stations would be installed.

Alternative 2, Wireless Network w/ VABM Muldrow and Two Met Stations.

Under Alternative 2 the park would continue to use, maintain or permit grandfathered or approved park radio repeater sites and seismic installations. The park would continue use of the Savage Repeater, continue to operate a seasonal radio repeater on Mount Crosson for Mount McKinley ranger/rescue operations, and operate a radio repeater on the West Fork of the Yentna as needed for hunting patrols.

For improved internet connectivity and voice communication, the park would continue to use the test repeater on the East Branch Ridge for wireless communications to the Toklat Road Camp, use the test repeater on the top of Double Mountain, move the Herning Cabin test repeater equipment to a new site at Muldrow VABM, adjust the location of the Wonder Lake Campground repeater, add new solar panels and batteries and larger

shelters as necessary, move the existing Double Mountain seismic relay site when feasible to co-locate with the new wireless installation on the top of the peak, co-locate facilities where possible, such as sharing towers, huts and battery power storage.

A Remote Automated Weather Station (RAWS) would be installed in the Toklat Basin at a site named Wigand at 1,700 feet elevation north of the Old Park boundary and west of the East Fork of the Toklat River. The station would be powered with batteries that are charged with a 75 watt solar panel. The tripod height is 3 m and would be anchored at each leg with rebar pegs that are approximately 0.5 m long. The feet of the tripod would be placed on 50 cm x 50 cm square pieces of plywood so the station does not sink. The station would be surrounded with an electric fence to discourage bears. The fence would have 4 metal stake posts and three strands of poly wire - the fence would be charged by a separate solar panel/battery set-up that hangs on the fence post.

Researchers from the University of Alaska, Fairbanks (UAF) would install a small weather station at the 16,200 feet elevation on Mt. McKinley. The station would include instruments in a small box on a 1-1/2" metal pipe about 3 feet tall, with three wire stays anchored to exposed bedrock. The station would be installed on the ridgeline just above the fixed lines above Windy Corner. Over a five year period UAF would teach park mountaineering rangers how to best maintain the station and then full maintenance would be turned over to the NPS.

The total area of impact would be approximately 310 square feet.

Alternative 3 – *Wireless Network w/ Eielson Bench and Three Met Stations* (NPS Preferred Alternative) (Selected Alternative)

Under Alternative 3, all of the actions proposed for Alternative 2 would be undertaken, except that 1) the NPS would move the Herning Cabin test repeater equipment to a site (Eielson Bench) between the Herning Cabin and the Thorofare River where the hut and solar panels would be invisible from the Eielson Visitor Center and from the Herning cabin if possible, and 2) researchers from UAF would install a second small weather station on Mt. McKinley in the vicinity of the 17,200 foot elevation camp (high camp) that is the common launch point for summit climbers. Over a five year period UAF would teach park mountaineering rangers how to best maintain the station and then full maintenance would be turned over to the NPS.

The total area of impact would be approximately 310 square feet.

PUBLIC INVOLVEMENT

The EA was issued for public review and comment from May 9, 2013 to June 8, 2013. Paper copies of the EA, or notices of the EA's availability, were sent by mail or email to over 200 government agencies, interest groups, and individuals. The EA was posted on the NPS Planning, Environment, and Public Comment (PEPC) website and on the park's webpage. The park issued a press release about the availability of the EA and the open comment period on May 9, 2013. Six written comments were received. All of the

comments generally favored an action alternative, while three of the comments requested additional mitigation and two of the comments questioned the need for wireless communication to the Eielson Visitor Center.

The public comments received did not change the conclusions in the EA about the environmental effects of the action. The NPS responses to substantive public comments are found in Attachment A.

DECISION

The NPS decision is to select a modified **Alternative 3, Wireless Network w/ Eielson Bench and Three Met Stations**, along with the mitigating measures. Three modifications are fully described in the Errata in Attachment B. Briefly these include the following changes to alternative 3 based on public comments. The 17,200-foot elevation met station on Mt. McKinley will only be installed if the 16,200-foot station is successfully installed and maintained and additional weather information is deemed necessary at the high camp area. The Eielson Bench wireless communications site will be moved to VABM Muldrow if visitors complain about its location or grizzly bears damage or destroy the installation. The Toklat Basin met station tower will be 6 meters high instead of the proposed 3 meters because of data transmission needs.

Mitigating Measures

The following mitigation measures apply to the selected alternative, **Alternative 3, Wireless Network w/ Eielson Bench and Three Met Stations**:

Permits – Research permits for seismic and repeater installations will be issued to UAF-Geophysical Institute and UNAVCO, Inc. for five years, renewable upon a detailed project review. A research permit details the permitted station location, limits of installation, and use of the NPS facilities and other locations to safely manage fuel and landing of helicopters in the park. If any significant upgrades to stations are proposed, then additional environmental and cultural compliance will be required. The research permit will require annual investigator reports and annual coordination with the NPS for a helicopter schedule and flight paths. Similar stipulations will be required in a permit to UAF for installation of weather stations on Mt. McKinley.

Visual Resources - The huts and equipment towers will be painted to blend in with the site.

Cultural Resources – Each site will be visited and surveyed for cultural resources. If during construction, previously unknown archaeological resources were discovered, all work in the immediate vicinity of the discovery will be suspended until the resources could be identified and documented and, if the resources cannot be preserved *in situ*, an appropriate mitigation strategy will be developed in consultation with the State Historic Preservation Officer (SHPO) in accordance with the National Historic Preservation Act NHPA and its implementing regulations (36 CFR 800.13). The Native American Graves

Protection and Repatriation Act (NAGPRA) requires that if inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the Superintendent, as well as the appropriate Native American group(s) and SHPO.

The park has completed its determination of “No Adverse Effect” pursuant to NHPA Section 106 requirements and NPS policies and awaits SHPO concurrence. The determination is conditional on having each existing and new site surveyed and no historic properties/adverse effects found at each site. This survey will be conducted before installation at new sites or when the next scheduled maintenance is conducted at existing sites.

Wilderness – NPS and permittees will keep records of the number of helicopter trips used to install and maintain the radio, wireless, weather and seismic stations. To reduce visual impacts to park scenery, new shelter boxes and equipment towers will be painted to blend with the surrounding environment. To reduce the impacts to designated and eligible wilderness areas all existing and future telecommunications equipment will be co-located with NPS radio repeaters to the extent feasible, and generally within 100 feet. Examples of other equipment requiring telecommunications relays are seismometers, wireless internet sites, concessioner bus radio networks and Global Positioning Systems (GPS) stations. When viable technological solutions for internet and voice communications become available that are not dependent on installations in wilderness, those installations will be removed.

Wildlife – The helicopters will fly using existing protocols to keep impacts to a minimum.

Visitor Use and Aesthetics -To reduce noise impacts on park visitors to the extent possible, helicopter operations will be conducted before and after peak summer visitation, particularly for access to sites near the Denali Park Road between June 15 and August 15.

Rationale for the Decision

The selected action (**Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations***), will satisfy the purpose and need of the project better than other alternatives. In addition to establishing basic radio and seismic-monitoring installations during the last century in the DENA backcountry to assist in life-safety and basic park administration, alternative 3 provides the minimum facilities necessary for upgrading technology to efficiently support visitor protection and services, resources management, research, education, park administration, and facilities maintenance. Alternative 3 will improve or establish internet connectivity and voice connections with remote sites within the park and will allow for more efficient and effective administration of the park with increasing reliance on internet based management applications. These applications include building control systems at the Eielson Visitor Center, reporting systems, and timely distribution of information. Internet, including Voice over Internet Protocol (VoIP) access can reduce the need for staff to drive the park road to reach a phone or internet connection. The

Denali Dispatch Center provides dispatch services for all 17 national park units in Alaska. Providing reliable telephone service reduces radio traffic freeing up Dispatchers so that they can provide their critical dispatch services to all of the parks in the region. This wireless internet connectivity is needed to meet the NPS goals to globally share information about DENA including connections with scientific instruments in remote field locations to integrate research discoveries with visitor education and schools through videoconferencing and distance learning capability. As technologies change, this alternative will include the possible addition of solar panels and batteries to meet new power needs along with replacement huts, radios, and antennas. Helicopter flights to service the installations will be scheduled to partner with other administrative duties when possible. Driving or hiking to some sites will be possible depending on weather and repair equipment necessary to be carried. Alternative 3 will allow for new weather stations high on Mt. McKinley to help local and continental weather prediction and in the Toklat Basin to monitor a large area where the permafrost is thawing due to climate change. The second weather station on Mt. McKinley will be authorized upon a finding that the instruments at the first weather station are fully functional and that the second station will provide essential data not provided by the first station.

Alternative 1, *No Action*, would not accomplish the purpose and need of the project. Though the visitor safety radio system and seismic network would remain, communications necessary for park operations – including facilities management, resources management and staff training– would not meet agency reporting requirements and timelines and modern efficiency standards and would require more vehicle trips on the park road

Alternative 2, *Wireless Network w/ VABM Muldrow and Two Met Stations*, would accomplish the purpose and need of the project by approving the minimum number of installations necessary to support an in-park wireless internet and voice system and to approve new weather stations in critical landscapes. This alternative, however, would place the wireless repeater needed for communication with the Eielson Visitor Center at a location that could not be walked to in a reasonable amount of time, requiring that all maintenance to that installation be done via helicopter trips. It also would not authorize a second weather station on Mt. McKinley that could help provide a more generalized representation of the high altitude weather patterns.

Significance Criteria

The selected alternative, *Wireless Network w/ Eielson Bench and Three Met Stations*, with modifications, will not have a significant effect on the human environment. This conclusion is based on the following examination of the significance criteria defined in 40 CFR Section 1508.27.

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

The EA evaluated the effects of Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations*, on vegetation and soils, wildlife and habitat, natural soundscape, cultural resources, visitor use and aesthetics, wilderness and park operations. As documented in the EA, Alternative 3 will have a minor effect on the area's vegetation and soils, wildlife and habitat, natural soundscape, cultural resources, visitor use and aesthetics, and a moderate impact on wilderness, while having a moderate beneficial effect on park operations by providing improved interpretive and educational services and staff communications capability and by providing weather data from critical sites. There will be no restriction of subsistence uses.

(2) The degree to which the proposed action affects public health or safety.

The selected alternative will have a beneficial effect on public health and safety because there will be alternate or additional communication capability during incidents and additional online weather data of local park conditions that may inform visitor travel decisions.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetland, wild and scenic rivers, or ecologically critical areas.

The installations will be located in a national park. The installation sites will all be examined for cultural resources before new construction or existing site enhancements. There will be a minor beneficial impact to the cultural resources of the area by removing wireless equipment from the Herning Cabin, which has been declared eligible for the National Register of Historic Places. A negligible amount of non-unique wildlife habitat is involved with these sites. Project sites are often located in wilderness and do not directly ensure the preservation of wilderness character; however, they do support public purposes in wilderness of recreation, science, education, and conservation, and public safety.

(4) The degree to which effects on the quality of the human environment are likely to be highly controversial.

The effects on the quality of the human environment will not be controversial. The NPS sent the EA to over 200 agencies, organizations, and individuals for public review. Only six comment letters were received. The environmental analysis concluded that the proposed facilities will have no more than minor to moderate adverse impacts on park resources. Similar effects will attend any of the action alternatives, due to the need to have clear line of sight between repeaters for wireless transmission purposes.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The environmental effects of the selected alternative (Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations*) do not involve unique or unknown risks. The

mitigations and best management practices included with this decision will minimize risks to the public or wildlife populations.

(6) The degree to which the action may establish a precedent of future actions with significant effects or represents a decision in principle about a future consideration.

Enough testing of the wireless system occurred to reasonably predict that the number of sites in the selected alternative was the minimum number required to support the system. New technology could expand system power requirements so that additional solar panels will be needed, but new panels will rarely make the sites more visible. Any new type of technology or system that proposes to use the installation sites approved here will be evaluated in a public process.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The EA evaluated the placement of 5 new installations in designated wilderness and one in eligible wilderness. These are the first new installations in wilderness – aside from rebar to mark research plot corners - since a seismometer and a radio repeater for seismic data were installed 10 years ago. The need for new telecommunications facilities to keep up with changes in technology used in park operations will remain unpredictable, but no additional facilities are planned at this time. The need for resource monitoring that requires facilities, such as climate monitoring stations, also responds to changes in technology and network spacing requirements, but no new facilities in wilderness are planned at this time. Thus impacts from reasonably foreseeable future projects are not anticipated at this time and past actions in wilderness at DENA have not had a significant impact on the environment.

(8) Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The park has determined “No Adverse Effect” is likely in its Section 106 compliance for the proposal and is seeking concurrence from SHPO. The determination is conditional on having each existing and new site surveyed and no historic properties/adverse effects found at each site. This survey will be conducted before installation at new sites or when the next scheduled maintenance is conducted at existing sites. Facility installation at all sites will be dependent upon SHPO concurrence with the park’s assessment of no adverse effect for the work.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The selected alternative will not adversely affect an endangered, threatened or proposed species or its critical habitat.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The selected alternative (Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations*) will not violate any Federal, State, or local law.

FINDINGS

The selected alternative complies with the NPS Organic Act (see Attachment C for non-impairment determination), ANILCA, the Endangered Species Act, the National Historic Preservation Act, and Executive Orders 11988 (floodplains) and 11990 (wetlands).

There will be no restriction of subsistence activities as documented by the ANILCA, Section 810(a) Summary Evaluation and Findings.

The NPS has determined that the selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement is not needed and will not be prepared for this project.

ATTACHMENT A

NPS RESPONSES TO PUBLIC COMMENTS
on the
Environmental Assessment for
Telecommunications and Climate Monitoring
Denali National Park and Preserve

In response to the environmental assessment, the NPS received 6 comment letters. Described below are the substantive comments and the NPS responses.

1. Comment #1. Environmental Group: The NPS should hold off on implementing this project until it has reported on compliance with the indicators and standards in the Backcountry Management Plan.

NPS Response #1: The NPS has a draft DENA “2012 State of the Backcountry” report, which will be made available later this year and annually thereafter. This report details what monitoring has been accomplished and what problems have been observed. The report will also link to a spreadsheet and map showing all installations in the backcountry. The DENA Backcountry Management Plan soundscape standards have been found difficult to achieve in those areas close to the road corridor and airstrips. The Denali Overflights Advisory Council has addressed many of the soundscape issues over the past 5 years and has proposed mitigation such as channeling flightseeing traffic over the road corridor rather than over the backcountry. The results from this mitigation remain to be finalized but initial measurements indicate that less manmade noise from aircraft is now heard in the backcountry. Helicopter flights and snowmachine trips associated with this project would be subject to the mitigation.

2. Comment #2. Environmental Group: The EA does not commit to accessing the proposed sites by non-motorized means in the summer or winter.

NPS Response #2: A reason for choosing the Eielson Bench site rather than VABM Muldrow for the Eielson Visitor Center (EVC or Center) repeater is that for most maintenance issues it can be hiked to in about 1.5 hours. VABM Muldrow will require 5 hours or more each way, which will likely lead to the use of a helicopter for access. The Mt. McKinley weather stations will be accessed by foot. The East Branch Range wireless repeater could be accessed in a 2-2.5 hour hike, but it will take a minimum of 6 hours to reach the Double Mtn. repeater site. It is hoped that once installed, the Toklat Basin RAWS will be accessed by dog team for annual maintenance, since the site is not in steep terrain. Since the site is in an area where public use of snowmachines is not prohibited, the site may also be accessed by snowmachine for annual maintenance.

3. Comment #3. Individual and Environmental Groups: We recommend that DENA strive for the minimum number of helicopter flights to service these installations.

NPS Response #3: Managing helicopter (and fixed-wing) flights so that administrative use is coordinated among the many different users is standard practice at DENA. Aircraft time is not cheap, and it is to the benefit of any project to reduce or share expenses for helicopter time.

3. Comment #4. Environmental Groups: The justification for providing wireless access to the Eielson Visitor Center is thin at best. Cannot staff complete duties that require the internet when they return to the office and their housing at Toklat? Should not the emphasis at the Center be on meeting people's basic needs and then, in the short amount of time they have there, encouraging them to explore the landscape outdoors rather than enticing them indoors with wireless-enhanced learning activities?

NPS Response #4: The park radio system connected the EVC with park headquarters and the field for many decades and Dispatch center at headquarters (HQ) is now a regional dispatch office responsible for flight following, ranger actions, and emergency communications throughout the national park system in Alaska. Much of the voice traffic from EVC about hikes, backcountry permits, interpretive programs and other routine, daily matters is now a low priority for the park radio system because of higher priorities for that system and its dispatchers; however, communications with the EVC often help achieve improved visitor services. Situations related to visitor activities often occur when the staff is at the EVC, which should be responded to in real time. The wireless backbone allows a VoIP phone connection to send routine voice traffic or messages to supervisors, staff at HQ, staff in other parks, etc., that used to be sent over the park radio system. Also, an internet connection to utility equipment at the EVC allows managing and troubleshooting the Building and Utility control systems from Toklat or park headquarters. EVC houses two maintenance personnel who need telephone and computer access in order to carry out their maintenance and visitor service duties after the normal operating hours of the visitor center. A main part of the rationale for wireless equipment at the EVC is for having an outgoing connection from the Center to the world at large, such as schools, not just to bring electronic education to the Center. Programs about wilderness monitoring and protection, local wildlife behavior, and resource status such as "blooming chronologies" can be provided live from the Center to visitors at the park entrance or to those far away.

4. Comment #5. Environmental Groups: If the Center has to have wireless access, we prefer the VABM Muldrow location because the Eielson Bench site will be much more likely to be encountered by hikers and may not be completely hidden from the Center or the park road.

NPS Response #5: The Eielson Bench site is the preferred location because the VABM Muldrow site would create a need for more helicopter use. EVC staff reported the area at the Eielson Bench near the Herning Cabin is not now a popular visitor destination as it may have been in the past when the cabin was more obvious from a distance and more intact. A main braid of the glacial Thorofare River runs against the bank directly below the cabin leading most hikers to cross the well-braided reach of the river well downstream of a straight-line between EVC and the cabin. Most hikers in the area still

cross the Thorofare River downstream to go upstream along Glacier Creek or cross it upstream to head toward the Sunrise Creek/Sunset Glacier area. The NPS will commit to moving the repeater from the Eielson Bench to VABM Muldrow if 1) no Eielson Bench sites are found that can hide the repeater equipment from viewers at EVC or the park road, or 2) the equipment is repeatedly disturbed by bears. The repeater equipment also will not be placed where it will disturb features of the Mt. Eielson Historic Mining District.

5. Comment #6. Environmental Group: The EA did not provide enough alternatives.

NPS Response #6: NEPA requires a “reasonable range of alternatives. The NPS presented the no-action and two action alternatives, which we think provides a reasonable range for this project. The NPS reduced the number of options to evaluate after years of testing a variety of locations. Some of the testing was conducted in the office using computer programs, and some of the testing was conducted at various sites with temporary instruments on the ground. This work helped identify the minimum number of repeater sites that could see each other and the existing administrative sites, transmit the needed amount of data, could be maintained efficiently, and could be walked from if a helicopter had a mechanical difficulty. In mountainous terrain it is inevitable that repeater sites end up on high points. Test sites on Divide Mountain and Sable Mountain were rejected because they are visitor hiking destinations and their levels of enjoyment would be reduced with communications sites. The Northeast Knob on Double Mountain, present site of the UAF-GI seismic data repeater, was rejected because the higher frequency radio waves of the wireless system could not bend sufficiently around topographic barriers between the Northeast Knob and the Mt. Healy repeater to ensure data throughput.

ATTACHMENT B
ERRATA
to the
Environmental Assessment for
Telecommunications and Climate Monitoring
Denali National Park

This errata section provides clarifications, modifications or additional information to the EA and to the selected alternative, **Alternative 3 – Wireless Network w/ Eielson Bench and Three Met Stations**. This modification does not significantly change the analysis of the EA and, therefore a new or revised EA is not needed and will not be produced.

1. Modification. Replace this sentence on page 14:

“Under Alternative 3, and including the Actions Common above, the NPS would move the Herning Cabin test repeater equipment to a site (Eielson Bench) between the Herning Cabin and the Thorofare River where the hut and solar panels would be invisible from the Eielson Visitor Center and from the Herning cabin if possible.”

With this sentence:

“Under Alternative 3, and including the Actions Common above, the NPS would move the Herning Cabin test repeater equipment to a site (Eielson Bench) between the Herning Cabin and the Thorofare River where the hut and solar panels would not be visible from the Eielson Visitor Center and from the Herning cabin, if possible.”
The NPS will commit to moving the repeater from the Eielson Bench to VABM Muldrow if 1) no Eielson Bench sites are found that can hide the repeater equipment from viewers at EVC or the park road, or 2) the equipment is repeatedly disturbed by bears. The repeater equipment also will not be placed where it will disturb features of the Historic Register-eligible Copper Mountain Mining Camp.”

This modification allows the NPS to move the Eielson Bench repeater to VABM Muldrow if sites on the Eielson Bench are not suitable. Bears have investigated the repeater equipment at the Herning Cabin, but did not render it unusable, though they certainly could if they tried.

2. Modification. Replace this sentence on page 14:

“Researchers from the University of Alaska, Fairbanks (UAF) would install a small weather station at the 17,200 feet elevation on Mt. McKinley. The station would include instruments in a small box on a 1-1/2" metal pipe about 3 feet tall, with three wire stays anchored to exposed bedrock. The station would be installed in the vicinity of the 17,200 foot elevation camp (high camp) that is the common launch point for summit climbers.

Over a five year period UAF would teach park mountaineering rangers how to best maintain the station and then full maintenance would be turned over to the NPS.”

With this sentence:

“Researchers from the University of Alaska, Fairbanks (UAF) could install a small weather station at the 17,200 feet elevation on Mt. McKinley. This second weather station on Mt. McKinley will be authorized but only upon a finding that the instruments at the first weather station are fully functional and that the second station will provide essential data not provided by the first station. The station would include instruments in a small box on a 1-1/2" metal pipe about 3 feet tall, with three wire stays anchored to exposed bedrock. The station would be installed in the vicinity of the 17,200 foot elevation camp (high camp) that is the common launch point for summit climbers. Over a five year period UAF would teach park mountaineering rangers how to best maintain the station and then full maintenance would be turned over to the NPS.”

This modification insures that the first weather station on Mt. McKinley is operational and that a second station would not be redundant before a second station could be installed.

3. Modification. Replace this sentence on page 14:

“Install a RAWS in the Toklat Basin...The tripod height is 3 m and would be anchored at each leg with a rebar pegs that are approximately 0.5 m long.”

With this sentence:

“Install a RAWS in the Toklat Basin...The tripod height is 6 m and would be anchored at each leg with a rebar pegs that are approximately 0.5 m long.”

Information received after publishing the EA indicated that a 20 foot high mast is required to certify the wind speed and wind direction data for integrating into fire weather predictions using the Interagency Wildland Fire Weather Station Standards and Guideline. The increased height of the mast would be only marginally more visible at a distance and there would be no change to the impact evaluations.

ATTACHMENT C
NON-IMPAIRMENT DETERMINATION
for the
Telecommunications and Climate Monitoring Installations
in Denali National Park

The NPS Organic Act of 1916 and the General Authorities Act of 1970 prohibit impairment of park resources and values. The 2006 NPS Management Policies use the terms “resources and values” to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as 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 park resources and values will continue to exist in an unimpaired condition that will allow people to have present and future opportunities for enjoyment of them.

A determination of impairment is made for each of the resource impact topics carried forward and analyzed in the Telecommunications and Climate Monitoring environmental assessment for the selected alternative (Modified Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations*). The description of park significance in Chapter 1 was used as a basis for determining if a resource is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key 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 documents.

Impairment determinations are not provided for visitor opportunity, park management, or socioeconomic resources because impairment determinations relate back to park resources and values. These impact areas are not considered to be park resources or values subject to the non-impairment standard.

Vegetation and Soils

Little additional impact to vegetation and soils will occur under alternative 3. Soils are rocky at the sites and the alpine vegetation is generally sparse. To level the sites for the huts and to place guy anchors, the new sites will potentially disturb about 100 square feet of dry alpine vegetation and soils. The alpine vegetation at the nearby helicopter landing sites will also be crushed up to once per year. The effects on park alpine tundra vegetation and soils will be minor relative to the hundreds of thousands of acres of these vegetation types and soil types within the park and preserve and these impacts will not result in impairment.

Wildlife and Habitat

Helicopter access to the three new sites and the Toklat Basin RAWs could disrupt nearby raptor nesting, but the nests are generally known and flight paths will be altered accordingly. Bears and small mammals could visit alpine sites with communications equipment and be attracted to and damage wires, solar panels, and other equipment, but little damage has been noticed to similar existing high elevation sites. The new wireless sites will have most of the equipment and batteries inside a small metal hut, and although the antennas will be placed externally on the hut or on short attached poles it is unlikely that the sites will interfere with or attract wildlife habitat usage. Antennas at the Herning Cabin test site were damaged by bears, but that site is relatively flat, fully vegetated, and easily accessed. It is likely that bears will also visit the proposed Mt. Eielson Bench site, since it is situated on similar terrain as the Herning Cabin, and their interest in the antennas and solar panel array will have to be monitored. The micro amount of habitat lost at the Toklat Basin site is the same as that for miles in most directions from the site and the loss will be negligible. There will be no habitat at the 16,200 or 17,200 foot levels on Mt. McKinley. These negligible impacts to habitat will not degrade the quality of area-wide biological resources and will not result in impairment.

Natural Sound Environment

Helicopters are used for site installation and annual maintenance, and they produce loud, pulsating, mechanical noises that will disrupt natural sounds in the park. The effects will be to park users expecting only natural sounds and to wildlife that depend on a natural sound environment for hearing danger or potential mates. The natural soundscape will be intruded by an average of one helicopter landing and one takeoff per year to access each of the 6 new sites - in addition to trips to the existing eleven radio, seismic and climate monitoring sites - for routine annual maintenance, with one flight in and one flight out. If a repeater fails and repairs are needed at a site it will typically require two flights - one to assess the problem and one to bring in the necessary parts and accomplish the repairs. No helicopter flights will be made to the Mt. McKinley weather stations. These minor impacts to the soundscape environment will not result in impairment.

Cultural Resources

All new sites and existing sites will have reviews and clearance pursuant to Section 106 of the 1966 National Historic Preservation Act. No cultural resources are expected at the 16,200 or 17,200 foot levels on Mt. McKinley. The East Branch site appears to have no surface evidence of occupation during the 6 years that mining claims were located there. The Toklat Basin RAWs will be located in a sea of sedge tussocks and there will be a low likelihood of disturbing cultural resources. Removal of the wireless equipment from the Herning Cabin will eliminate modern equipment unrelated to the historical significance of the cabin or to stabilization efforts for the cabin. Given the mining-related occupation on the Eielson bench, including around the Herning Cabin, scattered cultural resources may be found at any particular site, but numerous dips in the terrain could be

used for the new repeater site, and none will be chosen that will impact such resources. Alternative 3 will include a minor beneficial impact to the cultural resources of the area by removing the wireless equipment from the Herning Cabin, and the impacts from this alternative will not result in impairment.

Wilderness

The three proposed wireless-only repeater sites will be in designated wilderness. Some wilderness values will be compromised, such as a reduction in the opportunity for solitude during the helicopter transport to and from the sites for periodic maintenance and repairs. Few park visitors get to the sites even though they are not very remote; however, those who do may be disturbed by the installations.

The Mt. McKinley weather stations will be in designated wilderness. The impact of locating weather stations at 16,200 feet and 17,200 feet will not degrade opportunities for solitude and natural conditions and will have a minor impact on the undeveloped quality of wilderness. The station at 16,200 feet will be located near to but off-route of the popular West Buttress climbing route and the station at 17,200 feet will be located within the area usually occupied by tents at the high camp.

The Toklat Basin RAWS will be in lands deemed eligible for wilderness designation. There will be a minor impact to wilderness resource values from the RAWS due to a negligible impact on primitive recreation. The impacts from this alternative will have a moderate adverse effect on wilderness resource values but will not cause impairment.

SUMMARY

The level of impacts to vegetation and soils, wildlife and habitat, soundscape, cultural resources, and wilderness anticipated from implementing Alternative 3, *Wireless Network w/ Eielson Bench and Three Met Stations*, will not result in an impairment of park resources that fulfill specific purposes identified in the establishing legislation or that are key to the integrity of the park.