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**National Park Service**

U.S. Department of Interior  
Klondike Gold Rush National Historical Park  
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**Finding of No Significant Impact**

**Expand Climate Monitoring Network and Upgrade Radio Communication System in Klondike Gold Rush National Historical Park**

Recommended: *Susan L. Boudreau*  
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Approved: *[Signature]* 6/11/10  
Regional Director, Alaska

## **FINDING OF NO SIGNIFICANT IMPACT**

### **Expand Climate Monitoring Network and Upgrade Radio Communication System in Klondike Gold Rush National Historical Park**

The National Park Service (NPS) is considering expansion of the remote automated weather station (RAWS) network in Klondike Gold Rush National Historical Park (KLGO) and on nearby land managed by the Tongass National Forest. The proposed action would expand the RAWS program by establishing 4 additional stations to collect basic climatological data including air and soil temperature, precipitation, relative humidity, wind speed and direction, solar radiation, and snow depth. An Environmental Assessment (EA) describing the project in detail was made available for public review from April 2 to May 2, 2010.

The NPS has selected Alternative 2 (NPS Preferred Alternative) with the mitigating measures described in the EA which would establish 3 permanent remote automated weather stations KLGO and an addition one on USDA Forest Service managed land in the Tongass National Forest.

Two written comments were received on the EA during the 30-day public comment period. The EA and proposed action were not modified by public comment.

### **ALTERNATIVES**

Two alternatives were evaluated in the EA.

#### **Alternative A, No Action**

Under the No Action alternative, no additional weather stations would be established in Klondike Gold Rush National Historical Park.

#### **Alternative B – Expand the Climate Monitoring Program in Klondike Gold Rush National Historical Park and Expand the Radio System (NPS Preferred Alternative)**

In support of the Southeast Alaska Inventory and Monitoring Program, the National Park Service would establish 3 permanent remote automated weather stations (RAWS) in KLGO. An additional RAWS station would be installed at the Goat Lake hydro project site on land managed by the Tongass National Forest after receiving a Special Use Permit from the USDA Forest Service.

The weather stations would collect basic weather observations including air temperature, precipitation, relative humidity, wind speed and direction, solar radiation and snow depth and transmit these observations hourly via satellite. These observations would be posted to the Western Regional Climate Center's (WRCC) web site in near real-time (<http://www.wrcc.dri.edu/NPS.html>).

The Chilkoot Pass, Sheep Camp and Goat Lake weather stations would be composed of a 10-foot tri-leg tower hosting all the sensors, and the data logger. Each of these stations would have two battery boxes. At the Taiya River station, the sensors would be attached to a 4-inch pipe functioning as a mast extending 5 feet above the roof line of the existing Taiya River gauge hut. The data logger and batteries would be housed inside the gauge hut. Eventually, some of the climate sensors may be incorporated into the superstructure of the Taiya River Bridge.

The up to 10-foot steel tower and mast would house the temperature, relative humidity, solar radiation, wind speed and direction, and snow depth sensors, a GPS antenna, and a GOES satellite transmission antenna. Except at the Taiya River bridge, a steel equipment enclosure located near the base of the structure houses the electronic equipment cabinet such as the datalogger, GOES transmitter, and batteries. Each of the two battery boxes will house 3, 12-volt batteries each at the base of each station (6 batteries per station). The batteries are sealed, starved electrolyte-type Optima™ 12-volt batteries. The wind speed and direction sensors are located on the top of the 10-foot tall mast mounted to the north leg of the tri-leg tower. The footprint of the tower is approximately 1.5 feet per side. A 48"x13" solar panel would be attached to the south side of the structure for the installation at Sheep Camp. A wind generator would be attached to an 8-foot tall pipe adjacent to the tower at Chilkoot Pass. The tower and wind generator pipe are typically anchored to the ground with 3 guy wires bolted to the ground. Where pins cannot be driven into the ground and/or gabions cannot be installed, holes would be drilled into the bedrock and the steel pins secured in the holes with epoxy. The tower components are assembled on site. At Taiya River and Goat Lake commercial power would be used to trickle charge the batteries powering the unit and to directly run a heated tipping bucket that measures frozen precipitation. No solar panels or wind generator would be required at the Taiya River and Goat Lake sites.

The radio communications repeater and weather station installations at Goat Lake will be contingent on acquiring a special Use Permit from the USDA Forest Service.

## **PUBLIC INVOLVEMENT**

The EA was issued for public review and comment from April 2, 2010 to May 2, 2010. The EA was sent by mail to 57 agencies, organizations, and individuals and was posted on the NPS Planning, Environment, and Public Comment website.

Comments on the EA were received from the State of Alaska (SOA) and National Parks and Conservation Association (NPCA). The public comment did not change the conclusions in the EA concerning the environmental effects of the proposed action. The SOA requested the NPS to submit a CZMA determination to the Alaska Coastal Management Program (ACMP). ACMP concurred with the NPS No Effects Determination on May 12, 2010. The comments from the NPCA did not require a formal NPS response; however, the NPS recognizes and appreciates the FAA Advisory Circular AC91-36C has been updated to AC91-36D.

## DECISION

The NPS decision is to select Alternative B - Expand the Climate Monitoring Program with mitigating measures.

## MITIGATING MEASURES

Vegetation: Where the surfaces of rocks are covered with lichen, disturbance of those rocks will be minimized. If rocks need to be moved, the surface rocks with lichen on them will be carefully set aside and rocks from underneath will be used. Rocks with lichens on them will be left lichen-side up and in their original location when possible. Where other plants are present, care will be taken to minimize disturbance (e.g., stepping on rocks where possible rather than on plants and clearing the minimal amount of vegetation necessary).

Mud, dirt, and plant material will be removed from project equipment, footwear, and clothing prior to traveling to the weather station sites, to minimize the possibility of introducing invasive plants to the parks. Weather station sites will be monitored, during the annual maintenance visit, for the presence of invasive species.

Wildlife: To the extent possible, installation and maintenance activities will be timed to avoid sensitive periods, such as nesting season.

In addition to meeting all Federal Aviation Administration and NPS helicopter policy and aircraft requirements, mitigation common to all alternatives for helicopter flight paths will include:

- Maintenance of a 1,500 foot vertical or horizontal clearance from habitats supporting reproduction as well as adult animals whenever feasible. This includes brown and black bear, moose, caribou, wolves, mountain goats, and / or wolverines.
- Pilots will not hover over, circle, harass, or pursue wildlife in any way.
- Where feasible, flight paths will avoid known bald eagle nests and a minimum quarter-mile clearance will be maintained from all active eagle nests. All nests are considered active from March 1 to August 31.
- To comply with the Migratory Bird Treaty Act, helicopter activity will be scheduled to avoid sensitive bird migration or nesting periods in the project areas.

Visual Quality: The antenna/tower will be installed in such a way so as not to protrude beyond the silhouette/horizon of a nunatak or ridge and not be visible from trails or commonly used vantage points with the exception of the Taiya River Bridge site which is adjacent to a road and will be installed on an existing river gauge hut.

Visitor Experience: Signs will be posted on the weather station equipment explaining its purpose and listing a person to contact if visitors who happen upon the site have any questions. Use of helicopters during hunting season in areas of known hunting will be avoided. In planning flight paths, all feasible measures will be undertaken to avoid and/or minimize impacts to backcountry

users. Planned flight routes will be as efficient as possible to minimize conflict areas as approved by the Superintendent.

Soundscape: To reduce adverse noise impacts to recreational users and wildlife in the parks, helicopters will maintain a minimum altitude of 2,000 to 2,500 feet above ground surface, other than during landing and takeoff, or when visibility is limited by cloud cover, pursuant to Federal Aviation Administration (FAA) Advisory Circular (AC91-36D), “Visual Flight Rules (VFR) Near Noise Sensitive Areas.”

Cultural Resources: Although archeological inventories have been completed for the sites, additional archeological site clearance will be conducted concurrent with installation of equipment, as necessary. Ground disturbance will be minimized. If archaeological features are encountered during equipment installation, work will cease immediately and the Superintendent and park Cultural Resource Specialist will be notified. Procedures will be followed, as per Director's Order 28 and found in the guiding regulations in 36 CFR 800.13. No further action will take place until the NPS provides clearance.

## **RATIONALE for the DECISION**

Alternative B (Expand the Climate Monitoring Program in KLGO) will satisfy the purpose and need for the project better than the no-action alternative. Climate is a fundamental driver of ecological condition and the patterns of plant and animal communities found in NPS park units. Changes in climate will impact these ecosystems. Climate Monitoring has been identified as a Vital Sign for the Southeast Alaska Network Parks (SEAN).

Deployment of remote automated weather stations (RAWS) within KLGO will allow the NPS to achieve the goal of the Climate Monitoring vital sign and track climate change and how these changes affect park resources. This information will contribute resource data for park management decisions and will also contribute to future efforts in broader-scale climate monitoring and modeling efforts. Currently, no RAWS occur in KLGO.

## **SIGNIFICANCE CRITERIA**

The preferred alternative 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 B on vegetation, wildlife, visual quality, soundscape, visitor experience, wilderness and cultural resources. As documented in the EA the effects of the proposed action would range from negligible to minor depending on the resource. There would be no restriction of subsistence uses.

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

The selected alternative would improve public health and safety through more reliable radio communications and near real-time weather information.

*(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 4 weather station sites would not be located in designated or eligible wilderness. Station sites have been cleared of cultural resources impacts as indicated in the mitigating measures for cultural resources.

*(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 would not be controversial. The NPS sent the EA to 57 agencies, organizations, and individuals for public review. Only two comment letters were received. The environmental analysis concluded that installation and maintenance of 4 weather stations would have negligible to minor impacts on park resources. The commenters did not question these findings.

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

The effects of the selected alternative do not involve unique or unknown risks.

*(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.*

The climate monitoring program would not set a precedent for future actions.

*(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 considered all existing facilities in the backcountry (campsites, cabins and communication sites) in its cumulative impact analysis. The analysis concluded that the impacts of all existing facilities including the proposed remote automated weather stations would be minor.

*(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 selected alternative would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or existing or potential Cultural Landscapes.

*(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 would not adversely affect an endangered or threatened species or its 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 would not violate any Federal, State, or local law.

## **FINDINGS**

The levels of adverse impacts to park resources anticipated from the selected alternative will not result in an impairment of park resources that fulfill specific purposes identified in the establishing legislation or that are key to the natural or cultural integrity of the park.

The selected alternative complies with the Endangered Species Act, the National Historic Preservation Act, and Executive Orders 11988 and 11990. There will be no restriction of subsistence activities as documented by the Alaska National Interest Lands Conservation Act, Title VIII, Section 810(a) Summary Evaluation and Findings.

The National Park Service 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.