

Introduction

Identifying Information:

Title, EA number, and type of project:

DOI-BLM-AK-F030-2014-0047-EA

Location of Proposed Action:

Mile post 285 off the Dalton Highway more particularly described as NW¹/₄NW¹/₄NE¹/₄, Sec. 32, T. 9 S., R. 11 E., Umiat Meridian, Alaska., containing approximately 0.25 acre.

Name and Location of Preparing Office:

Lead Office - Central Yukon Field Office and number DOI-BLM-AK-F030-2014-0047 -EA

Central Yukon Field Office, 1150 University Avenue, Fairbanks, Alaska 99709

Identify the subject function code, lease, serial, or case file number:

2920 Permit

Case file number F-96789

Applicant Name:

Daniel Obrist with Desert Research Institute

Purpose and Need for Action:

Daniel Obrist with the Desert Research Institute proposes to conduct snow surveys and measure trace gas concentrations in snow by erecting a snow tower and support structure to house equipment near Toolik Lake Field Station for three (3) years.

Scoping, Public Involvement and Issues:

Because the Toolik Lake Field Station is not open to the public, public involvement is mute. Additionally, public notification of the Environmental Assessment was published to the NEPA Register on file at the Central Yukon Field Office website on July 24, 2014. No comments have been received as of August 11, 2014.

Proposed Action and Alternatives

Description of the Proposed Action:

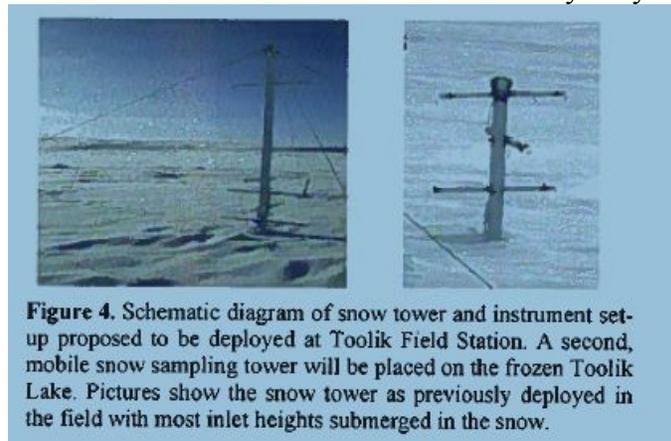
Daniel Obrist with the Desert Research Institute proposes to establish a snow tower near Toolik Lake Research Station to measure trace gas concentrations in snow over the tundra monthly during snow cover and bi-monthly during no snow cover. He proposes to conduct this research from August 10, 2014 through May 30, 2017. All access would be by foot on established roads, trails and boardwalks.

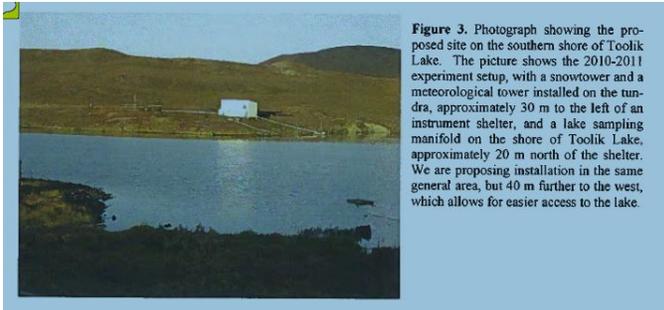
To support this research they have contracted Polarfield Services who designed, built and would construct the supporting building at the Toolik camp and then sling load, using an R-44 helicopter, to the research site, south of the lake. This structure would house instruments and be placed on a wooden cribbing foundation without any guy wires. The building measures 8 x 16 feet and would be 10 feet on the high side with a single pitch roof. The building would be constructed of a wooden frame with pre-primed T-111 siding, insulated with fiberglass batts in the walls and roof; and the roof would be corrugated metal. The interior walls would be plywood and a half light door would be placed on the southern end of the building.

The construction crew would travel to the site by canoe on Toolik Lake and would install approximately 50 feet of boardwalk from the lakeshore to the building. Concurrent to the construction, the electricians would utilize the boat to pull a cable in a direct route across the lake. This metered cable will be sunk in the lake and would carry an estimated 15 kVa load at 480V which would provide the power for the building.

Next they would erect a 13 foot tower with guying for site meteorology and atmospheric gradient measurements. At the south end of the building they install 65 feet of arctic pipe. Additionally there would be two small soil chambers measuring approximately 20 x 20 cm for conducting research. Lastly this would conduct sampling of snow, soils and soil solution for chemical analysis.

At the end of August 2016, the building and all materials would be disassembled and placed in piles until removal by snow machine after the snow depth and freeze is adequate for travel in the area. All the materials would be removed by May 30, 2017.





Description of Alternatives Analyzed in Detail:

No other alternatives were analyzed for this proposal because the best location for this research is at the Toolik Lake Field Station as a similar project was conducted there in 2006..

Alternatives Considered but not Analyzed in Detail

No Action Alternative

The no alternative action would result in the BLM not issuing a permit to Daniel Obrist to conduct snow surveys and measure gas concentrations in snow. This would affect their research in a negative manner as they have received funding from the National Science Foundation to complete this research.

Conformance

The EA is in conformance with the Utility Corridor Resource Management Plan approved January 11, 1991 Chapter 2, Section 2–5, Realty Actions which states:

FLPMA Permits — the regulations found in 43 CFR 2920 and are used to authorize specific land uses that do not normally exceed three (3) years in length and involve little or no land improvements.

Affected Environment:

Access / Realty- No impact — there is an existing access road the applicant can use and all building materials will be slingloaded by helicopter or by boat across Toolik Lake. Boardwalks will be built to protect the tundra.

Air Quality — No adverse effect

Areas of Critical Environmental Concern — Within Toolik RNA and Toolik Lake Field Station

Boundary Resources — Within Toolik RNA and Toolik Lake Field Station

Cultural Resources —

Environmental Justice — N/A

Essential Fish Habitat — No adverse effect

Farm Lands, Prime and Unique N/A — there are no farmlands in the project area.

Fire Management — The project location is within a Limited fire protection area the Toolik Lake Camp is the only spot nearby that is designated at a site to protect. Lightning fires in the area would be allowed to burn so long as the Toolik camp could be protected and wildfires from originating from human activities would be suppressed per BLM policy and cost recovery would be pursued. The tundra vegetation in the area is generally damp or covered by snow, however, during periods of warmer temperatures, wind, and sun it dries out in a matter of days and is susceptible to flashy grass/brush fires where an ignition source presents itself.

Floodplains — No adverse effect

Hazardous and Solid Wastes — Argon gas containers are not of any concern

Invasive, Non-native Species— Surveys along the Dalton Highway for invasive plants (NIP) have occurred annually since 2004; 28 species have been documented. Invasive plants in Alaska are ranked on a scale of 0-100 (100 the most invasive). The most notable invasive species recorded in this area are: *Meliltous alba* and *Vicia cracca*. *Meliltous alba* (white sweetclover; ranking: 80), has been rapidly expanding its range northward along the Dalton Highway and has been found as far north as the Hammond River (MP 190). *Vicia cracca* (Bird Vetch; ranking: 73), has been detected as far north as Coldfoot, Alaska.

Mineral Resources — No impacts

Native American Religious Concerns

Recreation — No impacts

Soils — No impacts

Subsistence — No adverse effects.

Threatened or Endangered Species Yellow-billed loons, *Gavia adamsii*, are a USFWS Candidate Species. The global breeding population is approximately 16,000–32,000, the Alaska population is estimated at 3,000–4,000. Individuals and family groups have been observed on and around Toolik Lake (map of known observations attached). Yellow-billed loons generally arrive at

nesting lakes early in June. Nestlings are remain on brood lakes until the end of August; they have departed the nests, but are not yet flight capable through the month of August and into the month of September. **Mitigation** — all aircraft activities related to this project will fly and maintain 500 meters inland from shoreline of Toolik Lake when slingloading supplies and equipment to site.

Vegetative Resources — No impacts

Visual Resources — the proposed action is within the VRM classification in the RMP

Water Quality- Surface and Ground — No adverse effect

Wetlands/Riparian Zones — No adverse effect

Wild and Scenic Rivers — N/A — none in the area

Wilderness — The proposed action will occur on lands identified as lacking wilderness characteristics and therefore will not affect wilderness characteristics.

Environmental Effects:

Access — Current access from the Dalton Highway — no adverse effects

Air Quality — No adverse effect

Areas of Critical Environmental Concern — No adverse effects

Boundary Resources — No adverse effects

Cultural Resources —

Environmental Justice — N/A

Essential Fish Habitat — No adverse effect

Farm Lands, Prime and Unique — N/A

Fire Management — Human activity always increases the probability of a human start to some small degree. The proposal does not specifically mention any activities that would increase the risk of fire beyond the normal risk associated with any other human activity. The proposed activities environmental effect on Fire Management is minimal.

Floodplains — No adverse effect

Hazardous and Solid Wastes — No adverse effects

Invasive, Non-native Species: New disturbances and associated increases in human traffic can be associated with the spread of invasive plants. The most common invasive plants in this region most readily colonize disturbed substrate. Invasive plants have been recorded along the Dalton Highway Corridor as far north as the Hammond River drainage. Because issuance of this permit creates a new disturbance, there is an increased probability of invasive plant establishment in the project area.

Mineral Resources — No adverse effects

Native American Religious Concerns —

Recreation — No adverse effects

Soils — No adverse effects

Subsistence — No adverse effect.

Threatened or Endangered Species: If present, nesting and brooding yellow-billed loons may be sensitive to the disturbance created by the construction and deconstruction of this tower.

Mitigation — all aircraft activities related to this project will fly and maintain 500 meters inland from shoreline of Toolik Lake when slingloading supplies and equipment to site.

Vegetative Resources — No adverse effects

Visual Resources — No adverse effects

Water Quality- Surface and Ground — No adverse effect

Wetlands/Riparian Zones — No adverse effects

Tribes, Individuals, Organizations, or Agencies Consulted:

No Tribes, Individuals, Organizations or Agencies were not consulted as it does not affect them.

List of Preparers

Table 1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Robin Walthour	Realty Specialist	All
Gary Foreman	Assistant Field Manager	Review
Kelly Egger	Outdoor Rec Planner Wild & Scenic River	Recreation
Dave Parker	Fish Biologist	EFH, Sec. 810 (Fish), Wildlife (Aquatic), Wetlands/Riparian, Floodplains, Soils
William Hedman	Archeologist	Cultural, Native American Religious Concerns
Rebecca Hile	Hazmat Specialist	Hazardous Materials/Waste Solid Waste, Human Waste
Karen Deatherage	Interpretive Park Ranger	Lands with Wilderness Characteristics
Erin Julianus	Wildlife Biologist	Wildlife
Jennifer McMillan	Ecologist	Invasives, T&E
Michael Schoder	Surveyor	Boundary Risk Assessment
Darrel VandeWeg	Geologist	Minerals
Cal Westcott	Outdoor Rec Planner	VRM
Thomas St. Claire	Acting Fire Management Officer	Fire Management
Shelly Jacobson	Field Manager	Review