



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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Fairbanks, Alaska 99709-3844
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In Reply Refer To:
FF-096435

**CATEGORICAL EXCLUSION / PLAN CONFORMANCE DOCUMENTATION AND
DECISION FOR UAF / DIANE HUEBNER RESEARCH PERMIT
FF-096435**

DOI-BLM-AK-03000-2012-0034-CX

Proposed Action: Issue a permit for research on woody shrub species

Location: Sec. 8, T. 9 S., R. 8 E.; and Secs. 27 & 28, T. 10 S., R.11 E., Umiat Meridian

Applicant: University of Alaska Fairbanks (UAF)

Serial Number: FF-096435

Date of Proposed Action: July 17, 2012 through August 31, 2014

Description of Proposed Action:

UAF proposes to perform research on seedling recruitment and clonal expansion of three deciduous dwarf woody shrub species (Betula, Salix, alder) at three thermokarst lake shore sites near Toolik Lake: NE-14, I-2, I-1 (see Figure 1, next page).

These 3 sites will be accessed on foot by a maximum 2 person team. Number of visits per site:

- a. Estimated 5 visits per site from July 17 – August 8, 2012
- b. Estimated 2-5 visits per site in late July – early August 2013
- c. Estimated 2-5 visits per site in late July – early August 2014

Team will establish at each disturbance type 1 transect running through the thaw slump, and 1 in adjacent undisturbed tundra as a control, for a total of seven transects), each measured with a retractable tape measure to a length of 50m long, maximum of 2m wide, marked at head and foot with labeled stakes for initial site characterization/sampling and sampling re-visits in subsequent years.

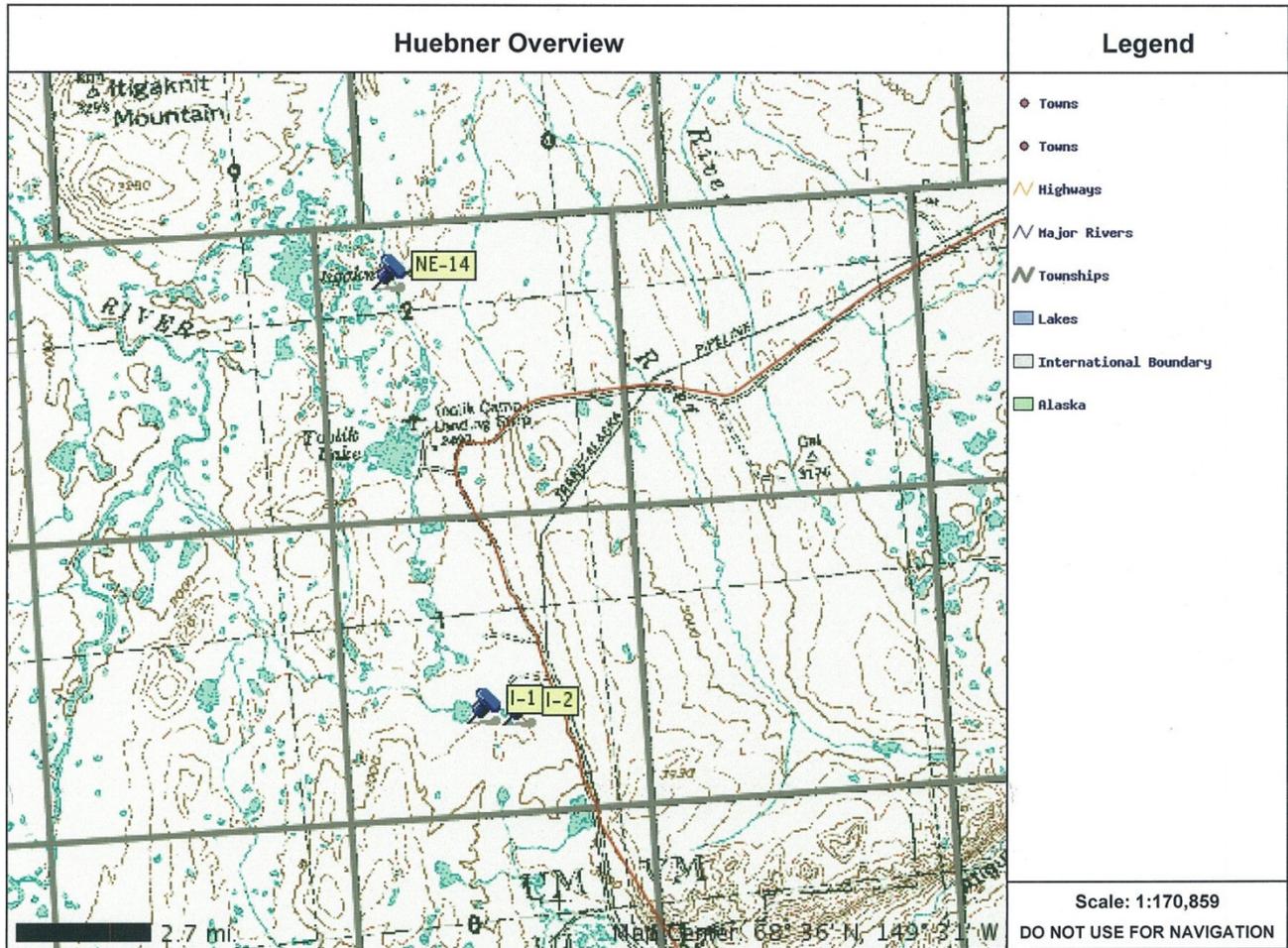


Figure 1

NE-14 will only require 1 control transect, approximately 150m southeast of the 0m stake at NE-14 TK1, an existing transect established by Dr. Michelle Mack of the University of Florida, Gainesville. See Figure 2.

Site Table. MAT= moist acidic tussock tundra.

Site	Lat. N (D.D.)	Long. W (D.D.)	Elevation (m)	Veg type	Disturbance Type	# transects proposed
NE-14	68.6802	-149.6172	708	MAT	Glacial thermokarst	1
I-2	68.5512	-149.5379	840	MAT, riparian	Thaw slump; thermokarst gully	2; 2
I-1	68.5529	-149.5653	815	MAT	Thaw Slump	2



Figure 2



Figure 3

Upon establishment of transects, research will consist of assessing initial site characterization, followed by sample collection.

- a. Initial site characterization: % cover measurements of standing vegetation, thaw depth measurements taken with a 1 meter metal probe, and soil temperature and moisture measurements taken with Fisher handheld soil temperature probe (10cm depth) with digital display and Hydrosense handheld soil moisture meter.
- b. Sample collection:
 - i. Soil: 5-6 soil samples per transect (5-6 m² quadrats per transect) consisting of 10-20 5cm soil cores combined in a bag to a volume of 1 liter of soil per quadrat, to assess germination capacity of natural seedbanks, taken with metal soil coring tool (5 cm diameter/5 cm depth) and hammer. Existing vegetation will be replaced to minimize erosion.
 - ii. Leaves: Fresh leaf samples clipped with shears from a maximum of 25 individuals per transect per species, a maximum of 3 deciduous woody

shrub species (*Betula nana*, *Salix* spp., and if present, *Alnus viridis*) for DNA sampling in the lab to determine levels of genetic diversity.

- iii. Woody stems: Woody stems (ramets) harvested from selected individuals, partially excavated with garden spade to the root crown and clipped at the root crown with shears, to determine the age of the shrubs by counting annual growth rings from the point of plant establishment from seedling stage; also to determine clonal spreading. Partial excavation will be necessary for ramet harvest. Partial excavation will not exceed a depth of 50 cm and will not go below root crowns (i.e. no uprooting plants). All soil and overlying vegetation removed in partial excavation will be replaced to minimize erosion and damage to plants. Shrub ramet samples will be harvested 1 ramet per plant, 25 plants per species, three species maximum (n = 75 individuals per transect), using sharp, sterile cutting tools to minimize damage to plants.

The only equipment to remain on the land between research team visits will be the stakes marking the head and foot of each transect.

Land Use Plan Conformance

The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP:

Utility Corridor Resource Management Plan Date approved 01/11/91

In Appendix N, Lands and Realty Program Objective 1 states: “provide for, authorize, or restrict the use of public lands in compliance with existing laws, regulations, withdrawals, BLM policy, and consistent with the goals and objectives of this RMP.” Chapter 2, Toolik Lake ACEC/Research Natural Area Management Objective states: “To protect a natural lake and tundra biome extensively used for arctic natural resources research.”

Compliance with NEPA:

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 2, Appendix 1
1.6 - Nondestructive data collection, inventory (including field, aerial and satellite surveying and mapping), study, research, and monitoring activities.

The proposed action must be screened against the extraordinary circumstances found in 43 CFR 46.215 and listed below. Any “yes” finding requires that an Environmental Assessment or Environmental Impact Statement be prepared for the Proposed Action.

EXTRAORDINARY CIRCUMSTANCES

	YES	NO
1) May have significant impacts on public health or safety.		X
2) May have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.		X
3) May have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources.		X
4) May have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.		X
5) Might establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.		X
6) May have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.		X
7) May have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.		X
8) May have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.		X
9) Might violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.		X
10) May have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).		X
11) Might limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).		X
12) Could contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).		X

Determination

I have determined that the proposed action is in conformance with the Central Yukon Resource Management Plan. I have also determined that the proposed action can be categorically excluded, none of the twelve extraordinary circumstances are triggered, and that an environmental assessment or environmental impact statement is not needed.

/s/ Nichelle W. Jacobson
 Nichelle W. Jacobson, Manager
 Central Yukon Field Office

7/13/12
 Date

Terms, Conditions and Stipulations

1. All activities shall be conducted to avoid or minimize disturbance or damage to vegetation, fish, wildlife or subsistence resources.
2. There shall be no additions to this site without the written approval of the Authorized Officer.
3. All equipment used in this project shall be removed from the public lands within 30 days of expiration of this permit.
4. Holder shall observe all Federal, State and local laws and regulations applicable to the premises.
5. Activities shall be conducted in such a manner as to not cause damage or disturbance to any historical or archaeological sites and artifacts. The Antiquities Act (1906), Archaeological Resources Protection Act (1979), Federal Land Policy and Management Act (1976), and general United States property laws and regulations, all prohibit the appropriation, excavation, damage, or destruction of any historic or prehistoric ruin or monument, or any other object of antiquity situated on lands owned or controlled by the United States (16 USC 470; 16 USC 432; 43 U.S. 1733(a); 18 U.S.C. 1361; 18 U.S.C. 641; 43 CFR 8365.1). Such items include both prehistoric stone tools and sites, as well as historic log cabins, remnants of such structures, refuse dumps, and other such features. Should any such site be discovered during the permitted activity, the permittee should avoid impacting such materials, and immediately notify the Authorized Officer.