

# North Slope Borough

## PLANNING AND COMMUNITY SERVICES DEPARTMENT



P.O. Box 69  
Barrow, AK 99723  
☎ (907) 852-0320  
Fax: (907) 852-0322  
Email: [rhoda.ahmaogak@north-slope.org](mailto:rhoda.ahmaogak@north-slope.org)

*Rhoda Ahmaogak, Director*

April 5, 2013

Marine Bio Lab  
C/O Gaius R. Shaver, Senior Scientist  
7 MBL Street  
Woods Hole, MA 02543  
Email: [gshaver@mbl.edu](mailto:gshaver@mbl.edu)

RE: NSB AKP 13-385, Administrative Approval, **Renewal of an existing permit, NSB 08-372**, Anaktuvuk River Burn Study, T1N, R4E, R5E, and R6E, UM, T1S, R4E, R5E, and R6E, T2S, R5E, R6E and R7E, UM, T3S, R6E and R7E, UM, T4S, R5E, R6E and R7E, UM, T5S, R6E, R7E, and R8E, UM, T6S, R6E, R7E, and R8E, UM, T7S, R7E, Umiat Meridian, Conservation District.

Dear Mr. Shaver:

We have reviewed your application received March 29, 2013, in which you have requested authorization for renewal for five (5) years of an existing permit, NSB 08-372, for scientific research on recovery of the Anaktuvuk River Burn Site from a major wildfire in 2007. NSB 08-372 will expire on October 2013. There will be no permanent development or scarring of the landscape.

Please note that this renewal would also change the permit holder from the University of Alaska to the Marine Biological Laboratory in Woods Hole, MA. The research on the Anaktuvuk River Burn is currently funded by two grants for US National Science Foundation (NSF-DEB-1026843, "Arctic LTER: Climate Change and Changing Disturbance Regimes in Arctic Landscape", and NSF-EF-1065587, Fire in Northern Alaska: Effect of a changing disturbance regime on a regional macrosystem"). Marine Bio Lab also receive support from the NSF Office of Polar Programs for Logistic Support at Toolik Field Station.

Marine Bio Lab is not requesting any restrictions to public access to their research sites in the Anaktuvuk River Burn and none of Marine Bio Lab work can be considered commercial activities. All of Marine Bio Lab's instrumentation will be removed at the end of research, with

no major or minor modification to the landscape. Access to the site is by Helicopter, with all on site sampling and monitoring completed by foot travel.

**Purpose of Development:**

The purpose of the research is to monitor recovery of the site from wildfire in 2007. The site has been monitored each summer since 2008, using automated water samplers and climatic monitoring equipment with occasional collection of small plant and soil samples.

This project is scheduled to commence October 2013, and completion date of September 2018.

It is my determination that the above proposal is a Minor Alteration, as defined under NSBMC 19.20.020 and thus requires an administrative approval in the Conservation District.

We have no objections to the proposed activity, and are recommending consistency with our Coastal Management Program to the State by copy of this letter, provided that you comply with the following conditions:

**PROJECT SPECIFIC STIPULATIONS:**

1. Results of the study work must be provided annually upon completion of project to the NSB Planning Department as soon as the reports are available.

**HELICOPTER STIPULATIONS:**

1. Marine Bio Lab will communicate with the Village of Anaktuvuk prior to conducting the 2013 study work in order to avoid impacting subsistence activities. NSBMC 19.70.050 (L), NSBMC 19.70.050 (J) 3.
2. Marine Bio Lab shall employ subsistence representatives to assist in minimizing impacts to wildlife and local subsistence activities. Toolik Field Station-IAB is encouraged to hire its representatives from the Village of Anaktuvuk (or other NSB villages if no one from Anaktuvuk is available). NSBMC 19.70.050 (L) 4, NSBMC 19.70.050 (J) 3.
3. Helicopter use in support of study activities shall maintain an altitude sufficiently high to avoid harassment over concentrations of 25 or more caribou, and over hunters in the area in of pursuit of subsistence animals. NSBMC 19.70.050 (L) 4, NSBMC 19.70.050 (J) 3.
4. To minimize impacts to subsistence activities, a helicopter route shall be established from routine site locations. Marine Bio Lab shall not deviate from that prescribed route, unless avoidance of a large concentration of animals is occurring, or for human safety. The helicopter route for this project is limited to the study area shown on Maps of the application. NSBMC 19.70.050 (L) 4, NSBMC 19.70.050 (J) 3.

5. Airports and helicopter pads are required to be sited, designed, constructed and operated in a manner that minimizes their impact upon wildlife. NSBMC 19.70.050 (L) 4, NSBMC 19.70.050 (J) 3. Vehicles, vessels, and aircraft that are likely to cause significant disturbance must avoid areas where species that are sensitive to noise or movement are concentrated at times when such species are concentrated. Concentrations may be seasonal or year-round and may be due to behavior (e.g., flocks or herds) or limited habitat (e.g., polar bear denning, seal haulouts). Horizontal and vertical buffers will be required where appropriate. Concern for human safety will be given special consideration when applying this policy. NSBMC 19.70.050 (I) 1.

**TUNDRA STIPULATIONS:**

1. Helicopters and equipment shall be operated in a manner such that the vegetative mat of the tundra is not disturbed. Removal of tundra or vegetative cover is prohibited unless specifically approved by the Land Management Administrator or his designee. NSBMC 19.60.040 O., NSBMC 19.70.050 L. 3.
2. Existing roads and trails shall be used wherever possible. Trail widths shall be kept to the minimum necessary. Trail surface may be cleared of timber, brush, stumps and snags NSBMC 19.70.050 L. 2. and 3.
3. All hazardous material containers and fuel drums shall be marked with the contractor's initials and dated.
4. Fuel storage facilities shall not be placed within 100 feet of water bodies NSBMC 19.70.050 I. 11.
5. After April 15 of each until year 2018, on-tundra travel shall be subject to termination upon 72 hours of notification by the Land Management Administrator or his/her designee for protection of surface vegetation NSBMC 19.70.050 L. 3.

***6. A completion report shall be submitted within thirty (30) days upon termination of permit activities. This report shall contain the following information:***

- Actual routes of travel, and, if utilized, the location of all camps depicted on an electronic copy of a USGS topo map as well as an electronic copy of GIS formatted shape files.
- Statement of clean-up activities.
- Methods of disposal of garbage and other camp debris.
- A report covering any known incidents of tundra damage, complete with GPS locations, and follow-up corrective actions that may have taken place while operating under this permit.

- Any tundra damages that have occurred shall be reported to the Permitting Division attention: Charles Russell and Thomas Simmonds III, Field Inspectors at (907) 852-0440 or Tony Cabinboy at (907) 480-2120.
- Report any tundra damage within 24 hours and consult with NSB Permitting staff with any questionable activity you are unsure of.

### **GENERAL STIPULATIONS**

1. The permittee is reminded to conform to the provisions of NSBMC Chapters 9.08, 9.12 and 9.16 regarding solid and sanitary waste collection/disposal and potable water. The proper and lawful disposal of waste in an environmentally sound manner is a condition of this permit. If the permittee does not anticipate using facilities operated or approved by NSB, the Alaska Department of Environmental Conservation at (907) 269-7500 shall be contacted for an approved sanitary and solid waste disposal plan as well as a plan for potable water for temporary and permanent facilities described in this permit. A copy of the approved plans shall be submitted to the North Slope Borough Permitting and Zoning Division to become a part of this permit file. NSBMC 19.70.050(I)(4)&(5)
2. Should any cultural, archeological or paleontological resource materials (including, but not limited to artifacts, house mounds, grave sites, ice cellars, and fossilized animal remains) be discovered in the course of activities conducted under this permit, the site shall not be disturbed and the North Slope Borough Inupiat History, Language and Culture Commission shall be promptly notified at (907) 852-0422. NSBMC 19.70.050(E) through (G)
3. All oil and other hazardous material spills over 5 gallons shall be reported immediately to the NSB by telephoning (907) 852-0440. The follow-up written report will be faxed to the NSB Permitting and Zoning Division fax (907) 852-5991. A report of all spills shall be submitted to our office on a weekly basis. A sufficient amount of absorbent materials shall be on hand at all times in the event of any fuel, oil, or chemical spills. Spills shall be cleaned up as soon as possible. NSBMC 19.50.030(I)
4. The Land Management Administrator may require that his/her authorized representative be on-site during any operations conducted under this permit. NSBMC 19.30.100
5. Within the constraints of federal, state and local law, the permittee and its agents are encouraged, through a voluntary affirmative action program, to hire and train residents of the North Slope Borough. In order to comply with this stipulation the permittee and its agents shall contact the Mayor or City Manager and the village corporation of any village most affected by this permit. In this case contact the village of Anaktuvuk Pass at (907) 661-3612 and Nunamuit Corporation at (907) 661-3026 to determine if there are qualified people available or people who could be employed for on-the-job training. NSBMC 19.70.030
6. The permittee shall comply with all local, state and federal laws and permits applicable to this project. NSBMC 19.30.100

7. This permit is valid for the duration of the existence of the development and the developer's compliance with the terms and conditions herein. This permit automatically expires within twelve months of approval if no actual development has commenced. Failure to comply with the conditions of this permit could result in immediate revocation of this permit. NSBMC 19.30.070
8. The permittee shall inform and ensure compliance with these stipulations by its agents and employees. This permit shall be posted in a conspicuous place for these individuals to see. NSBMC 19.30.100

If you should have any questions please contact Bart Ahsogeak, Land Management Specialist at (907) 852-0440 ext. 237 or by email at [bart.ahsogeak@north-slope.org](mailto:bart.ahsogeak@north-slope.org).

Sincerely,



Rhoda Ahmaogak,  
Land Management Administrator

cc: NSB Planning Commission  
Brian Person, NSB Wildlife (caribou/fox/geese/vegetation)  
Robert Suydam, NSB Wildlife (Birds/Bowhead/Beluga)  
Selene Tirre, Assessing Division, NSB  
Raymond Paneak, Anaktuvuk Pass Village Coordinator, NSB  
Chris Miles, AkDNR, Fairbanks  
Dennis Gnath, JPO Liaison, DNR, OHMP, Anchorage  
Robert McLean, Area Manager, DNR, OHMP, Fairbanks  
Jewel Bennett, Louise Smith, USDI/F&WS, Fairbanks  
Jeanne Hanson, USDI/NMFS, Anchorage  
Josephina Delgado-Plikat, DCOM, Juneau  
Bill Smythe, AkDEC, Fairbanks  
Michiel Holley, Don Rice, US Army COE  
Lilly Aveoganna, Realty Director, Inupiat Community of the Arctic Slope  
Rex Rock Sr., President, Arctic Slope Regional Corporation  
Mark Morry, President, Nunamiut Corporation  
Ester Hugo, Mayor, City of Anaktuvuk Pass  
Dwain Hopson, Mayor, City of Nuiqsut  
Timothy Ahgook Sr., President, Anaktuvuk Pass Tribal Council  
Donna Wixon, USDI/BLM  
John Easton, Jeanne Frazier, Adele Lee, AkDNR/DO&G, Anchorage  
Wiley Contrades, NSB Planning  
Tony Cabinboy, Field Inspector, Nuiqsut  
Thomas Simmonds III, Charles Russell, Field Inspector, Barrow  
Files

N13-385/RA/GRB/na LMR Manager/ba



# Land Management Regulations Permit Application

NORTH SLOPE BOROUGH  
DEPARTMENT OF PLANNING AND COMMUNITY SERVICES  
PERMITTING AND ZONING DIVISION

Permit Number 13-385

Applicant: Marine Bio Lab, Woods Hole  
Address: 7 MBL Street, Woods Hole, MA  
Contact Person: Gaius R Shaver  
Location (TRS): T: \_\_\_\_\_ R: \_\_\_\_\_ Sec.: \_\_\_\_\_  
See attached maps and documents  
Zoning District: \_\_\_\_\_

Permit Type: \_\_\_\_\_  
Date: \_\_\_\_\_  
State ID: \_\_\_\_\_  
Phone: 508-289-7492 Email: gshaver@mbl.edu  
Project Name: Anaktuvuk River Burn Research  
Unitized Field Name and Pad Location: \_\_\_\_\_

Proposed Start Date: October 2013

Completion Date: September 2018

**Proposed Development:** This is a request for renewal of an existing permit, NSB 08-372, for scientific research on recovery of the Anaktuvuk River Burn site from a major wildfire in 2007. There will be no permanent development or scarring of the landscape. See attachments for details.

**Purpose Of Development:** The purpose of the research is to monitor recovery of the site from wildfire in 2007. The site has been monitored each summer since 2008, using automated water samplers and climatic monitoring equipment, with occasional collection of small plant and soil samples.

- Fill/Dredge** Material: \_\_\_\_\_ Acres: \_\_\_\_\_
- Oil and Gas Wells** Number of New Surface Holes: \_\_\_\_\_
- Temp. Water Use** Sources: \_\_\_\_\_ Access: \_\_\_\_\_  
Purpose: \_\_\_\_\_ Maximum Amount: \_\_\_\_\_
- Off Road Travel** Period of Travel: April-October Equipment: No motorized travel  
Access to Site: Helicopter access only; travel on foot or skis while on site
- Fuel Storage** Type: \_\_\_\_\_ Amount: \_\_\_\_\_  
Handling: \_\_\_\_\_
- Hazardous Materials Storage** Type: \_\_\_\_\_ Amount: \_\_\_\_\_  
Handling: \_\_\_\_\_
- Solid Waste** Treatment: \_\_\_\_\_
- Mining** Mining Habitat: \_\_\_\_\_
- Air Emissions** Type: \_\_\_\_\_ Amount: \_\_\_\_\_
- Noise/Vibration** Type: \_\_\_\_\_ Amount: \_\_\_\_\_
- Sensitive Habitat** Floodplain: \_\_\_\_\_ Shoreline: \_\_\_\_\_
- Transportation** Type: \_\_\_\_\_
- Marine Tanker Facility**   **Seismic Work**   **Utility Development**   **Recreational Development**
- Causeway Construction**   **Offshore Drilling**   **Residential Development**   **CD-ROM Include**
- Airport or Helicopter Pad**   **Oil Transport System**   **Snow Removal**

ATTACH TO THIS APPLICATION THE FOLLOWING:

- GENERAL VICINITY MAP
- SPECIFIC LOCATION MAP, INCLUDING NEARBY EXISTING DEVELOPMENT AND NATURAL FEATURES.
- SITE SPECIFIC FOOTPRINT (IN ESRI SHAPE FILE FORMAT) ON A CD-ROM.
- A DIGITAL GIS SHAPE FILE OR GEODATABASE OF THE PERMIT AREA WITH NO ATTRIBUTES. THE PROJECTION SHOULD BE NAD 1927 ALASKA ALBERS OR GEOGRAPHIC.
- DESIGN PLANS (PLOT PLAN), ELEVATIONS, CROSS SECTIONS, PROFILES, AS APPROPRIATE.
- SUPPLEMENTAL INFORMATION, AERIAL PHOTOGRAPHS, STUDIES, ETC. (AS NEEDED)

SEND TO:

NORTH SLOPE BOROUGH, LAND MANAGEMENT ADMINISTRATOR  
P.O. BOX 89  
BARROW, AK 99723  
PHONE: (907) 852-0320 TOLL FREE (IN-STATE): (800) 478-8086 EXT. 320

I HEREBY CERTIFY THAT THE FOREGOING IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

*Gaius R. Shaver*

26 March 2013

Authorized Signature

Date

Gaius R. Shaver

Senior Scientist

Name

Title

- FEE PAID**
- SPECIAL PLANNING COMMISSION MEETING...\$12,000.00
  - DEVELOPMENT PERMIT... \$2,000.00 AND \$500.00 PER WELL
  - ADMINISTRATIVE APPROVALS...\$1,500.00
  - CONDITIONAL DEVELOPMENT PERMITS...\$3,000.00

AMOUNT PAID:

**DECISION**



**ADMINISTRATIVELY APPROVED**

This is a minor amendment to a development permit or is a use of land listed under administrative approvals for this zoning district.



**REZONING APPROVED**

This proposed development substantially complies with the Master Plan, and a use permit is issued, conditioned on compliance with all relevant Master Plan conditions, lease stipulations, and provisions of state and federal law and permits served thereunder.



**DEVELOPMENT PERMIT APPROVED**

The proposed development meets all applicable mandatory Policies, represents the Developer's best efforts to implement all relevant best efforts and minimization policies, and as long as any conditions set forth in the accompanying letter are complied with, will represent a net public benefit. (See accompanying letter).



**CONDITIONAL DEVELOPMENT PERMIT APPROVED**

This is a use of land that is listed as a conditional development for this zoning district or has been elevated by the Land Management Administrator to the Planning Commission.



**PERMIT DENIED**

(See accompanying letter).

*Reef*

Land Management Administrator

*4.5.13*

Date

If you wish to appeal this decision, you must submit written notice to the secretary of the Planning Commission prior to the next regularly scheduled meeting, stating the policy or policy or policies in question and the reason you believe the decision is incorrect.

**MBL**

Biological Discovery in Woods Hole

**Gaius R. Shaver**  
Senior Scientist, The Ecosystems Center**MBL**  
7 MBL Street  
Woods Hole, MA 02543  
USAp: 508 289.7492  
f: 508 457.1548  
gshaver@mbl.edu

29 March 2013

ATTN: Josie Kaleak  
Land Management Regulation Division  
Department of Planning and Community Services  
North Slope Borough  
PO Box 69  
Barrow, AK 99723

**NORTH SLOPE BOROUGH****MAR 29 2013****PLANNING DEPARTMENT  
PERMITTING DIVISION**

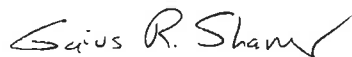
Dear Ms. Kaleak:

Enclosed please find an application for a 5 year renewal of land use permit #NSB 08-372, for research activities on the area known as the Anaktuvuk River Burn. Please note that this renewal would also change the permit holder from the University of Alaska to the Marine Biological Laboratory in Woods Hole, MA. Also enclosed in support of this application is a copy of the current permit from the North Slope Borough, which we are hoping to renew. Finally, enclosed is a check for \$200 as a permit application fee.

Our research on the Anaktuvuk River Burn is currently funded by two grants from US National Science Foundation (NSF-DEB-1026843, "*Arctic LTER: Climate Change and Changing Disturbance Regimes in Arctic Landscapes*", and NSF-EF-1065587, "*Fire in Northern Alaska: Effect of a changing disturbance regime on a regional macrosystem*"). We also receive support from the NSF Office of Polar Programs for Logistic Support at Toolik Field Station. The Woods Hole Marine Biological Laboratory is a nonprofit research and education institution.

We are not requesting any restrictions on public access to our research sites in the Anaktuvuk River Burn and none of our work can be considered commercial activities. All of our installed instrumentation will be removed at the end of our research, with no major or minor modifications to the landscape. Access to the site is by helicopter, with all on site sampling and monitoring completed by foot travel.

Sincerely,



Gaius R. Shaver, Senior Scientist  
The Ecosystems Center



Figure 1. Map showing principal sites of permitted activities in the AR Burn

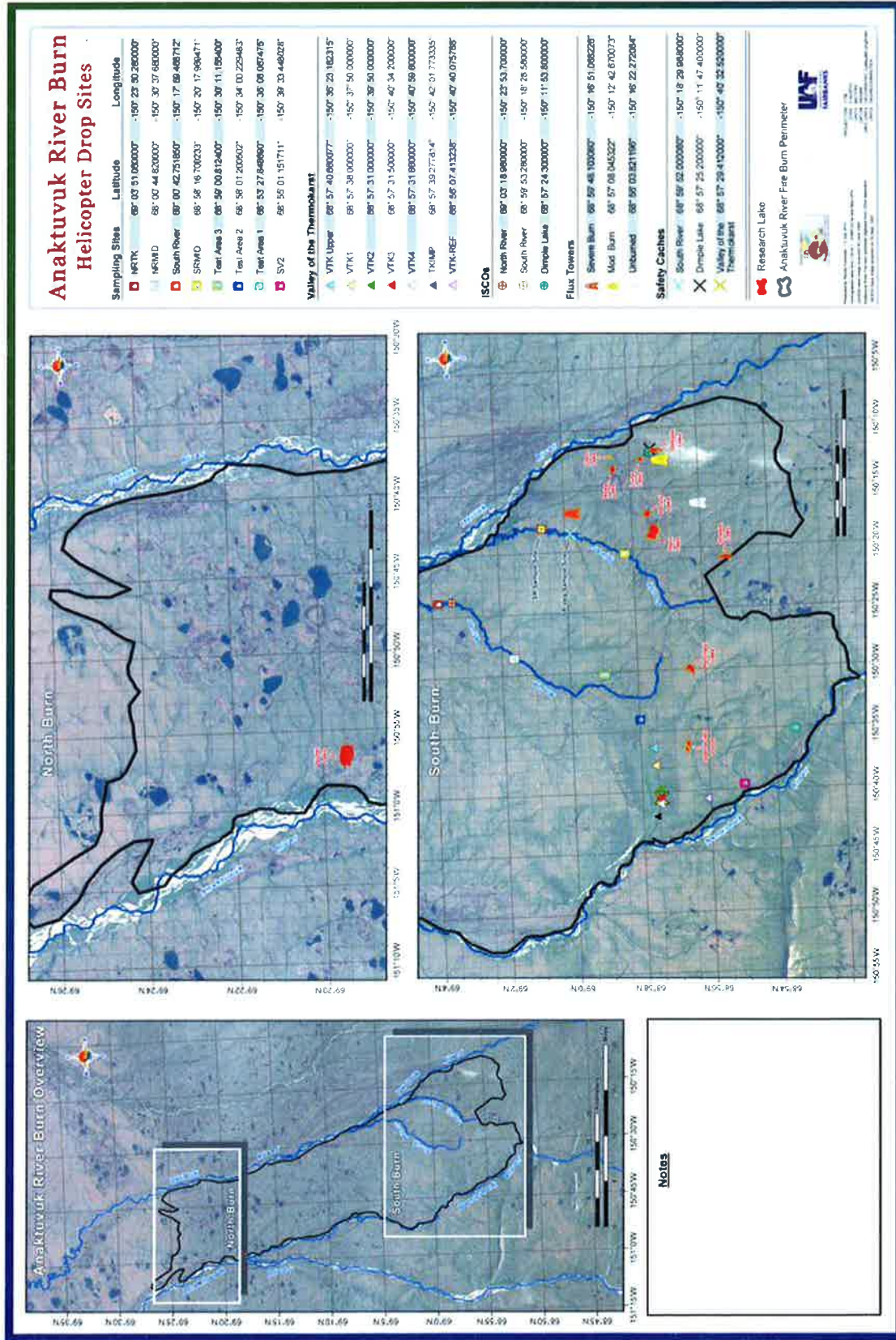


Figure 2. US BLM outline map of the Anaktuvuk River burn, superimposed on USGS topo map

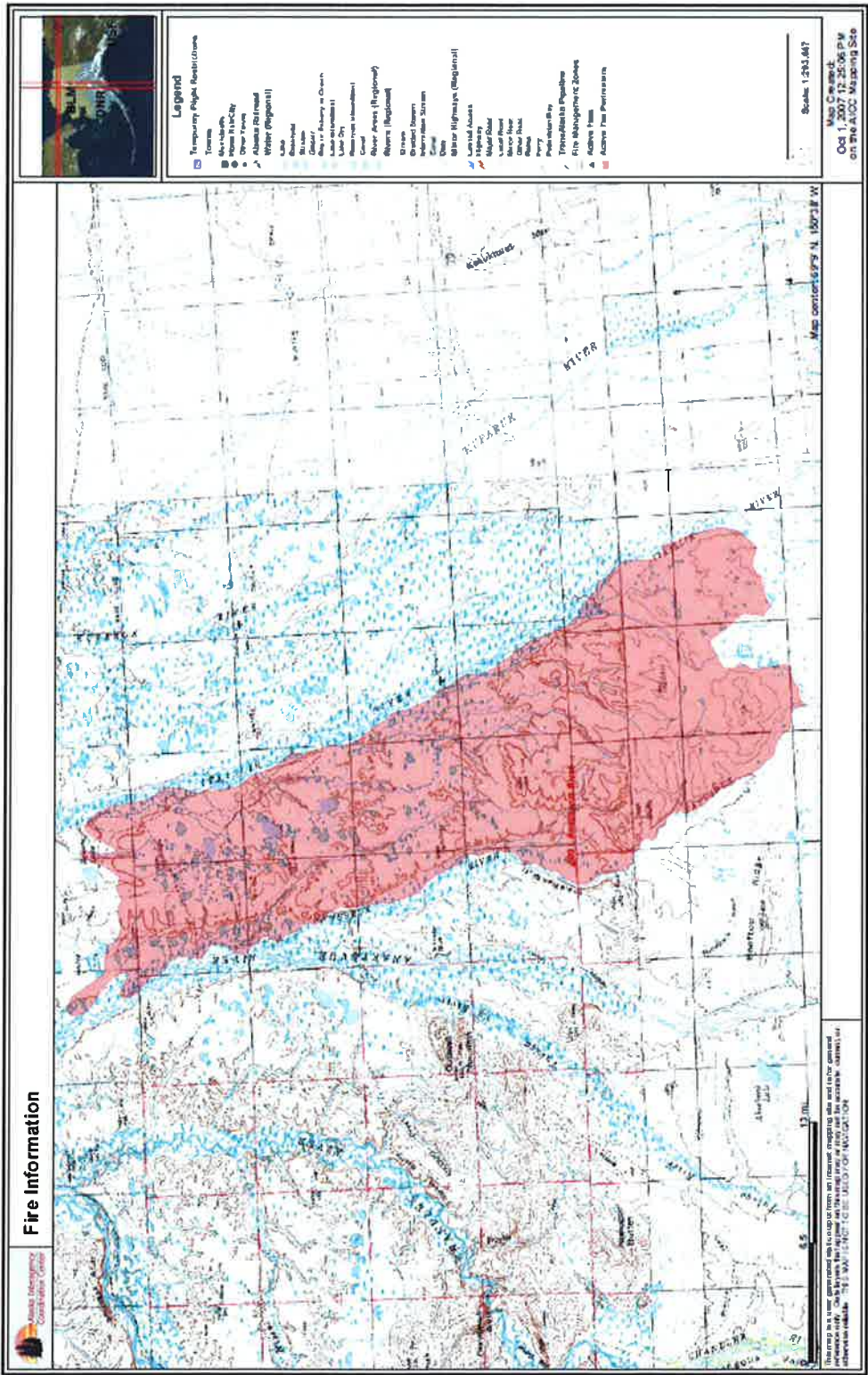


Figure 3. Townships included with in the Anaktuvuk River Fire perimeter

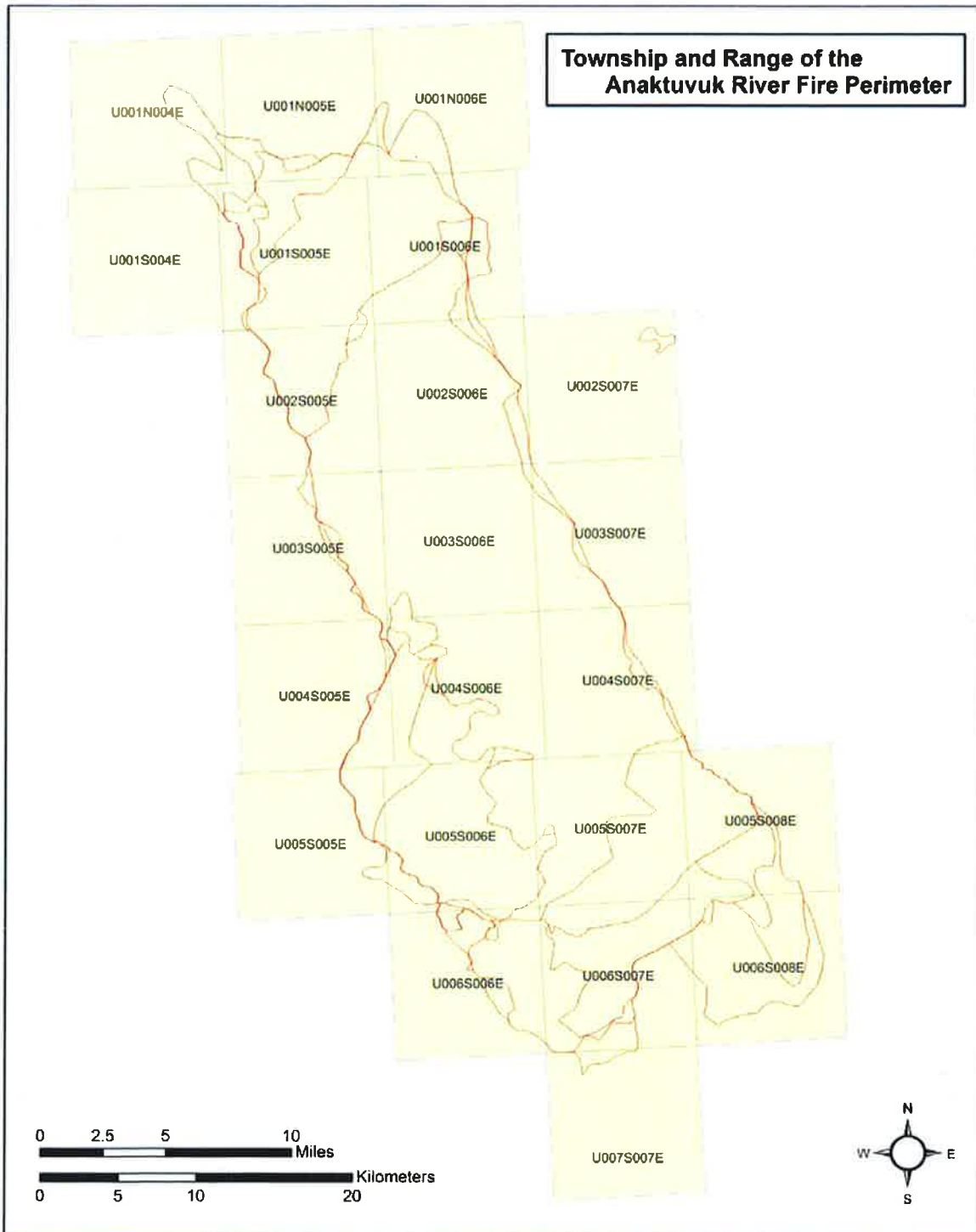


Table 1. Locations of micrometeorological towers, autosamplers, and data loggers left on the burn site year-round or summer only.

SITE TYPE	SITE_NAME	LATITUDE	LONGITUDE
Micromet/Flux Tower, Data Logger	Control Flux Tower (Unburned)	68.934395	-150.272853
Micromet/Flux Tower, Data Logger	Moderately Burned Flux Tower	68.952235	-150.211853
Micromet/Flux Tower, Data Logger	Severely Burned Flux Tower	68.996695	-150.280852
Stream Autosampler, depth logger	Dimple Outlet ISCO/HOBO (1st)	68.956750	-150.198278
Stream Autosampler, depth logger	South River Trib ISCO/HOBO	68.998133	-150.3079
Stream Autosampler, depth logger	North River ISCO/HOBO	69.055267	-150.398250
Thermokarst sampling	Valley of Thermokarst (VTK-REF)	68.935393	-150.677799
Lake Sampling	Horn Lake	68.958333333	-150.302016667

Figures 4, 5. Micromet towers in operation in 2008 in unburned tundra (left) and in recovering, severely burned tundra (right).



Figures 6,7. Stream autosamplers in operation in unburned (left) and burned tundra (right) in 2008



Figures 8,9. Severely burned tundra in 2008 (left) and in 2010 (right).



Figures 10,11. Aerial view of burned tundra in 2008 (left) and in 2010 (right).

