

Standard Operating Procedure (SOP) 3.1: Planning and Preparation for Fire Effects Sampling – Racine Plots, Version 1.0

Fire Monitoring Protocol for the Arctic Network

Fire Extent, Severity and Effects

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The main Narrative for the Fire Monitoring Protocol for the Arctic Network: Fire Extent, Severity, and Effects is available from the NPS Inventory and Monitoring Network website (<https://www.nps.gov/im/arcn/protocols.htm>), the Natural Resource Reports website (<https://www.nps.gov/im/reports-nrr.htm>) and the Integrated Resource Management Applications (IRMA) Data Store (<https://irma.nps.gov/DataStore/Reference/Profile/2254884>).

SOP 3.1 - Planning and Preparation for Fire Effects Sampling – Racine Plots

Standard Operating Procedure #3.1

Version 1.0 (March 2020)

Revision History Log

Version No.	Revision Date	Author	Changes Made	Reason for Change

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Project Planning

Project planning and field preparation will begin in late fall/early winter and continue through to the time of actual field sampling the following summer season. A general timeline of the major logistical and field preparation tasks are provided in Table 3.1.1.

General project planning begins with compliance documentation is completed in early winter to allow for revisions or additional planning. In most cases, the compliance questionnaire or MRA includes information on where and when the project will occur, potential environmental impacts, logistical and transportation needs, and other project specifics, and will be reviewed by the park unit Compliance Team and either approved or denied. NPS compliance requirements and deadlines vary slightly between park units but are generally due mid-March to early April.

Logistics

Detailed logistics and transportation planning will start late winter/early spring.

Aircraft

Both fixed wing and helicopter aircraft transportation have been used for previous field visits to BELA and NOAT. Typically, a float plane has been utilized to access plots in BELA (crew transport from Kotzebue to the field camp on the east side of Imuruk Lake near Granite Bay). Both a fixed wing and a helicopter have been used to access NOAT sampling plots. Under normal conditions, a gravel bar landing strip is accessible along the Noatak River, west of Kelly Ranger Station (base camp) for fixed wing transportation from Kotzebue. Typically, there is also ample gravel bar space for a helicopter landing zone near the Ranger Station. Conditions of the gravel bar areas differ from year to year will need to be assessed prior to the project. Once at Kelly Ranger Station, a helicopter can be used to for crew transportation to the sampling sites.

Planning should begin as early as possible including aircraft availability, flight time and fuel cost estimates, and remote fueling logistics. Begin the flight request and task order process through the Northern Hub Aviation Manager for fixed wing use and if a non-fire program helicopter is needed. Project Aviation Safety Plans must be completed for field work that utilizes aviation resources and must be submitted for review *at least 21 days prior* to the start of the project. Schedule helicopter use through the Western Area Fire Program Helicopter Manager in Denali NP.

Housing

Housing will likely be needed in Kotzebue both coming and going from the field. Housing in Nome for BELA plots may be a secondary option. NPS housing and vehicle requests, and any other park specific logistical needs should be planned as early as feasible due to limited availability. Reservations can be made through the park administrative staff.

Base Camps

Typically, the Kelly Ranger Station serves as a base camp location for plot sampling in NOAT. Reservations should be made through the Rangers as soon as feasible. This facility includes a small cook cabin, bunk room cabin (gear storage), tool shed, and outhouse. There is space for tent camping around the Ranger Station. Key is required.

A basic remote field camp setup is used for sampling in BELA. Sampling plots are accessible by foot from the field camp (east side of Imuruk Lake, near Granite Bay).

Travel to Kotzebue

The timeline for arranging travel to Kotzebue will vary depending on crew member selection, quantity of field gear needed, project timelines and budgets. A cost comparison between commercial airfare (including excess baggage or freight fees) and other agency aircraft may be beneficial.

Backcountry Itinerary and Flight Plans

Within 1-2 weeks of the project, the Backcountry Itinerary and Flight Plans need to be submitted to the Alaska Regional Communications Center (ARCC) in Denali. Generally, this is also when the final field crew selection, field preparation, and gear packing occurs.

Table 3.1.1. General order of project planning tasks that must be completed prior to commencing field work.

Order of Completion ¹	Planning Task	General Timeline/Due Dates
1	Budget/Acquire Project Funding	Late fall/early winter
2	Compliance	Early-March/Mid-April
3	Aircraft Requests (Fixed-Wing and/or Helicopter)	Late Spring
4	Task Orders (if applicable)	Late Spring
5	Lodging/Facility/Vehicle Reservations	Late Spring
6	Project Aviation Safety Plan (if applicable)	Minimum 21 days prior to project
7	Travel Arrangements to Kotzebue	1-3 weeks prior to project
8	Final Field Crew Determination	1-2 weeks prior to project
9	Backcountry Itinerary	1-2 weeks prior to project
10	Float Plan (if applicable)	1-2 weeks prior to project
11	Flight Plan (if applicable)	1-2 weeks prior to project
12	Field Gear Packing	1-2 weeks prior to project

¹This order is approximate. Items may be completed in a different order as long as deadlines are met.

Field Preparation

Begin field preparation at least 1-2 weeks prior to the start of the project. The following items need to be completed:

- Print blank datasheets on regular and write in the rain paper (see SOP 3.2).
- Print/copy datasheets and photos from previous year(s) site visits.
- Print plot maps and load pdf maps to iPads (for use with Avenza app) (NOAT Plots only).
- Load Garmin GPS units with most recent/accurate gps coordinates for navigation.

- Load data dictionaries to Trimble units (if plot locations have not been collected with a Trimble unit previously).
- Print copies of all planning documentation including Project Aviation Safety Plan(s), task order(s), backcountry itinerary, flight plan, satellite phone instructions/phone list/emergency contacts, plot and landing zone coordinates list, budget, sampling protocols, research permit, and project schedule.
- Pack field gear including group camping gear, field packs, satellite phones, battery packs, etc.
- Pack sampling equipment (see Tab 3.1.2).
- Ship excess field gear to Kotzebue (if needed).

Sampling Gear Packing List

The basic gear needed for remote field based sampling is listed in Table 3.1.2 below. All of these items, at a minimum, should go with the crew each time they go in the field in order to be self-sufficient and prepared for adverse conditions in remote areas. This list can be modified to address project specific logistical and preparedness needs.

Table 3.1.2. List of basic sampling and logistical gear needed for remote field based fire effects sampling. Quantities can be adjusted based on the number of field crew members per plot.

Item	Quantity (per plot)¹
<i>Sampling Equipment</i>	
30 Meter Tape (Kungiakrok, Nimrod, Uchugrak)	1
90 Meter Tape (Kugururok)	1
90 Meter Tape (Noatak River)	2
Blank Datasheets	1 set per plot
Bread Knife or Compass Saw	1
Chaining Pins	4
Clinometer	1
Clipboard	2
Compass	1
Copies of Previous Datasheets & Photos (if applicable)	1 set per year per plot
Diameter Tape (small), Metric	1
Digital Camera	1
Dry Erase Board with Marker	1
Field Vest	1 per person
Folder Ruler, 1 Meter	2
GPS Device	1
Hand Lens	2
Permafrost Probe (or Bike Flag)	1
Quadrat (1m x 1m)	2
<i>Logistical/Emergency Equipment</i>	
Aviation Radio (UHF)	1 per crew
Bear Spray	1 per person
Bendix King Radio	1 per crew
Copies of all Planning Documentation	1 per crew
Datasheet Organizer	1 item

Item	Quantity (per plot) ¹
Emergency Survival Gear	1 per person
Food and Water	1 per person
InReach Device (Optional)	1 per crew
Maps of Plot Locations	1 set per crew
Rain Gear	1 per person
Satellite Phone	1 per crew
Shotgun with Ammunition	1 per crew

¹Quantities are listed per plot unless otherwise noted.