



**UNIVERSITY OF
ALBERTA**

Field Activities Plan

PI: Rolf Vinebrooke

Department Contact Name: Rolf Vinebrooke

Department Contact Number:

Project Name: North Saskatchewan River Tributaries Project

Project Description: Algal and Macroinvertebrate Sampling

Dates of Field Work:

Date FAP Prepared (DD/MM/YYYY):	27/04/2020
Prepared By:	Rolf Vinebrooke, Shelby Stenerson, and Blake Stuparyk
Department:	Biological Sciences
Name of Supervising Researcher:	Rolf Vinebrooke
Supervising Researcher's Contact Information:	
Work Phone:	(780) XXX-XXXX
Cell Phone:	(780) XXX-XXXX
Email:	rolf@ualberta.ca

Project Overview

Date of Departure (DD/MM/YYYY):	01/06/2020
Date of Return (DD/MM/YYYY):	30/08/2020
Country:	Canada
Geographical Sites:	Various sites along the North Saskatchewan River Basin (see maps and excel spreadsheet for more detailed description)
Nearest City/Town:	See excel spreadsheet (page 15-16)
Mapped Location:	See map below
Project Description:	
<p>Our research entails a collaboration with Alberta Environment scientists on a Alberta Innovates-funded three-year project involving geospatial modelling of human impacts on tributary streams of the North Saskatchewan River Basin. We aim to groundtruth the models by collecting bioindicator communities of live algae and macroinvertebrates from several tributaries during the months of June, July, August, and possibly September. Base camp and accommodations are not required as we will be returning to Edmonton each day.</p>	

North Saskatchewan Tributary Streams

Field Research Participants

Name:	Health Card #:	Position:	Emergency Information Form Completed:	Informed Consent Forms Completed:

Document Management

Copies of the FAP, Emergency Information Forms, Informed Consent Forms, and Training Certifications will be kept in the field as well as with:

Name:	Rolf Vinebrooke ,Tom Hantos
Email:	rolf@ualberta.ca , hantos@ualberta.ca

Phone:

Daily Field Safety Meetings

These books should be kept with the department/supervisor for at least 7 to 10 years.

Field Safety Log Book Obtained from FRO:	Date Obtained (DD/MM/YYYY):	Discussion with Research Team:
<input type="checkbox"/> Check if obtained	(26/03/2020)	<input type="checkbox"/> Check when completed

Emergency Response Information

University Specific Contact Information:	
Department Contact and Phone #:	
U of A Protective Services:	(780) 492-5050
U of A Environmental Health and Safety:	(780) 492-1810
U of A Office of Insurance and Risk Assessment:	(780) 492-8886
STARS:	1-888-888-4567, 1-403-299-0932, #4567 from a cell phone
Field Specific Emergency Contact Information:	
Local Contact and Phone #:	See excel spreadsheet (page 15-16)
Local Emergency Response Number:	See excel spreadsheet (page 15-16)
Local RCMP Detachment:	See excel spreadsheet (page 15-16)

Family Emergency Contact Information:			
Team Member:	Emergency Contact:	Relationship:	Number:

Emergency Response Plan

Potential Emergencies:	1. Injury in rugged alpine conditions, 2. UV exposure, 3. Wildlife encounter, 4. On-road vehicle collision or emergency, 5. Backcountry isolation/getting lost, 6. Dehydration, 7. Exposure, 8. Water hazards, 9. Medical emergencies, 10. Psychological emergencies, 11. COVID-19 (see below for details).
Procedures for Potential Emergencies:	See details below.
Emergencies Response Training Requirements:	All participants (if possible) will be trained in: (1) Standard First Aid and Wilderness First aid; (2) bear safety; and (3) field communications (using satellite phones, and Spot Satellite Messenger). In addition, several participants (i.e., those who will drive) will receive truck and trailer safety training from the UAlberta Vehicle Pool.
Location and Use of Emergency Facilities:	Sample sites are marked out and shared prior to leaving for the field. A GPS is also carried at all times and can be used to pinpoint exact location. The supervisory graduate student will always have a comprehensive First Aid kit on hand, and extra water, snacks, and clothing layers. A cell phone will be carried on the person at all times. Bear spray will always be carried on the person at all times.
Fire Protection Requirements:	There is a fire extinguisher in each of the field trucks. We will also consult the Alberta Wildfire Status Map before leaving for project site (https://wildfire.alberta.ca/wildfire-status/status-map.aspx), as well as Fireban and air quality readings. Also, we will not park vehicle in tall grass, and always clean grass debris from under carriage before leaving each site. 511 will also be consulted for road closures.
Alarm and Emergency Communication Requirements:	All participants will be informed about emergency protocol and an emergency phone on the premises. In the field, cell phones will be carried by each group, as well as a satellite phone and SPOT communicator in remote areas.
First Aid Services Required:	All participants will be trained in CPR and Standard First Aid and at least 2 people on the field team will be trained in Wilderness First Aid prior to departure to the field. Serious incidents will require medical attention from the nearest hospital.
Procedures for Rescue and Evacuation:	In case of emergency, participants will determine whether rescue or evacuation is required. Given the possibility of encountering black or brown bears along the trail, the trail crews will include a minimum of two people and everyone will carry their individual bear spray.
Designated Rescue and Evacuation	Given the small size of the field crew, all participants will be expected to work to the best of their abilities to provide first aid and rescue/evacuation support.

Workers:	Rescue and evacuation workers operating from the Edmonton will include helicopter personnel and appropriate EMS, police, fire, and other emergency/rescue personnel (see excel spreadsheet for specifics to each sample site: page 15-16).
COVID-19 Safety Precautions:	<ol style="list-style-type: none"> 1. Stay away from work if you are not well, or experiencing any of the COVID symptoms (https://myhealth.alberta.ca/Journey/COVID-19/Pages/COVID-Self-Assessment.aspx). <ul style="list-style-type: none"> · Have or had symptoms of COVID-19 in the past 10 days (cough, sneeze, sore throat, fever, difficulty breathing). · Have travelled outside of Canada within the previous 14 days. · Have been exposed to someone with COVID-19. · Share a home with someone who has been exposed to COVID-19. · Report any developing symptoms of COVID-19 to supervisor immediately. 2. Day trips only <ul style="list-style-type: none"> · Separate vehicles if two people required for work and within a 6-hour round trip of home base, review Vehicle Safety Tip Sheet and Practice good hand hygiene; wash hands after using vehicle · You may use same vehicle (2 staff per vehicle – one in the driver seat, another in the back seat) if greater than 6 hours round trip and to overcome the hazards of long distance driving and fatigue, with these added protections, given you are closer than the recommended social distancing: <ul style="list-style-type: none"> ○ ½ mask respirator or disposable N95 mask ○ Safety glasses ○ Review Vehicle Safety Tip Sheet ○ If suitable weather conditions exist, open windows slightly to allow for fresh air circulation within the vehicle. ○ Practice good hand hygiene; wash hands after using vehicle 3. In all field work, please respect the following directions: Respect physical distancing. If two meters’ physical distance cannot be achieved, it needs to be assessed at each operational area case by case depending on each specific task performed at the time and additional controls implemented. You must control the potential exposure to COVID-19, by doing the following: <ul style="list-style-type: none"> · First consider whether or not the task is truly essential at this time: <ul style="list-style-type: none"> ○ Can the task be delayed? ○ Can it be safely done in another way? ○ Can the number of workers involved be reduced? · If the task is considered essential and cannot be delayed, then use the following: <ul style="list-style-type: none"> ○ Personal Protective Equipment (PPE) <ul style="list-style-type: none"> ○ All workers who cannot maintain physical distance (2m or 6.5ft) should use PPE including: N95 or half-face respirators with P95 or P100 filters, where possible half-face respirators with P95 or P100 filters are preferred since they provide more protection and N95 are in short supply for use by health care workers, disposable nitrile gloves (where appropriate), and safety glasses. All participants will be trained in proper procedures on how to don and take off PPE, as well as, how to dispose of used PPE.

	<ul style="list-style-type: none"> ○ Hand Hygiene <ul style="list-style-type: none"> ○ Practice good hand hygiene; wash hands routinely/after task and use an alcohol-based hand sanitizer (with at least 60% alcohol) where soap and water are not readily available. Avoid touching your eyes, nose, or mouth with bare or gloved hands. ○ Cleaning and Disinfecting <ul style="list-style-type: none"> ○ During task ensure shared tools are decontaminated when switching from different users by using disinfectant wipes or spray. When task is completed ensure that tools that were used are cleaned and disinfected. Use the Lysol wipes for disinfect vehicle surfaces where contacted, and also other commonly touched items/areas. ○ Eating and Drinking <ul style="list-style-type: none"> ○ Before eating or drinking participants should wash their hands. Bring a lunch to avoid take out (restaurants are probably all closed).
--	--

Hazard Assessment and Control

Task:	Potential Hazard:	Mitigation or Controls:
Hiking in mountainous conditions	Slips, falls, injury	Appropriate hiking footwear will be used, as well as awareness for the area and proper route choice. Wear protective eyewear, tinted lenses for sunny weather.
High UV	Sunburns, sunstroke	Participants will all wear sunscreen and reapply over the course of the day. Each participant will wear sunglasses, a hat with proper coverage, and long sleeves to prevent sunburn. Each participant will stay hydrated to prevent sunstroke.
Black bear or grizzly bear, wolf, cougar	Injury or death	At least two participants from field crew has been trained in the EHS E-Learning bear awareness module and hands on session. Additional training will be provided by the managers of the Barrier Lake Field Research Station. Trained participants will be equipped with a bear spray canister positioned for easy access and all participants will have bear bangers. Food will be stored in strong, air-tight containers in secured buildings or, hung in a tree away from camp for overnight backpacking. Particular caution will be exercised upon first rising in the morning and when returning to camp following a day's field activities. Noise will be made during travel on trails or through the backcountry in

		order to reduce the probability of surprising a bear.
On road vehicles (field truck)	Injury or equipment damage	The vehicle will be checked daily to ensure proper working condition. Fuel levels will be checked and recorded. Check the spare tire and know how to change a tire. Maps and GPS will always be carried. Do not assume that cell phone coverage will be available as a source of maps. Be aware of the weather forecast. If rain or snow is forecast, be prepared to change plans and return to the main highways or mainline logging roads early. Carry overnight camping gear in the truck and sufficient food and water for two days . Additional waterproof clothing and cold weather clothing should also be carried. First aid kit and bear spray will always be carried by the group while hiking. Fire extinguisher and first aid kit will always be in the vehicle. Satellite phone will be rented if work area is remote. Avoid carrying keys in wilderness and hide in agreed location on vehicle. Carry a second set of vehicle keys. Consider if it is really necessary to lock the truck. Training for all drivers will be obtained as required by Kenji the Fleet Safety Officer with Facilities and Operations, including project specific training/awareness (e.g. driving in areas with abundant wildlife). Appropriate safety equipment (gloves, eye protection, highly visible vests) will be carried and accessible.
Remote/backcountry working conditions	Injury	All participants will carry suitable clothing and equipment, including the “10 essentials” (map; compass and/or GPS and extra batteries; sunglasses and sunscreen; extra food and water; extra clothing; headlight/flashlight; first aid kit; fire starter; matches/lighter; and a knife); emergency shelter; any required medications; and communication equipment (e.g., satellite phone; Spot communication device). Each day, the work plan will be determined and discussed, highlighting potential risks that might be encountered, mitigation methods, and the participants’ state-of-mind related to these risks. Trail finding methods will be assessed prior to departure including trail

		reports, Google Earth satellite imagery and GPS. The day's work plan will be developed in the context of the day's expected weather conditions and the participants' experience, training, and state-of-mind.
Dehydration	Injury	Participants will stay hydrated by carrying at least 2L of water per person. For backcountry trips, water filtration systems will allow for the replenishment of water. Regular rests along more strenuous hikes will allow for a lesser chance of fatigue and dehydration.
Exposure (hypothermia)	Injury	Participants will be trained in the symptoms, prevention, and treatment of hypothermia and in proper clothing (i.e., the "layering" method of dressing). In case of hypothermia, evacuation to camp will be initiated and depending on severity Edmonton contact will be notified or emergency services.
Water hazards	Injury or death	Weather will be assessed periodically to ensure conditions remain safe. With any sign of thunder, lightning and/or windy conditions, sampling will be terminated until conditions improve. Crossing of streams will be performed where safest; decisions whether or not to cross will be made taking river discharge (depth and flow rate), downstream hazards, and participant state-of-mind into consideration. Rivers swells will be assessed on site, and work will be determinant on assessment. Working in stream orders 4-5 will help control risk of injury. While walking on slippery surfaces, all participants will wear good footwear for the situation and take their time.
Lifting/moving heavy objects	Injury	All participants will be taught the proper way to lift heavy objects. When moving heavy supplies, multiple trips will be taken and when needed multiple people will carry heavy objects.
Medical	Various	A comprehensive "expedition" first aid kit will be kept in camp, and during field excursions a "field" medical kit will be carried by each participant (the contents of these kits will conform to the specifications outlined on the Field Research Office

		website).Emergency contact information will be kept on site and presented to first responders as required” FYI: this information is to be collected and stored in a sealed envelope on site. Shredded once project has concluded and have returned to campus. All participants will be urged to bring prescription drugs (if critical). Camp supplies will include over-the-counter medications (e.g. pain relief, nausea relief, salt tablets) for self-administration.
Psychological	Various	Mental state of all participants will be monitored to ensure that they are coping well with the various pressures that can result from fieldwork (e.g., isolation, stress, mental fatigue, etc.). If needed, personnel can be evacuated via truck.
Insect bites, poisonous plants	Ticks, mosquitos, bees, various flies, stinging nettle, poison ivy	Long pants and sleeves will be worn while hiking. Afterbite and Benadryl medication will be carried in the first and kits. Body scan for ticks will be completed at the end of each field day. Group members will consult Gov. Alberta Lyme Disease and Tick Surveillance web page for information on tick control. All field crew will have general poisonous plant knowledge.
COVID-19	Various	All precautions will be followed as previously stated in emergency safety plan (table above). Participants will also practice social distancing by only have two people per field vehicle, not sharing equipment, avoid touching their face, avoid greetings (handshakes), and always cover coughs or sneezes with tissue or elbow.

Permits required or Ethics Clearance Needed

Permit/Clearance:	Date Obtained (DD/MM/YYYY):	Expiry Date (DD/MM/YYYY):
Research and Collection Permit		

Training

Copies of training certificates or records should be kept with the Field Activities Plan for easier reference.

Name:	Position:	Training Required:	Training Completed:
	Professor	Standard First Aid, Defensive Driving, Supervisory Professional Development course	Yes
	Graduate Student	Standard First Aid, Defensive Driving, Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS, Supervisory Professional Development course	Yes
	Graduate Student	Wilderness First Aid, Standard First Aid, Defensive Driving, Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS, Transportation of Dangerous Goods, Supervisory Professional Development course	Yes
	Undergraduate Student	Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS	
	Undergraduate Student	Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS	
	Undergraduate Student	Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS	
	Undergraduate Student	Standard First Aid, Bear Awareness, Cougar Awareness, PRCC Working Alone Safety, WHMIS	

Meals

Type:	Location:
Self-cooked	All lunches will be prepared by each participant themselves at home in order to minimize contact with others.

Transportation

Type (Road, Air, Off-Road):	Details:	Source (U of A, Rental):
Truck	Toyota Tundra with extended crew cab, License Plate:	U of A Vehicle Unit #XXX
Truck	Truck with extended crew cab	UofA Fleet Rental
Truck	Truck with extended crew cab	UofA Fleet Rental

Drivers and Passengers

Name of Approved Drivers:	License Type/Class:	U of A Certified for Vehicle Type:
	5	Yes
	5	Yes
	5	Yes
	5	
Passengers	Affiliation (volunteer, collaborator, staff, etc.)	

Communications

With Outside	
Device Type:	Phone Number:
Field Crew Cell Phone:	
Field Crew Satellite:	Pending plan approval and pick up from FRO
Edmonton Contact:	Dr. Rolf Vinebrooke Email: rolf@ualberta.ca
Communication Protocol for Daily Check-in:	<ol style="list-style-type: none"> 1. Field crew will check-in with the designated Edmonton contact each morning (before 8am) and evening (before 7 am). This check-in can be by email, cell phone or satellite phone. 2. If the Edmonton contact does not receive a message by 9 pm they will attempt to contact the field crew on the cell phone or satellite phone. 3. If there is still no contact by 8 pm, the Edmonton contact will contact the RCMP.

Approval

Signature of Supervising Researcher:

I acknowledge that this safety plan has been prepared in keeping with the requirements of the [University of Alberta Off-Campus Activity and Travel Policy](#) and according to my review of [Appendix B \(Risk Assessment Matrix\)](#) and consideration of the research personnel, activities that will be performed and the research site, the risk for this FAP is: Medium.

Name:	Signature:	Date (DD/MM/YYYY):
Dr. Rolf Vinebrooke		04/05/2020

The following members of the research team have been informed and/or provided with a copy of this Field Activities Plan and any additional procedures/protocols that are attached to form part of the FAP and are aware of the hazards identified and the methods used to control or eliminate the hazards.

Name:	Signature:	Date (DD/MM/YYYY):

Map: North Saskatchewan River Basin

Sites (names in accordance with maps)	GPS Location	Nearest City/Town	Local RCMP
Vermillion	TBD	Vermillion	(780) 853-5781
Atimowse	53.8833N / 110.9118W	Vermillion	(780) 853-5781
NSR Pakan	TBD	Smoky Lake	(780) 656-3691
Redwater	53.8968N / 112.9959W	Redwater	(780) 942-3600
Sturgeon	TBD	Morinville	(780) 939-4520
Whitemud	53.4837N / 113.5547W	Edmonton	(780) 412-5424
NSR Devon	TBD	Devon	(780) 987-3431
Conjuring	53.3374N / 113.8159W	Edmonton	(780) 412-5424
Weed	53.3000N / 113.5547W	Leduc	(780) 980-7267
Strawberry	53.3112N / 114.0522W	Leduc	(780) 980-7267
Tomahawk	53.3518N / 114.6595W	Drayton Valley	(780) 542-4456
Modeste	TBD	Drayton Valley	(780) 542-4456
Rose	53.0517N / 115.0520W	Drayton Valley	(780) 542-4456
Brazeau	TBD	Rocky Mountain House	(403) 845-2881
Nordegg	52.8196N / 115.5129W	Rocky Mountain House	(403) 845-2881

Baptiste	52.6644N / 115.0761W	Rocky Mountain House	(403) 845-2881
NSR Clearwater	TBD	Rocky Mountain House	(403) 845-2881
Clearwater	TBD	Rocky Mountain House	(403) 845-2881
Ram	TBD	Rocky Mountain House	(403) 845-2881
NSR Saunders	TBD	Rocky Mountain House	(403) 845-2881
Bighorn	52.3697N / 116.3026W	Rocky Mountain House	(403) 845-2881
Cline	TBD	Rocky Mountain House	(403) 845-2881
NSR Whirlpool	TBD	Rocky Mountain House	(403) 845-2881
Siffleur	52.0441N / 116.3838W	Rocky Mountain House	(403) 845-2881