



new graph environment
Research & Consulting

Occupational Health and Safety Plan

Prepared for

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Version 0.0.2 2025-03-27



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Acknowledgement

Modern civilization has a long journey ahead to acknowledge and address the historic and ongoing impacts of colonialism that have resulted in harm to the cultures and livelihoods living interconnected with our ecosystems for many thousands of years.

1 Safety Policy

At New Graph Environment we believe that all injuries are preventable and that safety is the responsibility of everyone. We believe that getting hurt at work is not acceptable and that by building a culture of safety we:

- will look ahead to identify hazards,
- will document safety procedures and ensure that our management, staff and contractors are familiar with them and understand why we have them,
- will strive for continuous improvement to ensure that we learn from the past and look to the future to facilitate the safest working environment possible for ourselves, our contractors, our clients and the public.

1.1 Feildwork Staff Training Requirements

1. Work your way through the New Worker Orientation Checklist, sound in [Appendix 1](#).
2. Watch the [bear aware training video](#).
3. WHMIS training - [free online course here](#).
4. Sign up for electrofishing certification course through [VIU](#) or through [NRTG](#). Have them send the invoice to AI or submit the expense in Harvest under project safety and category professional_development, using a descriptive name in the notes.
5. Sign up for an [OFA Level 1 course](#) or [another option in Castlegar](#). Have them send the invoice to AI or submit the expense in Harvest under project safety and category professional_development, using a descriptive name in the notes.
6. Swift Water Rescue is not require but we suggest getting it in the future. Courses are offered [Raven Rescue](#) and others.
7. Add applicable training certificates to the [certificates folder](#) and update the [Training Log](#) with your training.

1.2 Forest Safety Accord

THE SAFETY ACCORD OF THE BC FOREST INDUSTRY

Our Key Beliefs:

- We believe that all fatalities and injuries are preventable.
- We believe in a culture where the health and safety of all workers is an over-riding priority.
- We believe that excellence in health and safety is important to our long-term success.

Shared Responsibility:

- We are collectively and individually responsible for the safety of all workers and all worksites.
- Individuals must assume responsibility for their own safety and the safety of co-workers by following all safety rules, procedures and practices; by refusing to perform unsafe work; and by taking collective responsibility for the unsafe conduct of others.
- Tenure holders, licencees and prime contractors must take a leadership role in ensuring worker health and safety and assuring accountability for safety on the worksite.

Recognition of Safety Performance and Practices:

- The commitment to health and safety is to all workers, not just direct employees. When engaging contractors, sub-contractors and others to provide services, the selection process and administration of contracts will include recognition and support of good safety performance and practices.
- Employers will recognize and support the safety performance of their employees.
- All owners of forested lands, tenure holders and licencees will give weight to the safety record and current practices of companies in the awarding of contracts and in the determination of fees and levies.

Commitment to Training and Supervision:

- We understand the importance of workers being fully prepared for the work they do and the provision of competent supervisors who will insist on and enforce safe work practices. All workers on the worksite must be competent and fully trained and certified for the work they are performing.

Legislation:

- It is understood that the regulatory environment of the Forest Industry can have profound impacts on safety. Accordingly, government ministries and agencies must take into account the importance of health and safety when developing, reviewing and drafting applicable areas of law and regulation.

Continual Improvement:

- We are committed to the on-going improvement of our practices and support efforts to develop and implement new methods, procedures and technologies that have the potential to improve safety.



1.3 Corrective Action Log

1.3 Corrective Action Log

These corrective actions are to be completed by the person indicated, within the time frame allotted. If more time is required, or there are difficulties encountered, please contact Allan Irvine for assistance. These comments or corrective actions are based on the quality assurance review by the BC Forest Safety Council.

Table 1.1: Corrective Action Log.

Item	Company Action Plan	Person Responsible	Due Date	Date Closed
Continual Improvement Suggestion: The company has submitted the 2020 CL with this 2022 audit instead to the 2021 CAL returned to the company with you last audit review letter. The company did not receive credit for the submission of the correct CAL, and questions 4, 10, and 11 with your 2021 audit. The CAL submitted here should identify the deficient questions and indicate what the company is doing or plans to do to correct them all.	Submit 2022 CAL with current 2023 audit.	AI	30/07/2023	12/06/2023
Recommendation: Please obtain a Regulation compliant orientation form. Orientation checklists must contain all items listed in section 3.23 of the OHS regulations. Missing was the instruction and demonstration of work tasks and work processes. A single page compliant orientation checklist is available on the BCFSC website.	Update new worker assessment forms.	MW	30/07/2023	12/07/2023
Continual Improvement Suggestion: The "Worker Is competent." has not been selected in either forms submitted - which is the sole purpose of a worker assessment.	Assess worker competence and ensure all associated checkboxes are filled out.	AI	30/07/2023	12/06/2023
Recommendation: Please submit 1 monthly safety meeting or pre-work minutes from every operating month, from the current audit reporting year (the preceding 12 months to you June 28, 022 audit submission date). the company reported worked in all 12 months of July 2021 - June 2022. You may also submit the safety / fatality alerts covered in the monthly meeting agendas.	Submit all available monthly safety meetings.	AI	30/07/2023	12/06/2023
Continual Improvement Suggestion: Please check one box in all question 15-22 on the audit tool - decaling if the question applies to this current years reporting, with all future audits.	Ensure all questions in audit are answered and all required boxes are checked.	AI	30/07/2023	12/06/2023

1.4 Safety Team Members

As a small company all management and staff are considered safety team members and expected to integral to the safety program. Feedback is encouraged as continual improvement is a paramount goal.

1.5 Roles, rights and responsibilities

Everyone has a role to play in workplace safety. Whether you are the owner, employer, supervisor, worker, or prime contractor. Know your rights and responsibilities. These are outlined on the WorkSafeBC website [here](#).

1.5.1 Right to refuse work and report unsafe conditions

You have the right to refuse unsafe work if you have reasonable cause to believe the work you are doing could create a hazard or cause an injury. Identify hazards before starting work and determine whether it is safe to proceed. This is work and it is not worth it to risk life and limb.

1.6 Workplace Harassment

We are committed to maintaining a safe, respectful, and harassment-free workplace. Workplace harassment is a serious issue that must be proactively addressed to ensure a positive work environment for all employees. While we do not currently have a formal harassment policy, we follow the guidelines set by WorkSafeBC to prevent and address workplace harassment. More information can be found here: [WorkSafeBC Bullying & Harassment](#).

1.6.1 Reporting & Investigations

- Employees are encouraged to document and report incidents to their supervisor or designated safety representative. Our workplace harassment report template can be found here: [Workplace Harassment Report Template \(page 41\)](#).
- We take all reports seriously and commit to investigating them promptly, ensuring fairness and impartiality. If necessary, a third-party investigator may be engaged to maintain objectivity.

1.6.2 Protection & Support

- Retaliation against employees who report harassment or participate in an investigation will not be tolerated.
- Support services, such as medical and counseling assistance, are available to affected employees.

We understand that some employees may feel uncomfortable reporting harassment internally. In such cases, they may seek assistance from WorkSafeBC, the BC Human Rights Tribunal, or legal counsel. By fostering a culture of respect and accountability, we ensure a safer and more inclusive workplace for everyone.

1.7 COVID 19 Prevention and Risks

We have developed a COVID-19 Safety Plan that outlines the policies, guidelines, and procedures to reduce the risk of COVID-19 transmission.

All staff, contractors, volunteers, and participants must complete a self-assessment (<https://bc.thrive.health/covid19/en>) before starting work each day. If they are experiencing any symptoms related to COVID-19 they must halt all involvement or participation, notify the project supervisor, and get officially tested.

The virus that causes COVID-19 spreads in several ways, including through droplets when a person coughs or sneezes, or from touching a contaminated surface before touching the face. Planning to COVID-19 is a moving target and should be a continuous effort. Planning is outlined by WCB (<https://>

1.7 COVID 19 Prevention and Risks

[//www.worksafebc.com/en/about-us/covid-19-updates/covid-19-returning-safe-operation](https://www.worksafebc.com/en/about-us/covid-19-updates/covid-19-returning-safe-operation)). Detailed procedures are included in the safe work procedures in the Appendices of this document and were developed by progressing through the following steps:

1. Assess the risk at your workplace to identify places where the risk of transmission is introduced
 - a. What job tasks or processes require workers to come into close proximity with one another or members of the public?
 - b. What tools, machinery, and equipment do people come into contact with in the course of their work?
 - c. What surfaces are touched often, such as doorknobs, light switches, equipment, and shared tools?
2. Implement measures to reduce the risk
 - a. Maintain a distance of 2 metres (6 feet) between workers and others wherever possible
 - b. Create pods of workers who work together exclusively to minimize the risk of broad transmission throughout the workplace
 - c. Where physical distance cannot be maintained consider the use of masks.
 - d. Provide adequate hand-washing facilities on site for all workers
 - e. Develop policies around when workers must wash their hands, including upon arriving for work, before and after breaks and before and after handling common tools and equipment.
 - f. Implement a cleaning protocol for all common areas and surfaces, including washrooms, equipment, tools, common tables, desks, light switches, and door handles. Ensure those engaged in cleaning have adequate training and materials.
 - g. Remove any unnecessary tools or equipment that may elevate the risk of transmission.
3. Develop policies to manage the workplace
 - a. Anyone who has had [symptoms of COVID-19](#) in the last 10 days must self-isolate at home.
 - b. Anyone under the direction of the provincial health officer to self-isolate must follow those instructions
 - c. When workers or contractors are feeling ill at work they should immediately let their supervisor know and go home. If symptoms align with those of COVID-19 they should be tested and self-isolate until they are symptom free and have a negative test result.

1.8 Required safety meetings

1.8.1 New Worker Orientations

New workers are at a high risk for injuries. They need to know the safety policies and procedures and demonstrate that they understand how to protect themselves and others. All employees and dependent contractors operating under your company's safety plan must review the New Graph health and safety policies and safe work procedures on their first day before they start work or when returning to work after an absence of longer than 6 weeks. Template to be filled out is attached as [Appendix 1 \(page 41\)](#).

1.8.2 Tailboards

Tailboard meetings are a way to reset at the start of new work tasks to put safety first as the top priority at all places of work. Our tailboard template is unique in that it contains documentation of numerous safety policy actions in one place. Tailboards include references to field safety plans and contain:

- Site Assessments, Hazard Identifications and Risk Assessments
- Worker Assessments
- Personal Protective Equipment Checklist/Inspections
- Machinery Inspection (Vehicle/Trailer/ATV)
- Emergency Contact List and Info
- Call In/Call Out Numbers for Check-ins
- Hazard Inspections
- First Aid Assessments

They are included in this plan as [Appendix 2 \(page 41\)](#).

1.8.3 Monthly Safety Meetings

We are a [Safe Certified](#) company and with that comes the requirement to have monthly safety meetings. These meetings are a way to discuss safety issues and to ensure that everyone is on the same page. They are also a way to document that we are meeting our safety obligations. You can find our past safety meetings at [oneDrive/Projects/safety/meetings](#).

1.9 First Aid equipment and procedures

A level 1 kit is kept under the seat of each work vehicle and our OHSP is also kept in the truck. The kit should be inspected for contents to see that it is complete. A weatherproof container is recommended for all items except the blankets. Below is an itemized list of what should be in the kit:

Quantity	Required Item
1	Blanket
24	14 cm x 19 cm wound cleansing towelettes, individually packaged
50	Sterile adhesive dressings, assorted sizes, individually packaged
10	10 cm x 10 cm sterile gauze dressings, individually packaged

1.9 First Aid equipment and procedures

Quantity	Required Item
2	7.5 cm x 4.5 m crepe roller bandages
2	7.5 cm conforming gauze bandages
1	2.5 cm x 4.5 m adhesive tape
2	Cotton triangular bandages, minimum length of base 1.25 m
2	Quick straps (a.k.a. fracture straps or zap straps)
1	Windlass style tourniquet
1	14 cm stainless steel bandage scissors or universal scissors
1	11.5 cm stainless steel sliver forceps
1	Pocket mask with a one-way valve and oxygen inlet
6	Pairs of medical gloves (preferably non-latex)
1	Waterproof waste bag
	First aid records

1.9.1 Worksite First Aid Requirements

To determine an adequate and appropriate level of first aid coverage, the first step is a first aid assessment. This requires a full review of the workplace. The assessment will help you determine the minimum level of first aid needed in your workplace. First aid levels are outlined in the [OHS Regulation Schedule 3-A: Minimum Levels of First Aid](#). First aid requirements are found in [Appendix 5 \(page 41\)](#).

Below are the steps for a first aid assessment.

- Identify the number of workplaces.
- Identify your workplace hazard rating.
- Consider the surface travel time to a hospital.
- Determine the number of workers on a shift.
- Determine the required first aid services for your workplace.
- Review your assessment.

2 Plans and Assessments

2.1 Field Safety Plans

Field safety plans are a critical component of our work. They are a way to ensure that we are prepared for the unexpected and that we have a plan in place to keep our team safe. The field safety plan should be specific to each project and should be kept easily accessible to all team members. An example can be found [here](#). Information included in these plans include:

1. Location and contact info of accommodations where employees are staying so that the designated safety person can reach them in case of an emergency or required check-in.
2. Description of personal and company vehicles including make, model, year, and licence plate number.
3. Crew member contact details, including emergency contacts.
4. Personal and crew equipment checklist. A list of all required safety equipment can be found [here](#).

Personal safety equipment is important especially because we are often working alone. Ensuring you have **charged** communication devices as well as spare batteries or chargers is critical for maintaining communication with the team. Personal safety equipment can be found in Table [2.1](#).

It's also important to have the right safety equipment in the truck in case of vehicle issues, road conditions, or accidents. Truck safety equipment can be found in Table [2.2](#).

5. Location and contact info of nearest hospital.
6. Check in and failed check in procedures.
7. A brief description of the job, as well as map links and a list of possible locations where crew members will visit.

2 Plans and Assessments

Table 2.1: Personal Safety Equipment

Personal Safety Equipment	Purpose
clinometer	Tied to vest and used for gradients.
field vest (surveyors)	–
note book	Fits in surveyors vest.
GPS	Tracking by time at 10s always
Sunscreen	–
Bugspray	–
Polarized glasses	Great for seeing the water. Can be necessary for the odd time electrofishing (depends on sun angle).
Bear Spray	–
phone/camera	–
battery pack booster for phone	–
Hat	–
first aid kit personal	–
Waders	–
Wading Boots (Rubber-soled only)	–
Extra clothes	–
rain gear	Light weight jacket used commonly even for dew in mornings. Pretty rare you would want pants due to waders
Ski poles	–

2.1 Field Safety Plans

Table 2.2: Truck Safety Equipment

Truck Safety Equipment	Purpose
Extra clothes	–
water	–
food	–
Hand saw	For bucking up tree if it falls in front on forest road
pilon x 2	–
radio truck	–
Satelite communicator	–
first aid kit level 1	–
polaski	–
shovel	–
fire extinguisher backpack	–
truck tow rope	–
truck/car jack	Standard in vehicles but need to confirm you have and can access (and can access spare)
Battery booster	Needs to be charged. Can save a major rescue mission.
Compressor 12V	–
Tow strap	–
cloth or paper towel	For wiping away condensation and cleaning the windsheild

2.1.1 Check-in Procedures and Field Communications

Call, text or InReach emergency contact each morning to share the plan for the day (i.e. name of roads and sites). Agree on a regular daily check in time and report position/provide updates.

2.1.2 Procedures for Failed Check-In

If a phone call or InReach check-in is not received by the agreed upon time, follow these instruction (Figure 2.1):

1. Send a text to InReach units, call and text cell phones of field crew members. See [how to send a satellite message to an iphone \(page 12\)](#).
2. If no response please call accommodations, then personal emergency contacts to see if they have heard anything.
3. Wait 1 hour - repeat steps 1 and 2 again.
4. Wait another hour - repeat steps 1 and 2 again.
5. After 2 hours - if no response then notify the RCMP of a missing persons in field.

2 Plans and Assessments

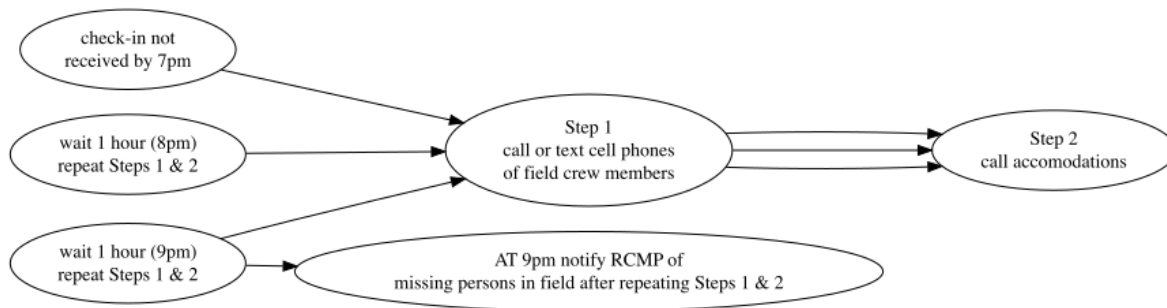


Figure 2.1: Procedures for Failed Check-In

2.1.3 iPhone Satellite Messaging as a Backup Communication Tool

While InReach and Zoleo devices are our primary tools for field communication when we don't have cell service, iPhone Satellite Messaging offers a backup option in case those devices fail or aren't accessible.

What You Need:

- An iPhone 14 or later
- iOS 18 installed on your device
- Emergency SOS via satellite is free for two years after the activation of an iPhone 14 or later (all models).

Why It's Important:

- It allows you to text emergency services.
- You can message friends and team members.
- It's a backup option if your primary devices aren't working.

Action Items:

1. How to Connect to a Satellite: Follow [this guide](#) to get started.
2. Set Up Emergency Contacts: Follow [this link](#) to set up emergency contacts in the Health app. Before heading out into the field, we should add crew members and Tara as emergency contacts. When you set up emergency contacts, you can choose to notify and share information with them when you text emergency services via satellite.
3. Learn How to Send Messages: Check out [this link](#) for instructions on sending messages via satellite.

All team members with suitable devices should have this feature set up on their devices before heading into the field.

2.2 Close-calls / incident reporting requirements and procedures

Incidents are situations in the workplace that resulted in or could have resulted in injuries, illnesses, or fatalities. Close calls are incidents that almost happened. These can be used to prevent incidents in the future. We have policies in place so that we can document and review close calls. Reviewing close calls and incidents can help us identify hazards earlier so that we can catch them before they happen. This review process can help us improve our safety procedures such as updating our tailboards. Reporting templates are attached as [Appendix 3 \(page 41\)](#). A summary of how to fill out an incident/close call report is seen below:

- Record the date of the incident and the names of all personnel involved
- Give a detailed description of the events that transpired leading up to and including the incident. What happened and how did it happen? Was first aid required?
- Describe the immediate and root cause of the incident. Were safety procedures not followed? Were the presence of hazards not communicated properly beforehand? Was the employee/contractor involved in the incident not wearing the proper safety equipment?
- Describe the corrective action(s) to be undertaken. This can depend on the situation. Do your best to ensure that an incident like this will never happen again. Update safety procedures, ensure everyone is wearing the proper safety equipment, communicate to people new to the job that you have the right to refuse unsafe work, etc.
- Sign and date the incident/close call report.

Examples of past incident/close calls include:

- Contractor slipping and falling into a deep beaver pond, the person was wearing waders but no wading belt. No serious injury occurred.
- While backing up on the highway, an employee drove too close to the ditch and almost flipped over. This was a close call.
- While tagging fish with a needle and pit tags, an employee stabbed their finger with the needle. There was some bleeding but first aid was administered right away.

2.3 Emergency Response Plan (ERP) and Procedures

Our Emergency Response Plan can be located and downloaded here: [Emergency Response Plan \(page 41\)](#).

2.3.1 Remote Site Emergency Call-In Procedures

Remote Site Emergency Call-In Procedures:

- Dial RCMP
- Name:
- Location: (GPS, UTM Co-ordinates, Road Km)
- Phone #
- Nature Of Injury: (severity, what happened, and # of Victims)
- Environmental Conditions: (weather, slope, access conditions)
- Request what you are going to need: (SAR, PEP, Helicopter,)

2.3.2 Fire Safety

Wildfires are becoming increasingly common in British Columbia. It's important to know how to prevent wildfires and to have a plan in place in case a fire breaks out.

Before heading out to the field:

- Review the current [fire danger rating](#) for the area.
- Review the [BC Wildfire Dashboard](#) to be aware of any current wildfires in the area. If there are active wildfires in the area, discuss as a group if it is safe to proceed with fieldwork.
- Review the [Wildfire Response Plan \(page 14\)](#) below.
- Review and complete the Emergency Response Plan which can be found in [Appendix 6 \(page 41\)](#). Ensure all crew members are familiar with the plan and their roles.

While in the field:

- Regularly monitor the [fire danger rating](#) using representative weather stations as well as the [BC Wildfire Dashboard](#).
- Never use open flames or create sparks as part of field tasks when the fire danger rating is “high” or “extreme” in the fieldwork or surrounding area.
- Keep vehicles on roads or other non-vegetated areas to prevent ignition of wildfires by catalytic converters.

2.3.2.1 Wildfire Response Plan

1. Stop operations.
2. Crew lead notifies all crew members and crews regroup if separated.
3. Crew members assume roles as per the Emergency Response Plan.
4. Call Forest Fire Reporting: 1-800-663-5555 or * 5555 on the Candel and Telus networks
5. **Small fire**, can be suppressed by crews:
 - Crews suppress fire to their level of safety and competence (water, fire extinguishers, or hand tools). Never attempt to suppress an uncontrolled wildfire.
 - The crew member in charge of fire suppression operations should continue to supervise the efforts until relieved by licensee/contractor representative or BC Wildfire Management Branch personnel.
 - If crews suppress fire for x amount of time and the fire has not been suppressed then the crew lead should activate the emergency evacuation plan as per the tailboard.
6. **Large fire**, must evacuate:
 - Crew members follow Emergency Response Plan and evacuate using the discussed evacuation route.
 - Crew lead accounts for all crew members before evacuating the site.
 - Crews meet at assembly location.

2.3.3 Landslide, Avalanche, and Natural Disaster Response

- Ensure all workers are trained and understand response procedures and this emergency response plan is available on site at all times.

2.3 Emergency Response Plan (ERP)...

- Notify supervisor and other workers. If safe to do so, assess situation to determine if activities must be shutdown.
- Take steps to control further environmental impacts.
- Supervisors must account for all workers before leaving the site. If a shutdown is required, park all equipment in an environmentally safe location (avoid riparian management areas, steep side slopes, steep road sections, areas with excessive soil moisture, and areas within reach of standing timber).
- Contact appropriate parties if significant environmental damage or damage to infrastructure requiring repair has occurred (MFLNRO, BCTS, MoTI, etc.).

2.3.4 Spill Response

Step 1. Ensure Safety

- Assess site hazards to ensure safe work procedures.
- Notify Site Supervisor and Environmental Monitor (EM).
- If unsure of the product, consult the MSDS sheets.
- Eliminate ignition sources if spilled material is flammable.
- Wear proper personal protective equipment (gloves) contained in the spill kit.

Step 2. Contain the spill

- Eliminate the source of the spill.
- Use contents of the provided spill kit(s) to stop the spread of the spill/leak. Absorbent socks can be used to surround the spill.
- **Remember: White = Fuels & Oils Only, Gray = Universal (Fuels, Oils and Chemicals such as antifreeze)**
- Divert spill away from ditches and watercourses.
- Once the spill is contained, attempt to soak it up using an absorbent pads.
- Place the absorbent pads and any contaminated soil in a container and dispose of it in accordance with the MSDS sheet and provincial regulations.

Step 3. Reporting Requirements

- All spills must be reported to the Site Supervisor and the EM. If the EM cannot be reached, notify the Provincial Emergency Program (PEP) at 1-800-663-3456 if the spill meets the thresholds detailed in the Spill Reporting Regulation of BC. A summary of the reporting thresholds for the most likely spilled materials is below.

Spill Reporting Thresholds Oil Fuel, Oil & Hydraulic fluid: Any quantity that enters or is likely to enter water >100L to land Antifreeze: Any quantity that enters or is likely to enter water >25L to land

2.3.5 Injury

Minor wounds, breaks, strains:

- Ensure site is safe, stabilize patient (provide first-aid), transport to closest Hospital, if necessary.
- Advise office and hospital when you are on route

- If accident is the result of a motor vehicle accident, please advise the RCMP at 250 353 2225

Serious injury:

- Ensure site is safe, then stabilize (provide first-aid) and/or prepare patient for transport.
- Activate SPOT messenger, or call 1 800 461 9911 (if using the satellite phone).
- Provide nature of injuries, location co-ordinates in UTM or longitude and latitude for landing site, and communication method to use on the way to the accident site.
- If air evacuation is required, you must advise the communication centre you've reached; if road evacuation is used, then advise if you will be meeting the ambulance en route.

2.3.6 Fatality

- Ensure site is safe
- Activate SPOT messenger, or call 1 800 461 9911 (if using the satellite phone)
- Contact Nelson WCB at 1 800 663 4962
- Do not disturb the site, cover the body, ribbon off the area, and block access if possible

2.4 Site and Worker Assessments

Conducting a systematic risk assessment will help identify the hazards that exist in the workplace, and how they may put workers at risk. To determine if we've done enough to protect our workers, we use a rating system as part of our risk assessment. Risk is calculated by multiplying the likelihood by the severity.

Examples of risks/hazards found in and around job sites include, but are not limited to:

- Wildlife
- Swiftwater
- Vehicle traffic
- Slippery/uneven ground
- Exposure to heat or cold
- Machinery
- ATV (roll over, burns, collision)
- Chemicals
- Chainsaw/loppers/knives
- Electrofisher shocks
- Open water
- Overhead snags and sharp branches



2.5 Contractor Selection Policy

At New Graph we are responsible to ensure that the contractors we hire to complete and assist on projects are compliant with the workers compensation act and have a record that illustrates they have a culture of safety. For forestry related work, contractors are required to be part of Safe Certified companies. We have a checklist that we require our contractors to complete to ensure that they meet our requirements. Our policy is to always get a clearance letter before and after we receive services from a contractor to confirm whether they registered with worksafe BC and are

paying premiums. The contractor selection and safety checklist forms are included as [Appendix 4 \(page 41\)](#).

Of note, contractors are considered our workers if they do not operate as an independent business and are either not eligible for WorkSafeBC coverage or decline to purchase WorkSafeBC's optional coverage. Below are examples of situations where a contractor would likely be our worker:

- The contractor supplies only labour
- The contractor supplies labour and minor materials
- The contractor supplies labour and a piece of major equipment but is not registered with WorkSafeBC

2.6 Personal Protective Equipment (PPE) policy

All employees will be provided the required PPE when they are hired, and instructed on its proper use and care. Employees are responsible for keeping PPE in good working condition and notifying their supervisor if any PPE no longer meets safe standards.

All PPE must meet regulatory and Canadian Standards Association standards.

The following provides a *guideline* to the requirements and use of PPE. A full listing of requirements can be found in the Occupational Health and Safety Regulation at <https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-08-personal-protective-clothing-and-equipment>

PPE	Requirements	Used in these situations
High visibility clothing (vest)	<ul style="list-style-type: none"> • The apparel must be a color that contrasts with the environment. 	<ul style="list-style-type: none"> • When worker is outside of the vehicle. • On all construction sites
Limb and body protection	<ul style="list-style-type: none"> • Must be free of holes and, in the case of hand protection, made of a material that provides a good grip. 	<ul style="list-style-type: none"> • When the worker is exposed to a substance or condition that is likely to puncture, abrade or affect the skin – or be absorbed through the skin.
Warm dry clothing		<ul style="list-style-type: none"> • All field work situations. Particularly in night work and during seasons of typically variable and cold wet weather.

2.6 Personal Protective Equipment (P...

PPE	Requirements	Used in these situations
Wading Belt		<ul style="list-style-type: none"> Must be worn around waste snugly in conjunction with waders to ensure that waders do not fill with water in the event of a fall in the water.
Wading Boots	<ul style="list-style-type: none"> Soft rubber or felt sole footwear specifically designed for stream work 	<ul style="list-style-type: none"> When stream work is required.
Polarized glasses		<ul style="list-style-type: none"> Must be worn while working in and around water
Throw bag and releasable safety rope	<ul style="list-style-type: none"> Must be 15 meters of line. 	<ul style="list-style-type: none"> When worker is working in/ or around swift water
Personal Flotation Device	<ul style="list-style-type: none"> Must be Canadian General Standards Approved Must be stored in a dry area. Avoid exposure to sunlight. 	<ul style="list-style-type: none"> When worker is working in/ or around deep open water
Hard hats	<ul style="list-style-type: none"> High- visibility, hardhat. Cleaned regularly and stored away from grease and tools. 	<ul style="list-style-type: none"> Must be worn in any work area where there is a danger of head injury from falling, flying or thrown objects, or other harmful contacts. Must be worn on all construction based job sites.

PPE	Requirements	Used in these situations
Eye and face protection	<ul style="list-style-type: none"> Safety eyewear must fit properly and include side shields when necessary for worker safety. 	<ul style="list-style-type: none"> Safety eyewear must be worn when working in conditions that are likely to injure or irritate the eyes. Face protectors must also be used if there is a risk of face injury such as when operating a chain or brush saw.
Safety footwear	<ul style="list-style-type: none"> Must be of a design, construction and material appropriate to the protection required for the work environment 	<ul style="list-style-type: none"> Appropriate footwear must consider the following factors: slipping, uneven terrain, abrasion, ankle protection and foot support, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock, and any other recognizable hazard. Toe and metatarsal protection, puncture resistance, and/or dielectric protection must be used where appropriate. Caulked or other equally effective footwear must be worn by workers who are required to walk on logs, piles, pilings or other round timbers.
Hearing protection	<ul style="list-style-type: none"> WorkSafeBC's regulations regarding noise exposure are: <ul style="list-style-type: none"> 85dBA Lex daily noise exposure level 140 DBC peak sound level 	<ul style="list-style-type: none"> If those levels cannot be practicably met, the employer must: <ul style="list-style-type: none"> Reduce levels as low as possible Provide to workers hearing protection that meets CSA standards, and ensure it is worn effectively in noise hazard areas
Bear Spray / Bangers	<ul style="list-style-type: none"> Always worn in remote locations 	

2.7 WHMIS orientation and location of...

PPE	Requirements	Used in these situations
<ul style="list-style-type: none">Inspected regularly and stored in a safe, dry place.	<ul style="list-style-type: none">Must be readily available in case of any bear sighting.Must be carried for all remote worksites or worksites where there is potential bear activity.Ensure equipment has current use by date attached.	

2.7 WHMIS orientation and location of the Material Safety Data Sheets (MSDS)

2.8 Records of Training

A training log of all employee training/certifications can be found in the data folder [here](#).

2.9 Progressive discipline policy

Actions and behaviors that create or facilitate unsafe working environments and elevate the risk of injury to company representatives, contractors and the public are unacceptable. To ensure that these actions and behaviors do not persist once identified, the following progressive discipline policy has been implemented.

1. Verbal Warning
2. Documented Warning
3. Letter of Reprimand
4. Discharge

3 Safe Work Procedures and Practices

3.1 Driving

3.1.1 General Procedures and Practices

- Conduct a “pre-trip” vehicle check. Use a Vehicle Pre-trip Inspection and Mileage Log to track activity. Report deficiencies and do not use if equipment is in unsafe condition.
- Ensure you have all the required vehicle safety equipment which can be found in Table [3.1](#).
- Make notes of required maintenance in the mileage logbook when it is required and include “checking the logbook for required repairs” at the time of each inspection.
- Drive defensively at all times.
- Ensure all vehicle occupants are wearing seatbelts. You are responsible for your passengers.
- Do not exceed posted speed limits.
- Avoid night driving when possible, never drive when distracted or overly fatigued. Limiting the length of field days can help reduce the risk of injury when driving.
- Drive safely and drive to the existing road conditions. Lower speed as required. Stay home if conditions are hazardous and risk of injury is high. Be aware of:
 - Visibility reduced by dust, fog, rain, snow;
 - Narrow roads with over width vehicles;
 - Steep favorable and adverse gradients;
 - Slippery and variable road surface conditions due to loose gravel, snow, ice or mud;
 - Other users, wildlife
- The inside of the windshield should be cleaned regularly to prevent glare, and condensation should be wiped away before driving, with each field vehicle equipped with paper towels or a cleaning cloth for on-the-go cleaning.
- Use vehicle for intended use only (purpose and weight limitations).
- Drive with vehicle lights on at all times.
- Secure all heavy or sharp objects in the cab of the vehicle.
- Respect that loaded logging trucks have the right of way on single lane roads.
- Tailgating—driving too closely behind another vehicle—is extremely dangerous and increases the risk of collisions, especially if the vehicle in front brakes suddenly or is involved in an accident. Always maintain a safe following distance, with extra space for larger vehicles

3 Safe Work Procedures and Practices

like logging trucks. A good rule of thumb is to allow at least 3–4 seconds between when the vehicle ahead passes a fixed point and when you reach the same spot.

- Never chase a runaway vehicle.
- Stay on your side of the road.
- Avoid distracted driving, do not use cell phone unless stopped and parked safely.

COVID 19 (COVID)

- [Self-assess daily for COVID symptoms](#) and self-isolate and test if you have symptoms.
- When possible, travel in separate vehicles. When a crew is required to travel together, sit in seats as far from each other as possible, wear masks and when possible leave the windows open for good ventilation.
- All vehicles need to have paper towel, min 70% alcohol hand sanitizer and non-medical grade masks. Ensure this is present before leaving.
- When getting in vehicle wipe down all initial touch points with min 70% alcohol and paper towel (ex. Vehicle door, radio, steering wheel, shifter, seat belt). Sanitize all surfaces of both hands.
- After opening vehicle door at all stops and worksites use hand sanitizer on surfaces of both hands. Put on non-medical mask if entering building (ex. Gas station, restaurants) or working with others where you cannot keep min 2m distance. Upon exiting vehicle close door with elbow.

3.1 Driving

Table 3.1: Truck Safety Equipment

Truck Equipement	Purpose
Extra clothes	–
water	–
food	–
Hand saw	For bucking up tree if it falls in front on forest road
pilon x 2	–
radio truck	–
Satelite communicator	–
first aid kit level 1	–
polaski	–
shovel	–
fire extinguisher backpack	–
truck tow rope	–
truck/car jack	Standard in vehicles but need to confirm you have and can access (and can access spare)
Battery booster	Needs to be charged. Can save a major rescue mission.
Compressor 12V	–
Tow strap	–
cloth or paper towel	For wiping away condensation and cleaning the windsheid

3.1.2 Resource Road Safety

- Do not exceed 80kph or posted speed limits. Drive at a safe and controlled speed, and avoid sudden maneuvers.
- Pass trucks or equipment only after you receive a clearly visible and/or audible signal from the operator.
- Drive with headlights on at all times, whether it's day or night, good or bad visibility.
- Ensure you have the necessary equipment on board in case of emergencies, see Table [3.1](#).
- Before heading out, research and plan your route. Check for potential hazards, weather conditions, and local regulations or restrictions.
- Familiarize yourself with your vehicle's capabilities and limitations for off-road terrain. Ensure you have proper all terrain tires. Be aware of ground clearance, approach and departure angles, and four-wheel-drive systems.

3.1.3 Radio Use

- Complete radio check and ensure correct frequency prior to entering radio controlled area.
- Do not drive on radio controlled roads without the radio on and turned up. Expect oncoming traffic at all times.
- Call your position according to the local radio protocol and signage.
- Notify other radio equipped vehicles of oncoming non-radio equipped traffic.
- Do not use road radio channels for conversations, use only for road traffic protocols.
- Other than traffic control, pull over and safely park when talking on the radio for an extended period of time.

3.1.4 Parking and Key Management

- When working in the field, it is important to manage your keys. Always carry a spare key and keep it hidden somewhere on the vehicle that can be accessed if keys are lost. As a good practice and particularly important if you do not have a spare key - hide primary keys somewhere on your vehicle. Choose a location that is hard to see but easy to reach (ex: in gas cap or under bumper). Notify your co workers where they are in case of emergency.
- Park clear of traffic, away from active areas in pullouts or extra wide straight sections of road.
- Park facing the direction of exit with access for service/towing activities.
- Ensure the parking brake is on and the transmission is in 1st gear or park.
- On steep grades, use wheel chocks and always turn the wheels towards the nearest ditch.
- Never park on a curve especially on the outside curve of a road.
- When turning around, back into the cut bank of the road and not towards the outside bank.
- Use flares where required.

3.2 All-terrain vehicles


3.2 All-terrain vehicles

BE SAFE & RESPECTFUL

- Large industrial vehicles can't manoeuvre as quickly as passenger vehicles. Yield to oncoming industrial vehicles, pull over and stop to allow them to pass before continuing on. As a cautionary approach, follow industrial vehicles at a safe distance - watch them, slow down and pull over if they do.
- Turn on vehicle lights during low visibility conditions.
- Do **not** pass an industrial vehicle unless that vehicle indicates that it is safe to do so.
- As the ORV rider, ensure that you are not distracted by passengers or music.
- Wear your safety equipment at **all** times and, if installed by the manufacturer, ensure your seatbelts are securely fastened.
- Drive sober – it's against the law to drive while impaired by alcohol or drugs.

PARKING \ UNLOADING

- Park clear of traffic, away from active areas, in pullouts or extra wide stretches of road with good visibility in both directions.
- If using a mobile radio notify traffic that you are clear at X km.
- Park facing the direction of exit, with access for service/towing activities.
- Never** park on a curve.
- Use 4-way flashers where required.
- Do not block the road under any circumstances.**



FURTHER INFORMATION

Check out:

BC's Off Road Vehicle Management Framework:

- <http://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-uses/off-road-vehicles>

ICBC's ORV Registration Services:

- <http://www.icbc.com/vehicle-registration/specialty-vehicles/Pages/Off-road-vehicles.aspx>

BC Laws:

- <http://www.bclaws.ca>

Off-Road Vehicle Act:


- http://www.bclaws.ca/civix/document/id/complete/s_tatreg/14005

Forest Service Road Use Regulation:

- http://www.bclaws.ca/Recon/document/ID/freeside/70_2004

For a suspected natural resource contravention or crime, please call the Natural Resource Violation reporting line at 1 844 NRO-TIPS (1 844 676-8477).


Wildfire Reporting:	1-800-663-5555 *5555 on a cell
BC Forest Safety Council:	1-877-741-1060
Service BC:	1-800-663-7867
Report all Poachers and Polluters (R.A.P.P.):	1-877-952-7277
Emergency Management BC:	1-800-663-3456
Search and Rescue BC:	www.bcsara.com




BC Forest Safety
Safety is **good** business
www.bcforestsafety.org

Version 1.3 April 2017

USING ORVs ON RESOURCE ROADS



This document provides basic information for safe and responsible use of off highway recreational vehicles on resource roads. It should not be considered a replacement for any training programs or pre-trip preparation.



3.3 Electrofishing

3.3.1 Preparatory Procedures

1. A crew leader must be designated for all backpack electrofishing activities.
2. It is the crew leader's responsibility to ensure that all equipment is in "safe working order".
3. An emergency response plan must be prepared and reviewed with all crew members.
4. The crew leader must ensure all crew members have received instruction in the fundamentals of electrofishing safety.
5. The crew leader and at least one additional crew member must have up-to-date CPR and First Aid training.
6. Each electrofishing site must be visually inspected for hazards such as deep holes, submerged logs, etc. before commencing electrofishing operations.

3 Safe Work Procedures and Practices

7. In order to aid in identifying underwater hazards, all crew members must be equipped with polarized sunglasses. Glasses also protect against eye injury caused by sticks and branches. Wide brimmed hats or peaked caps are also beneficial in increasing the effectiveness of polarized glasses.
8. All crew members must be equipped with long armed gloves that are non-conductive, waterproof and inspected to be free of leaks. Gloves must be worn at all times during electrofishing operations.
9. All crew members must be equipped with chest waders that are non-conductive, waterproof and inspected to be free of leaks. Chest waders must be worn at all times during electrofishing operations by team members entering the water. Wading belts are to be worn at all times.
10. All crew members must agree on a system of communication during electrofishing operations.
11. Backpack electrofishing units must be turned off and the battery disconnected before making any connections or part replacements. Start-up Procedures
12. All crew members must be notified and acknowledge their preparedness prior to the commencement of electrofishing operations. The unit operator must make sure that personnel are clear of the anode before turning on the power. Hand signals are a useful way of conveying these messages.
13. Check operation of all switches and gauges. This should include high voltage check, anode switch, power switch and mercury tilt switch, audible tone generator and light. Set controls to appropriate levels. The minimum voltage possible to obtain the desired results should be used to avoid excessive harm to the biota and to minimize the effects of accidental shock.

3.3.2 Operational Procedures

14. Operate slowly and carefully. Footing in most streams is poor and most falls occur when crew members are hurrying. Operations should cease when fatigue sets in.
15. Team members must not place their hand(s) into the water when the power is turned on.
16. Electrofishing units must be shut off prior to entering or leaving the water and the battery terminals disconnected (or generator shut off) when not in use or when transporting the unit.
17. Life jackets or Personal Floatation Devices (PFDs) must be worn where the crew leader considers the water is of sufficient depth or velocity for a life jacket or PFD to be effective as protection from risk of drowning. Life jackets and PFDs must be approved by Transport Canada or Canadian Coast Guard. Electrofishing should not be carried out where water depth is greater than waist deep.
18. A crew member must immediately leave the water if wetness is detected in gloves or waders (by leaks, rain or perspiration) and obtain dry equipment before returning. Mild dampness from perspiration or humidity is considered normal.

3.4 Unmanned Aerial Vehicles (UAVs)

19. Electrofishing operations must cease during inclement weather. (e.g. periods of any lightning or moderate rain).

COVID 19

- As electrofishing often requires the “fisher” and “netter” to be within 2m of each other masks are required to be worn by both crew members.
- Wear disposable gloves when assembling equipment or wipe down all touch points after assembly.

3.4 Unmanned Aerial Vehicles (UAVs)

To ensure safe and responsible operation of UAVs (drones), the following procedures must be adhered to at all times:

3.4.1 Pre-Flight Planning and Communication

- Check in with local aviation companies and stakeholders to confirm flight plans, identify potential airspace conflicts, and determine lines of sight.
- Verify the UAV is not operating within restricted airspace without authorization. Ensure compliance with Transport Canada regulations and confirm proximity to airports or aerodromes.
- Utilize resources such as [FltPlan Go](#) ([iOS app](#)) to assess airspace classification and identify potential flight restrictions.

3.4.2 Crew Training Requirements

- All crew members involved in UAV operations must have the proper training and certifications as required by [Transport Canada](#).
- UAV pilots must hold a valid [Transport Canada license](#) appropriate for the class of UAV being operated. All currently used UAVs require both a licensed operator and [drone registration](#).
- Crew members should be familiar with the UAV equipment, operating procedures, and emergency protocols.
- Maintain compliance with Transport Canada requirements for ongoing pilot licensing and drone registration, including any necessary renewals or certifications.

3.4.3 Use of Aviation Radios

- Equip the team with an aviation radio and tune it to the appropriate local aviation frequency. Conduct a pre-flight radio check to ensure clear communication and situational awareness.
- A valid [radio license](#) is required to operate an aeronautical radio.
- Radio channels should be sourced from the FltPlan Go app or other official aviation sources.

3.4.4 Equipment and Operational Safety

- Maintain a visual line of sight with the UAV at all times during flight.

3 Safe Work Procedures and Practices

- Avoid potential interference by Keeping the UAV controller and aeronautical radio separate when operating the drone.
- Ensure the UAV is equipped with appropriate lighting for visibility if operating in low-light conditions.
- Monitor weather conditions and avoid flying in high winds, rain, or other hazardous weather.
- Immediately land the UAV if another aircraft enters the area or if situational awareness is compromised.
- Endure you have all the required equipment which can be found in Table [3.2](#).

3.4.5 Flight Logging and Record-Keeping

- Maintain a logbook for each UAV flight using the [RMUS app](#) on an iPhone.
- Export flight reports regularly and store them in a designated repository or other secure location for record-keeping and compliance.

By following these procedures, UAV operations will be conducted safely and responsibly, minimizing risks to personnel, equipment, and other airspace users.

Table 3.2: UAV Safety Equipment

UAV Safety Equipment	Purpose
UAV radio	–
UAV	–
UAV landing pad	–
UAV GC tape	–
UAV safety plan (when required)	–
UAV registration	–
UAV license	–
UAV radio license	–
UAV backpack	–

3.5 Culvert and habitat confirmation assessments

See driving procedures including radio use and parking.

- Sometime parking on the shoulder of resource roads is the only practical way to assess a site. When doing so place a traffic cone 2m behind the back left wheel to alert oncoming traffic.
- Wear waders and wading boots or a non-slip rubber boot when working in the stream. Carefully assess your footing and be ready for slippery surfaces.
- Use 2 walking poles when conducting in stream surveys. Always maintain 3 points of contact with poles and your feet. This allows for much greater stability and avoids the risk of injury. As the in stream substrate typically consists of cobbles and boulders, it can be very painful when falling. Be cautious of foot placement to lower risk of foot entrapment. Poles are often used in photos to have a frame of reference for measurements of stream characteristics. One pole can be used for scale, while the other one can remain in hand as a stabilizer.

3 Safe Work Procedures and Practices

- Carry bear spray with you at all times when in the field. You never know when you'll need to use it.
- Always carry personal first aid kit, water, extra clothes, inreach satellite communicator and food (ex. Power bar) in your vest in case of an emergency.
- High visibility field vest should be worn to avoid being mistaken for an animal by hunters.
- Navigating to sites often requires the use of handheld devices such as phones, two-way radios or GPS which should either be used by a non-driving crew member or mounted on the windshield where they can be viewed without distracting the driver.
- Touching base with the call in person throughout the day is essential so that your last known location is known and to minimize the potential for false alarms should you not check in on time at the end of the day. Inreaches should be tested between crew members and between crew members and check in people before going in the field.

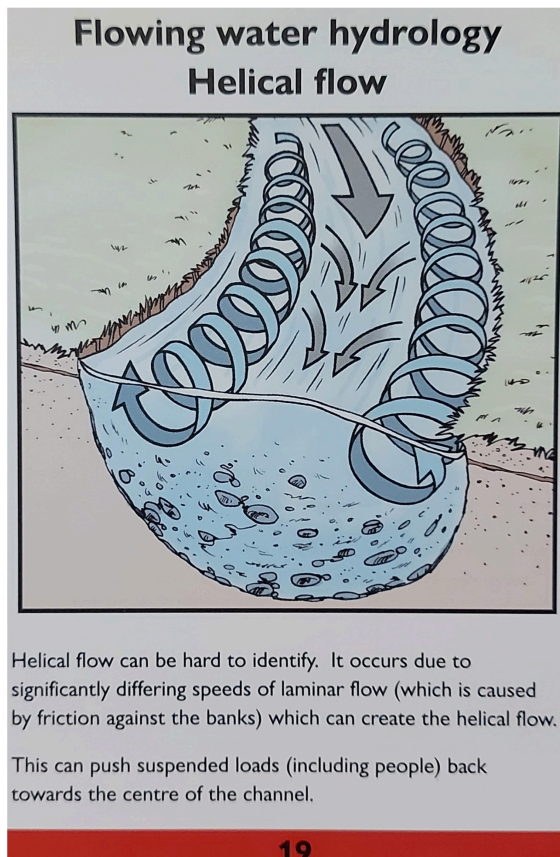
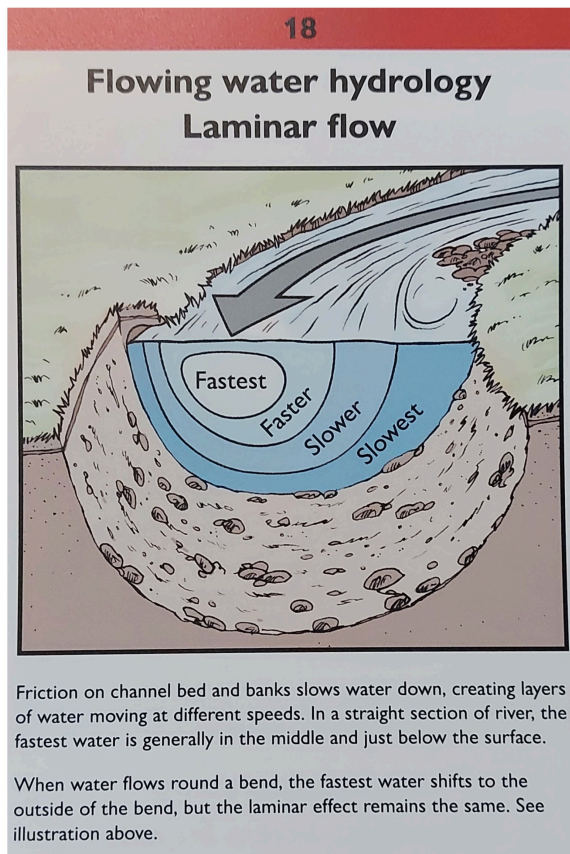
3.6 Swiftwater rescue and safety

Most of our field work involves working in small streams or creeks. Sometimes we can find ourselves in larger systems that have fast flowing water. It is important to be prepared and to be safe. Below are some best practices for swiftwater rescue and safety.

- Never put your foot down if you are being swept away. This will prevent foot entrapment.
- Never tie a rope around a rescuer. Attach a line to a quick release strap if present.
- Always deploy upstream spotters to know what is going to be coming down toward you.
- If you are rescuing someone, wear a PFD and a helmet.
- Always have a backup plan.
- Never count on the victim to help in his or her own rescue.
- Never tie a tension line at a right angle.
- Never lose contact with the victim.
- In addition to drowning, other dangers in swift water rescues include hypothermia, trauma, remote areas, and frightened victims.
- Water in swift water rescues is powerful but predictable. Marking water levels and understanding factors such as eddies (calm water behind obstructions), hazards (underwater obstructions), and "keepers" (areas where victims may be stuck) can aid decision-making.

It is important to understand the flow of a stream. Understanding where flow velocities are highest will help you navigate watersheds more efficiently and reduce the risk of injury.

3.6 Swiftwater rescue and safety



Source: Raven Rescue Water Rescue Field Guide

When attempting a rescue, consider the questions contained within the L.A.S.T. stages of rescue, outlined in the image below.

Stages of a rescue

Locate

Victim
Hazards
Downstream safety
Upstream spotters

Access

Easy? Difficult? Rope access? Boats? Helicopter?
Vehicles?
Stretchers?

Stabilise

Downstream containment?
Physical stabilisation? PPE?
Medical stabilisation? ABCs? Hypothermia?

Transport

Easy? Difficult? Rough terrain?
Roped? Vertical access? Steep slopes?
Boats? Helicopter? Landing areas?
Nearest access for vehicles? 4x4?
Stretchers? Numbers of carrying personnel?

Source: Raven Rescue Water Rescue Field Guide

3.7 Working Alone

Swiftwater rescue PPE equipment list:

- Helmet
- Knife
- Gloves
- PFD with quick release harness
- Drysuit
- Throwbag
- Boots
- Whistle

3.7 Working Alone

Working alone means working in circumstances where assistance would not be readily available to the worker in case of an emergency. There can be circumstances in the field where the worker will be conducting a survey alone. The lone worker must abide by the following procedures:

- Designate a contact person to check in with on a pre planned schedule. Arrange a meet up time and place before getting separated.
- The worker must carry a functioning communication device such as a cell phone, two-way radio, and a inreach satellite communicator. Carrying all three is highly recommended. Ensure radios are charged fully every second night. When working in areas out of cell range a satellite communicator is required.
- Carry bear spray. Make a lot of noise periodically to alert bears in the area of your presence. Optionally, it can be effective to have a bluetooth speaker to play music.
- If the lone worker fails to check in, then the contact person must initiate search procedures. See Procedures for Failed Check-In section of Field Safety Plan.
- Carry water, food, extra clothes, a first aid kit (with emergency blanket) and materials you would need to make a fire (lighter) in case something unforeseen happens.

3.8 Wildlife Encounters

3.8.1 Bears

3 Safe Work Procedures and Practices

Situation	Recommended actions
Bear does not know you are there	Move away undetected. Go back the way you came or take large detour around. If you must go ahead do so slowly and cautiously. DO NOT RUN
	Keep your eye on the bear.
	Watch for changes in behavior. Be careful not to crowd or surprise bear (especially Grizzlies). Do not shout if it is unaware of your presence.
Bear becomes aware of you	Calmly and from as far away as possible identify yourself as human.
	Talk to the bear in a low, respectful voice.
	Wave your arms slowly.
	Increase the distance between you and the bear.
	If possible, move upwind to give the bear your scent.
If you hear bear vocalizations or see young bears in area	When bear is aware and unconcerned take the opportunity to leave. Do not run.
	Be extremely cautious and leave the area the way you came.
If bear approaches you	Stop, stay calm, and assess the situation: is bear acting defensively (grunting, or another way?
	Don't run.
	Group together if possible. Prepare deterrent (mace).
	Determine if bear is defensive or aggressive .

3.8 Wildlife Encounters

Situation	Recommended actions
Don't shout or throw things acting defensively. Try to increase distance between you and the bear (keep your eye on it). Do not run. Use deterrent only as last defense.	
In the case of a defensive attack	If bear physically contacts you in a defensive attack play dead: fall on ground on your front, protect your neck. If rolled over continue to roll over to face. Stay on ground till bear leaves. If attack is prolonged it is no longer defensive.
Bear approaching in non-defensive manner	<p>Non defensive bears show little stress. They look interested in you and intent on approaching you. Watch towards you confidently looking towards you intermittently. They seem intent on attack.</p> <p>If approached move away from bears path or trail.</p> <p>If bear is intent on you stand your ground. Your response needs to be assertive.</p> <p>Act aggressively: shout at bear, stare it in the eye, stamp feet, stand on stump or log, threaten bear with stick or log.</p> <p>If attacked use deterrent, fight with any weapon available with all your strength. Focus attack on bear's face.</p>

Staying safe in bear country video: https://www.youtube.com/watch?v=s-zkGuh42l4&ab_channel=bearbiology

3.8.2 Cougars

- Make a lot of noise when working and walking
- Avoid cougar kills. Cougars cover their kills with dirt and leaves and return later. Be aware for circling birds and other scavengers; these could indicate there is a kill site nearby.
- **If you encounter a cougar:**
 - Don't run, this might trigger a pursuit
 - Don't turn your back, always keep the cougar in front of you
- **If the cougar shows interest in you** (staring, crouching, creeping, tail twitching):
 - Make eye contact
 - Make yourself look big
 - Show your teeth, pretend to be a predator
 - Make loud noises
 - Arm yourself with anything you can find

3 Safe Work Procedures and Practices

- **If the cougar attacks:**
 - Fight back, convince the cougar you are the predator and not the prey
 - Yell or make loud, intimidating noises
 - Focus your attacks on the cougar's nose, face, and eyes

3.8.3 Moose

A moose will charge to ward off a potential threat. Assure the moose that you are not a threat.

- **Signs of an aggressive moose:**
 - Walking in your direction
 - Stomping its feet
 - Peeling its ears back
 - Grunting
 - Throwing its head back and forth
- **How to prevent and survive a moose attack:**
 - Back away with palms facing the moose
 - Speak softly and reassuringly to it
 - If the moose charges then get behind a large tree or rock, most moose charges are bluffs
 - If the moose attacks you then fake death by curling up in a ball, protect your neck and back

3.9 Weather Preparedness

Fieldwork in early fall, particularly through September and October, often involves highly variable environmental conditions. Temperatures can shift rapidly throughout the day, with cold mornings, warm afternoons, and the potential for wind, rain, or even early snowfall. Being prepared for this variability is essential to staying safe and effective in the field.

All personnel should be equipped with appropriate clothing and gear to manage both cold and warm weather exposure. This includes:

- Layering systems for cold, wet, or changing conditions:
 - Moisture-wicking base layers to manage perspiration
 - Insulating mid-layers (e.g., fleece, wool, or synthetic fill) to retain warmth
 - Waterproof and windproof outer layers for rain and wind protection
 - Toques and insulated gloves to maintain extremity warmth, especially in emergency situations
- Gear for warm, sunny, or exposed conditions:
 - A wide-brimmed hat or cap to reduce heat stress
 - Sunglasses with UV protection to prevent eye damage (should also be polarized for electrofishing purposes)
 - Sunscreen (SPF 30 or higher), applied regularly to all exposed skin
 - Lightweight, breathable layers that offer coverage while allowing ventilation

3.10 Remote Working

Hydration is critical regardless of temperature. All workers must carry sufficient water (we recommend 2 to 3 litres per day), increasing with exertion and heat exposure.

Daily gear checks are recommended to ensure field crews are equipped for forecasted and unexpected conditions. Preparing for both heat and cold reduces the risk of hypothermia, heat-related illness, sunburn, and other preventable safety concerns.

Each team member is responsible for managing their own well-being throughout the day. Taking care of your hydration, temperature regulation, and overall preparedness not only protects you, but supports the safety and effectiveness of the entire crew.

3.10 Remote Working

Approximately 75% of the work done at New Graph Environment is remote from the employee's home. Safe work practices are still important when working remotely.

3.10.1 Ergonomics

Ergonomics are an important part to any home office. Your home work space should meet basic ergonomic requirements in order to decrease risk of long term injuries. Listed below are a few guidelines:

- It starts with a good chair. Ensure your chair is properly adjusted so that your wrists are straight, with hands below or at elbow level, knees are level with hips and thighs parallel to the floor, feet are flat on the ground, and the top of your computer display is positioned at or just below eye level. Get a chair with proper lumbar support.
- Invest in a good mouse and keyboard that offer good wrist support and comfort.
- Buy a proper desk that has enough room for all your equipment and is of appropriate height. Adjustable desks are a good option since you can switch between sitting and standing positions.
- Do not sit in one place all day long. Make sure you get up and walk around and/or stretch throughout the day to relieve muscle and joint pain.

3.10.2 Health and Wellness

When working remotely, it is important to maintain your mental and physical health. Listed below are a few ways to reduce stress and improve your mental and physical health:

- Stick to a regular work schedule and routine that works for you. Make sure you give yourself time to switch off on your down time.

3 Safe Work Procedures and Practices

- Take a break every now and then to get up and walk around. A great tool for this is [Be Focused](#) which allows you to set work intervals and break intervals.
- If a task you're working on is causing you too much stress then don't be afraid to delegate or ask for help, avoid burnout and overworking yourself.
- Stick to a good work life balance, make time for socializing, enjoying your favorite hobbies, doing exercise, or whatever self care looks like for you.
- Working remotely can mean a lot of time on your own so its especially important to make sure you are getting enough social connection. Consider building in social time throughout your day, whether it be a phone call with a friend or a post work activity.
- Sun exposure is limited when working inside and it can therefore be hard to get your daily Vitamin D requirements, consider taking a supplement.
- Seasonal affective disorder can affect everyone and can cause a decrease in energy levels and change in mood in the winter time. Try to go outside everyday and engage in regular physical activity to reduce stress levels.
- When leaving the house to go to a work related meeting be aware of road conditions when driving, even when walking (steer clear of ice to avoid nasty falls).

3.10.3 Burnout

Burnout is real! The first steps to avoiding burnout is to notice it, here are some common signs of burnout:

- Feeling exhausted, whether it be physical, mental, or emotional.
- Feeling cynical and detached from work.
- Feeling ineffective and unaccomplished.

If you are feeling any of these symptoms then it is important to take a step back and re-evaluate your work life balance. Here are some things you can do to avoid burnout:

- Prioritize your self-care practices. This can include regular exercise, a healthy diet, and getting enough sleep.
- Try to shift your perspective on work. Find tasks you can complete and feel good about. Considering asking yourself which tasks you could delegate to others to free up meaningful time and energy for other important work.
- Minimize your exposure to stressors. This can include setting boundaries with your work, taking regular breaks, and avoiding overworking yourself.
- Seek support from others. This can include talking to a friend, family member, or a mental health professional.

For more info on burnout, check out the following articles:

- <https://hbr.org/2016/11/beating-burnout>
- <https://www.toptal.com/remote/remote-work-burnout-a-cautionary-tale>

Appendices

[Appendix 1 - New Worker Orientation](#)

[Appendix 2 - Tailboard Template](#)

[Appendix 3 - Incident/Close Call Template](#)

[Appendix 4 - Contractor Selection and Safety Checklist](#)

[Appendix 5 - First Aid Requirements](#)

[Appendix 6 - Emergency Response Plan](#)

[Appendix 7 - Workplace Harassment Report Template](#)

References

Session Info

– Session info

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4/ (via rmarkdown)

– Packages

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