

# Trail Construction and Maintenance Volunteer

## North Country National Scenic Trail

### Introduction

This National Park Service (NPS) volunteer position is based along the North Country National Scenic Trail, the longest of 11 national scenic trails stretching more than 4,600 miles from Vermont to North Dakota. The NPS volunteer is responsible for performing work involved in the maintenance, repair, and building of trail, trail structures, and associated facilities. *The volunteer will not be required to perform any task that is beyond physical limits or training.* The volunteer is responsible for completing projects according to Trail standards, complying with safety regulations, caring for and maintaining equipment, working cooperatively with others, and fostering a safe, inclusive, and positive work environment. The volunteer should coordinate their duties and projects with chapter trail maintenance coordinators or chapter leadership, and/or with a North Country Trail Association regional trail coordinator (RTC) as appropriate.\* Volunteer policy questions should be directed to the NPS volunteer program manager.

***This position requires the volunteer to read and acknowledge the Personal Safety and Trail Construction and Maintenance Job Hazard Analyses on the Volunteer Service Agreement.***

***Crosscut sawyer and chainsaw sawyer activities are not covered under this position. Volunteers who wish to act as a sawyer must meet all sawyer training requirements and sign up under the sawyer position description.***

### Major Duties

Consist of a variety of technically advanced field-based trail building and construction projects that are comparatively strenuous to demanding in nature and may include, but are not limited to the following:

- Provide pre-work project briefings, conduct safety talks, identify potential project hazards, and discuss risk avoidance measures, to include developing and discussing site-specific Safety and Emergency Response Plans.
- Ensure all crewmember perform work safely, to include wearing prescribed PPE, maintaining safe distancing between workers, following proper safety procedures when handling tools and working around equipment, and taking breaks.
- Monitor environmental conditions and volunteers' fatigue throughout the day and stop work if the project is no longer safe or enjoyable.
- Routinely inspect tread, drainage features, and structures (i.e. boardwalks, stiles, bridges) to identify safety concerns and future needs.
- Clear fallen branches, encroaching vegetation, and tall grass and weeds from the Trail and trail prism using hand tools such as bow saws, pruning saws, pole saws, loppers, and weed whips.
- Paint tree blazes or install confidence markers along trail according to Trail standards and the [urban trail marking system](#).
- Repaint and/or replace tree blazes, confidence markers, and decals that are faded or missing.
- Install signs and posts and install/replace stickers, emblems and other information. May require use of tools such as hammers, shovels, and Carsonite post drivers and pullers.
- Maintain and improve water diversion structures using hand tools such as shovels, pulaskis, and McLeods.
- Use hand tools to clear culverts of debris to allow proper water flow and drainage.
- Care for, clean, and maintain hand tools and equipment. Store properly and inspect regularly.
- Collect trash and debris from trail and trailheads.
- Maintain trailheads and associated informational signage and kiosks.
- Maintain designated campsites along the Trail.
- Use a variety of powered mowers and trimmers, such as DR field and brush mowers, riding mowers, flail mowers, and weed eaters to prepare or maintain trail and trailheads.

- Build new trail using hand tools such as shovels, McLeods, Pulaskis, rakes, and digging bars.
- Build and maintain bridges, puncheon, walkways, benches, stiles, and other structures using hand and power tools such as hammers, drills, and circular saws.
- Build and maintain designated campsites using a variety of hand tools and powered equipment.
- Perform minor tread repair to ensure that the trail remains dry and smooth.
- Report completed work to the RTCs.\*
- May be required to drive between a staging area and other designated project locations for pre-work briefings, task assignments, equipment distribution, and after-actions reviews.
- May elect to shuttle other volunteers from one work location to another.

### **Physical Demands**

- May require walking five or more miles on uneven surfaces and variable terrain. Foot travel may be along completed trail, unfinished trail, or cross-country.
- Requires standing for extended periods of time
- Requires lifting, carrying, pushing, and pulling up to 50 pounds on uneven surfaces.
- Requires carrying light packs containing limited personal items, water, food, insect repellent, small electronic devices, or first-aid kits.
- Requires physical effort in reaching, bending, turning, or moving hands, arms, feet, and legs.
- Requires physical effort and coordination in operating tools.

### **Work Environment**

Most projects will take place outside in all types of weather conditions. Weather can be unpredictable and can change quickly. The area experiences thunderstorms, high winds, rain, snow, ice, high heat, high humidity, and extreme cold. The Trail is also home to a number of insects including biting flies, mosquitos, and ticks, as well as bear, feral dogs, and other potentially dangerous animals.

### **Safety Considerations**

Safety is the number one priority! It is the individual responsibility of every volunteer to watch for hazards or unsafe operations and to call for an immediate work stop if safety is compromised. Watch out for each other: everyone is empowered to speak up.

Work may involve walking, carrying loads over long distances, and using a variety of hand and powered tools; and frequently involves the possibility of exposure to poisonous plants, blisters, bruises, muscle strains, cuts and scrapes, sunburn, and insect bites. To protect against potential hazards and serious injuries, the volunteer must follow proper safety procedures and use PPE as prescribed for projects. All injuries and near misses must be reported to Volunteer Program Manager Nic Loiseau at 616-302-9842 and the RTC\* immediately following the incident or as soon as safely possible if treatment is needed.

Safety precautions should be considered for each workday and the volunteer should establish and know the Safety and Emergency Response Plan before beginning work. If a group of volunteers are present, the workday should begin with a safety briefing, including a review of the response plan.

Before heading out on the trail, the volunteer should let someone know where they are going and when they are expected to return.

### **Personal Protective Equipment (PPE)**

- Volunteer must wear sturdy work boots or trail shoes while performing work.
- Additional PPE must be worn as prescribed in the Job Hazard Analyses associated with the various types of projects that the Trail Support Volunteer may choose to do.

## Scope of Contacts

Volunteer will have regular contact with Trail volunteers, staff, trail users, landowners, partner agency staff, and the public.

## General Knowledge, Skills, and Abilities Associated with the Position

- Ability to hike up to five miles on various terrain and perform strenuous physical labor.
- Ability to work independently with little to no supervision and as part of a team.
- Ability to use and maintain hand tools such as Pulaski's, mattocks, McLeods, axes, rakes, shovels, hoes, digging bars, saws, pruners, sledgehammers, hydraulic jacks, cable winches, adzes, spuds, draw knives, hammers, screwdrivers, and wrenches safely.
- Ability to operate and maintain powered mowers and trimmers safely.
- Ability to operate and maintain basic power tools such as drills and circular saws safely.
- Ability to understand and follow oral and written instructions.
- Ability to interpret and understand technical information, diagrams, and engineering plans.
- Ability to build and maintain trail and structures in accordance with prescribed standards and best management practices.
- Ability to tolerate a variety of weather and working conditions.

## Recommended Training or Certifications

- Complete [Trail Safe!](#) an online safety training - Highly recommended.
- Attend first aid/CPR training (possible reimbursable expense through NCTA).
- Read and understand the [Handbook for Trail Design, Construction, and Maintenance](#)
- Watch the videos in the [resource center](#) on the NCTC website.
- Receive on-the-job training for safe use of tools and specialized equipment.

## Personal Vehicles

If they possess a current and valid driver's license, volunteers are authorized to use their personal vehicle for the following activities:

- Towing a North Country Trail tool trailer to work sites.
- Driving from one work site to another.
- Shuttling other volunteers from one work site to another.

## Reimbursement

Volunteer will not be reimbursed for mileage or other expenses.

## Benefits to the Volunteer

- Opportunity to become part of the Trail's history, and to support and contribute to nation's longest national scenic trail, the National Trail System, and the National Park Service as an official NPS volunteer.
- Volunteer is eligible for an America the Beautiful Volunteer Pass after accumulating 250 hours or more, unless they already possess an America the Beautiful Pass Senior, Assess, or Military Pass.
- Receive recognition items for hours of service.
- Potential training opportunities that develop knowledge and skills and enhance service to the Trail.
- Skill development, resume builder, and hands-on experience.

## Program Administration

The North Country National Scenic Trail Volunteer-In-Parks (VIP) program is co-managed by the National Park Service and North Country Trail Association. Physical volunteer forms are kept in a

locked cabinet at the NPS office in Lowell, Michigan. Electronic data is stored in Blackbaud Raiser's Edge (a platform managed by NCTA) to allow for volunteer hours and award tracking.

### **NPS Anti-Harassment Policy**

The National Park Service (NPS) is committed to providing a work environment free from discrimination and harassment based on race, color, religion, sex (including pregnancy and gender identity), sexual orientation, national origin, age, disability, family medical history (including genetic information), status as a parent, marital status, political affiliation, and one that is free from and illegal retaliation. The NPS will not tolerate offensive sexual or non-sexual harassing behavior against any NPS employee, intern, volunteer, contractor, or other nonfederal employee, visitor, or other member of the public. The NPS also will not tolerate adverse treatment of employees or volunteers because they report harassment or provide information related to such complaints.

Safe behavior is considered a condition of volunteering with the NPS. Volunteers are expected to adhere to all park policies, management directives, and best practices regarding safety. Volunteers are expected to speak candidly if they are concerned about the level of risk they observe and bring any safety concerns to the volunteer program manager's attention, either directly or anonymously. Volunteers will participate in required safety trainings and fully adhere to policies and programs designed to assist them in performing work safely. Failure to follow directives related to safety may result in termination.

Additional information regarding this policy can be found in NPS Director's Order 16E, NPS Anti-Harassment Policy, that is available on the North Country Trail Association website.

***Please acknowledge that you have read and received a copy of this TRAIL MAINTENANCE Position Description on the Volunteer Service Agreement (OF301a.)***

***\*Volunteers associated with a Trail affiliate should coordinate and contact leadership within their organization.***

**National Park Service  
North Country National Scenic Trail  
Job Hazard Analysis**

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|---|--|--|---|
| <b>1. Work Project/Activity</b><br><i>TRAIL CONSTRUCTION<br/>and MAINTENANCE*</i> | <b>2. Location</b><br><i>North Country NST</i> | <b>3. Originator</b><br><i>Nicole Loiseau</i>    | <b>4. Job Title</b><br><i>Volunteer Program Manager</i> |
| <b>5. Name of Reviewer</b><br><i>Chris Loudenslager</i>                           | <b>6. Job Title</b><br><i>Superintendent</i>   | <b>7. Date Prepared/Revised</b><br><i>4/2/21</i> | <b>8. Number of Pages in this JHA</b><br><i>5</i>       |

*\*This JHA is intended for trail construction and maintenance volunteers.*

| <b>Task/Procedure &amp; Required PPE</b>   | <b>Potential Hazards</b> | <b>Recommended Actions or Procedures</b>   |
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| <b>Lifting and moving heavy loads</b><br><br><b>PPE:</b> <ul style="list-style-type: none"> <li>○ Sturdy work boots or trail shoes</li> <li>○ Leather gloves</li> <li>○ Long pants</li> <li>○ Long sleeve shirt</li> </ul> | Slips, trips, and falls  | <ul style="list-style-type: none"> <li>○ Inspect the area immediately around the load and the route for clearance and tripping hazards.</li> <li>○ Clear hazards from the route.</li> <li>○ Watch for uneven terrain, holes, loose rocks, and unstable soils.</li> <li>○ Look for wet, muddy, mossy, wet leaves, and other slick surfaces that could affect traction.</li> </ul>   |
|  | Fatigue                  | <ul style="list-style-type: none"> <li>○ If the load must be carried for a long distance, find location(s) load can be placed to allow for a rest break.</li> <li>○ If possible, keep the load elevated during breaks to avoid lifting the object to resume moving it.</li> </ul>  |
|  | Laceration/splinters     | <ul style="list-style-type: none"> <li>○ Examine object for snags, burrs, splinters, sharp edges, and nails.</li> <li>○ Remove objects prior to lift and/or wear gloves for hand protection.</li> </ul>  |
|  | Back injury              | <p>Size up the load before you lift. If the load is too big or awkward:</p> <ul style="list-style-type: none"> <li>○ Divide load up.</li> <li>○ Ask for help.</li> <li>○ Use mechanical assist device such as a hand truck or dolly.</li> </ul> <p><u>When performing the lift:</u></p> <ul style="list-style-type: none"> <li>○ Stand close to object, with feet solid and shoulder-width apart.</li> <li>○ Do not reach over an obstacle to lift the load.</li> <li>○ Move whatever is in your way.</li> <li>○ Squat down, bending your knees.</li> <li>○ Keep your back straight and upright.</li> <li>○ Grip the object firmly, pull it close to you, and tighten your abdomen.</li> <li>○ Lift with your legs in a gradual and smooth movement, and continue to keep your back straight.</li> <li>○ Keep the load close to your body.</li> <li>○ Do not twist your body while lifting.</li> </ul> |

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|  |   | <ul style="list-style-type: none"> <li>○ Do not lift objects over your head.</li> </ul> <p><u>When moving the load:</u></p> <ul style="list-style-type: none"> <li>○ Do not twist.</li> <li>○ Use your feet to turn your body.</li> <li>○ Carry the load as close to your body as possible and keep your back straight.</li> </ul> <p><u>When lowering the load:</u></p> <ul style="list-style-type: none"> <li>○ Keep your back straight and tighten your abdomen.</li> <li>○ Bend at the knees.</li> <li>○ Keep the load close to your body.</li> </ul>   |
| <p><b>Using and handling tools</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Sturdy work boots or trail shoes</li> <li>○ Eye protection</li> <li>○ Leather gloves</li> <li>○ Hearing protection</li> <li>○ Hard hat (recommended)</li> </ul> | Injuries from using tools or equipment                      | <ul style="list-style-type: none"> <li>○ Wear the appropriate PPE when using and carrying a tool. Always wear eye protection when operating tools that have the potential to produce flying debris, when working around vegetation, or when recommended by the manufacturer.</li> <li>○ Tools shall be inspected by the operator prior to use each day. Tools that are not fully operational shall be labeled as defective and removed from the work area.</li> <li>○ The right tool for the task should always be used to decrease the chances of injury to an employee/volunteer, or damage to a tool through improper use.</li> <li>○ When carrying a tool, keep points and blades facing down and tool parallel to the ground and carry it on the downhill side of the path. Don't carry too many tools at one time.</li> <li>○ Do not carry tool on shoulder or across body.</li> <li>○ Maintain safe intervals between workers using swinging or chopping tools.</li> <li>○ Ensure adequate overhead clearance when preparing to use swinging/chopping tools.</li> <li>○ When swinging tools, be aware of location of hands, legs, feet, and other people.</li> <li>○ With axes and similar tools, always chop away from your feet, legs, and body.</li> <li>○ Grip tool handle firmly to maintain control in case the blade/head glances off the work surface.</li> <li>○ Use the weight of the tool to help accomplish the task, not just applied force.</li> <li>○ When digging, loosen compacted soil with a pick or digging bar before removing with a shovel, posthole digger, or spade.</li> </ul> |
|  | Back/muscle strain  | <ul style="list-style-type: none"> <li>○ Perform targeted stretching exercises prior to operating hand tools.</li> <li>○ Bend at the knees and hips rather than the back to improve ergonomic use of tools and prevent back strain.</li> <li>○ Use all tools in a motion parallel to handle grain.</li> <li>○ Never turn and twist your body while operating a hand tool.</li> <li>○ Rotate tasks that require the use of tools with others to prevent repetitive stress.</li> </ul>  |
|  | Injuries from tools or equipment if not properly maintained | <ul style="list-style-type: none"> <li>○ All tools should be inspected regularly to ensure their safe condition.</li> <li>○ Any unsafe, defective, or ill-maintained tools should be fixed, tagged, rotated out of service until repaired, or discarded.</li> <li>○ Wood handles should be free of cracks or splinters, fit tightly, with no wiggle or play, and should be replaced when they are loose or damaged.</li> <li>○ Metal heads: burrs, mushrooms, etc., should be filed or ground down.</li> </ul>  |

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|   |  | <ul style="list-style-type: none"> <li>○ Edges should be sharp and covered when not in use.</li> <li>○ Tools and equipment, when not in use, should be kept in an orderly manner a safe distance away from the work area or the public. Points/blades should face down.</li> <li>○ Tools should never be leaned against trees or rocks, always laid down flat, and in such a way to minimize exposure to sharp edges.</li> <li>○ All protective covers, scabbards, and shields should be in place whenever such tools are not actively being used.</li> </ul>                                 |
| <p><b>Sharpening tools using hand file</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Leather/cut-resistant gloves</li> <li>○ Eye protection</li> </ul>  | Cuts to body and metal slivers in hands  | <ul style="list-style-type: none"> <li>○ Always wear leather/cut-resistant gloves and eye protection.</li> <li>○ Prior to filing, fit the file with a handle and knuckle guard.</li> <li>○ Follow tool sharpening instructions carefully. Never sharpen cutting edges all the way to the footplate.</li> </ul>  |
| <p><b>Painting</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Gloves</li> <li>○ Eye protection</li> <li>○ Long sleeve shirt</li> </ul>   | Punctures or cuts from tool while opening the can of paint                         | <ul style="list-style-type: none"> <li>○ Wear gloves and when opening the can of paint, work with pointed/sharp tool edges pointed away from yourself.</li> </ul>   |
|   | Paint splashes in eyes/on skin   | <ul style="list-style-type: none"> <li>○ Wear eye protection, gloves, and long sleeve shirts.</li> <li>○ Work on level surfaces when opening/closing the can and stirring/pouring the paint.</li> <li>○ Thoroughly wash hands and exposed skin immediately after work is completed.</li> </ul>  |
|   | Exposure to paint fumes  | <ul style="list-style-type: none"> <li>○ Work in well ventilated areas.</li> <li>○ Consider wearing a dusk mask.</li> </ul>   |
|   | Muscle strain from repetitive motion and awkward reaching position                 | <ul style="list-style-type: none"> <li>○ Take rest breaks when needed.</li> <li>○ Position body to minimize awkward movements and shift position frequently.</li> <li>○ Perform a reverse stretch (stretch in the opposite direction of the work you are doing. Reverse stretches help the body to return to a neutral position.)</li> </ul>  |
|   | Fire   | <ul style="list-style-type: none"> <li>○ Store all paint in original container with tight fitting lid.</li> <li>○ Dispose of used rags to prevent spontaneous combustion.</li> </ul>  |
| <p><b>Pole saws</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Eye protection</li> <li>○ Hard hat</li> <li>○ Sturdy work boots or trail shoes</li> <li>○ Long pants</li> <li>○ Long sleeve shirt</li> <li>○ Hearing protection (if powered saw)</li> </ul> | Cuts from blades and malfunctions and/or injuries caused by faulty repairs and use | <ul style="list-style-type: none"> <li>○ User must be trained on proper and safe use of equipment.</li> <li>○ Use caution and wear PPE when inspecting or changing blades.</li> <li>○ Inspect handle, blades, power head (if motorized) before use.</li> <li>○ Replace or tighten handle, blade/powerhead before use.</li> <li>○ Maintain safe distance from others while using equipment; stop equipment if others enter work zone.</li> <li>○ Follow the maintenance and repair instructions in the owner’s manual. Use only approved replacement parts and cutting attachments.</li> </ul> |
|   | Injury to personnel from debris contacting body                                    | <ul style="list-style-type: none"> <li>○ Pole saws <b>shall not be used</b> for bucking or falling trees.</li> <li>○ Wear PPE.</li> <li>○ Operator shall position his/her body out of the pathway of any falling branches.</li> <li>○ Operator shall have two hands on the handle all times during operation.</li> <li>○ Operator must be aware of location of other workers, overhead hazards, limbs falling and stay clear of them.</li> </ul>  |

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| <b>Brush cutter and weed eating operations</b><br><br><b>PPE:</b> <ul style="list-style-type: none"> <li>○ Leather gloves</li> <li>○ Sturdy work boots or trail shoes</li> <li>○ Eye protection</li> <li>○ Hearing protection</li> <li>○ Long sleeve shirt</li> <li>○ Long pants</li> </ul> | Cuts from blades and malfunctions and/or injuries caused by faulty repairs and use | <ul style="list-style-type: none"> <li>○ User must be trained on proper and safe use of equipment.</li> <li>○ Use caution and wear gloves when inspecting or changing blades or knives.</li> <li>○ Inspect weed whip, string heads, and shields.</li> <li>○ Replace or tighten head to make safe and useable (loose or damaged head pieces could be thrown.)</li> <li>○ Repair or replace shields if loose or broken. Ensure the proper shields are in place for the specific type of head attachment/blade that will be used.</li> <li>○ Ensure the oil and gasoline mixture ratio is correct.</li> <li>○ Maintain safe distance from others while using equipment; stop equipment if others enter work zone.</li> <li>○ Always stop the engine and make sure that the cutting tool has stopped rotating before performing any maintenance or repair work.</li> <li>○ Follow the maintenance and repair instructions in the owner's manual. Use only approved replacement parts and cutting attachments.</li> <li>○ Keep a first aid kit on site.</li> </ul> |
|   | Fuel spillage and damage to unit/Exposure to gasoline                              | <ul style="list-style-type: none"> <li>○ Properly secure the machine when transporting in vehicle to prevent turnover, fuel spillage, and damage.</li> <li>○ Ensure oil and gas caps are secure before use and replace immediately after refueling.</li> <li>○ Use absorbent pads when refueling.</li> <li>○ Use funnels or attached gas can spouts when filling fuel tanks.</li> <li>○ Work on level surfaces.</li> </ul>  |
|   | Back injury and/or fatigue   | <ul style="list-style-type: none"> <li>○ Properly adjust harness and handles to suit your size and to obtain proper balance and comfort.</li> </ul>   |
|   | Damage to starter mechanism and/or injury to hand or fingers when starting machine | <ul style="list-style-type: none"> <li>○ Do not allow the grip to snap back.</li> <li>○ Guide the starter rope to rewind properly and smoothly.</li> <li>○ Do not wrap the starter rope around your hand.</li> </ul>  |
|   | Struck by thrown objects   | <ul style="list-style-type: none"> <li>○ Maintain a safe distance from others; stop equipment if others enter work zone.</li> <li>○ Use properly mounted deflectors.</li> <li>○ Ensure the type of blade used is the proper attachment for the activity; See owner's manual for guidance.</li> <li>○ Before cutting, inspect the area for stones, glass, pieces of metal or other solid objects.</li> <li>○ When using brush blades, the blade and head should be parallel to the ground.</li> <li>○ Operate brush cutter/weed whip so that the debris is thrown opposite of any person/object.</li> <li>○ Use proper PPE to help prevent injury from thrown objects, including bystanders.</li> <li>○ Do not operate weed whips with excessive amounts of line protruding.</li> </ul>  |
|   | Loose of control of machine  | <ul style="list-style-type: none"> <li>○ Always hold unit firmly with both hands. Make sure grips are in good condition.</li> </ul>   |
|   | Kick-back or kick-out  | <ul style="list-style-type: none"> <li>○ When using circular saw blade, begin cut on right side of tree or sapling using the left side of blade.</li> <li>○ Never use a circular blade on a unit with a loop handle.</li> </ul>   |
|   | Fire or explosion  | <ul style="list-style-type: none"> <li>○ Fuel in well-ventilated area.</li> </ul>   |



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|  |  | <ul style="list-style-type: none"> <li>○ Do not smoke or bring any flame near the fuel.</li> <li>○ Let engine cool down before refueling.</li> <li>○ Remove the fuel cap from machine slowly and carefully.</li> <li>○ Do not remove fuel cap while engine is running.</li> <li>○ Do not overfill. Wipe off any spilled fuel before starting the machine. Tighten fuel cap securely and check for leaks during operation.</li> </ul>      |
| <b>Mowing operations</b><br><br><b>PPE:</b> <ul style="list-style-type: none"> <li>○ Eye protection</li> <li>○ Hearing protection</li> <li>○ Sturdy work boots or trail shoes</li> <li>○ Long pants</li> </ul> | Lacerations from blades  | <ul style="list-style-type: none"> <li>○ User must be trained on proper and safe use of equipment.</li> <li>○ Inspect equipment prior to use.</li> <li>○ Wear leather gloves and use caution when inspecting, sharpening, or replacing blades.</li> <li>○ Tag out and do not use until repaired and/or guards are in place.</li> </ul>  |
|  | Rocks or debris could be thrown and cause injury to operator, bystander, and/or property | <ul style="list-style-type: none"> <li>○ Maintain a safe distance from others; Stop equipment if others enter work zone.</li> <li>○ Inspect area to be mowed for the presence of rocks, old fencing, stumps, broken posts, etc.</li> <li>○ Ensure that chain guards and/or deflectors are in place on mowers.</li> <li>○ Try to mow during low visitation and cone off area, if necessary.</li> </ul>                                     |
|  | Struck by overhead limbs   | <ul style="list-style-type: none"> <li>○ Use caution when mowing under trees.</li> <li>○ Remove low limbs.</li> </ul>   |
|  | Distracted driving/use   | <ul style="list-style-type: none"> <li>○ Cell phone use is prohibited when operating a mower.</li> <li>○ Pay attention to the area directly in front of you when the mower is in operation.</li> <li>○ Stop the mower when communicating with others.</li> </ul>  |
|  | Tripping/falling on uneven surfaces, and mower rollover or tipping                       | <ul style="list-style-type: none"> <li>○ Watch for holes, inclines, washouts, slides, sinkholes, etc. that could cause tripping, falling, tipping, and rollover.</li> <li>○ Do not mow horizontal on a steep hill.</li> <li>○ Use extreme caution when operating on steep slopes or near embankments. Avoid terrain that is too rough or steep to safely mow.</li> <li>○ Follow proper speeds, moving guidelines, and turning.</li> </ul> |
|  | Spillage of fuel when refueling  | <ul style="list-style-type: none"> <li>○ Use appropriate refueling method.</li> <li>○ Do not refuel when engine is hot.</li> <li>○ Use caution when refueling- do not overfill.</li> </ul>  |

Please acknowledge that you have reviewed this **TRAIL CONSTRUCTION and MAINTENANCE** hazard analysis and understand the hazards and required precautionary actions on the Volunteer Service Agreement. Please notify the volunteer program manager if you are unable to follow the requirements of this hazard analysis.

**National Park Service  
North Country National Scenic Trail  
Job Hazard Analysis**

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|--|--|--|---|
| <b>1. Work Project/Activity</b><br><i>PERSONAL SAFETY*</i> | <b>2. Location</b><br><i>North Country NST</i> | <b>3. Originator</b><br><i>Nicole Loiseau</i>    | <b>4. Job Title</b><br><i>Volunteer Program Manager</i> |
| <b>5. Name of Reviewer</b><br><i>Chris Loudenslager</i>    | <b>6. Job Title</b><br><i>Superintendent</i>   | <b>7. Date Prepared/Revised</b><br><i>4/2/21</i> | <b>8. Number of Pages in this JHA</b><br><i>8</i>       |

*\*This JHA is intended for trail construction and maintenance, trail support, sawyer, and swamper volunteers.*

**General Safety Topics & Hazards**

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| <b>Covid-19 &amp; Other Close Contact-Related Diseases</b> | <ul style="list-style-type: none"> <li>○ Follow Center for Disease Control and Prevention, local, and NPS/North Country Trail Association guidance.</li> <li>○ Stay home if you are not feeling well and/or have been exposed to someone with the virus.</li> <li>○ Wear a mask that covers both mouth and nose.</li> <li>○ Maintain a six-foot distance from others.</li> <li>○ If carpooling, all occupants must be masked.</li> <li>○ Clean and disinfect vehicles, tools, and equipment before you use them. Clean tools and equipment once you finish with them. Clean and disinfect frequently touched objects and surfaces using generally available household cleaners or EPA registered disinfectants.</li> <li>○ Avoid touching your eyes, nose, and mouth.</li> <li>○ Wash your hands often with soap and water for at least 20 seconds. When handwashing facilities are not available, use hand sanitizer that contains at least 60% alcohol.</li> </ul>   |
| <b>Situational Awareness</b>                               | <ul style="list-style-type: none"> <li>○ It is highly recommended to take Trail Safe!, a self-paced online safety training.</li> <li>○ Be aware of your surroundings, potential hazards, and the whereabouts of others.</li> <li>○ Communicate with others.</li> <li>○ Let other team members know when you see a hazard. Avoid working near known hazards.</li> <li>○ Yell “STOP” if you see a hazard.</li> <li>○ Listen for the Alarm (L.F.T.A.) often subtle, internal warnings about unsafe acts are received before an incident occurs. Tune in to this warning which is often manifested as an uneasy feeling or idea that something is wrong. This feeling is diminished when we are in such a hurry or are so preoccupied that the matter distracts us from feeling different when faced with an unsafe situation. Listen for the Alarm and heed the warning the first time. Slow down and remain focused on the task at hand.</li> <li>○ Step Back, Think, Organize, Proceed (STOP). Step back and consider all aspects of the task. Think about what you are about to do. Organize the task and others to ensure quality of task accomplishment. Proceed in a determined effort to accomplish given tasks in a safe manner.</li> </ul> |
| <b>Personal Protective Equipment (PPE)</b>                 | <p>PPE is equipment worn to minimize exposure to hazards that cause serious injuries. Examples include the following:</p> <ul style="list-style-type: none"> <li>○ <u>Gloves</u> – Offer protection from hand injuries and exposure. Leather gloves should be worn while using and carrying hand tools and power equipment.</li> <li>○ <u>Sturdy work boots or trail shoes</u> – Offer protection from foot injuries and exposure. Appropriate closed toe footwear is required: open toe shoes such as sandals are prohibited.</li> </ul>  |

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|   | <ul style="list-style-type: none"> <li>○ <u>Safety eyewear</u> – Offer protection from eye injuries. Appropriate eyewear should be worn when there is a potential for flying debris, dust, or other material hitting or getting into the eye. This includes, but not limited to, using hand and power tools, painting, and working next to vegetation. Eyewear should meet or exceed ANSI standard Z87.1.</li> <li>○ <u>Hard hats</u> – Offer protection from head injuries. Hard hats should be worn when there is a possible danger of head injury from impact, falling, or flying objects.</li> <li>○ <u>Ear protection, such as ear plugs and earmuffs</u> – Offer protection from hearing loss. Wear hearing protection when operating power tools and other loud equipment.</li> <li>○ <u>High-visibility retro-reflective clothing and/or vests</u> – Bright, reflective clothing helps ensure people are notice by others when visibility is reduced or in areas where people may be distracted or otherwise not expecting/looking for others to be present. Should be worn by all volunteers, employees, and outdoor recreationalists during hunting seasons. Highly recommended for sawyers and swampers doing saw work; Should also be worn while working on or along roads, parking areas, and other hazardous areas.</li> </ul>  |
| <b>Communication/<br/>Emergency Action Plan</b> | <ul style="list-style-type: none"> <li>○ Address safety concerns and conduct safety talks at the beginning of each workday, including establishing an emergency action plan. At a minimum, the plan shall identify what actions will be taken in the event of an incident, who is first aid and CPR certified, where first aid supplies are located, how to call for emergency assistance, and the location of the nearest hospital and how to get there.</li> <li>○ Establish means of communication. Communications must be clear, concise, and understood by everyone involved.</li> <li>○ Good communication between volunteers should reinforce individual awareness of potential hazards.</li> </ul>  |
| <b>Overexertion</b>                             | <ul style="list-style-type: none"> <li>○ Be aware of the risks of physical stress associated with physically demanding foot travel and work projects. These include, but are not limited to: <ul style="list-style-type: none"> <li>○ walking long distances</li> <li>○ traversing challenging terrain</li> <li>○ carrying heavy loads/packs</li> <li>○ pushing/pulling loaded wagons/carts to project sites</li> <li>○ walking through deep snow and/or with snowshoes</li> </ul> </li> <li>○ Be aware that any work project will be physically demanding if already fatigued, suffering from overexertion, suffering from effects of heat, etc.</li> <li>○ Pace yourself. Start slowly and pick up the pace gradually. If your heart pounds and leaves you gasping for breath, STOP all activity, get into a cool area (or at least in shade), and rest, especially if you become lightheaded, confused, weak, or faint.</li> <li>○ Adjust to the environment. You will have greater tolerance for the heat if you limit your physical activity until you become accustomed to the heat.</li> <li>○ On hot/humid days, when completing moderate and heavy outdoor work, and when projects involve the use of machinery, tasks should be assigned to the cooler parts of the day.</li> <li>○ The severity of the effects of environmental heat stress is decreased by reducing the workload, increasing the frequency and/or duration of rest periods, and by introducing measures that will protect from hot environments. Take more frequent rest breaks. When hot, take rest breaks in a cooled or air-conditioned building whenever possible.</li> <li>○ ALL PROJECTS CAN BE COMPLETED ANOTHER TIME. Your safety is most important.</li> </ul> |
| <b>Site Hazards</b>                             | <ul style="list-style-type: none"> <li>○ Look up. Look down. Look all around. Inspect the area prior to beginning any project or task to identify any site hazards including, but not limited to overhead hazards, patches of noxious plants, pits/holes, dump sites, meth sites, steep banks.</li> <li>○ Point out the hazard(s) to other volunteers working in the area.</li> <li>○ Flag/fence off hazard and avoid area.</li> </ul>  |

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| <b>Slips, Trips, and Falls</b>                 | <ul style="list-style-type: none"> <li>○ Inspect the area prior to beginning any project or task.</li> <li>○ Remove objects that could impede safe operations.</li> <li>○ Be familiar with walking surfaces.</li> <li>○ Always watch your footing and be aware of wet or frozen surfaces.</li> <li>○ Wear footwear with good traction that matches the site conditions. Change footwear to meet site conditions, and/or use supplemental traction devices such as traction cleats, crampons, etc.</li> </ul>  |
| <b>Rendering First Aid</b>                     | <ul style="list-style-type: none"> <li>○ Control bleeding kits and emergency first aid kits shall be available at all project sites.</li> <li>○ For seriously injured or ill volunteers needing advanced life support and transport, notify 911, and render first aid until a medical first responder takes over care.</li> <li>○ Notify the NPS volunteer program manager as soon as the injured party is safe. Complete the paperwork provided in the accident reporting kit.</li> </ul>  |
| <b>Tick Bite Prevention and Treatment</b>      | <ul style="list-style-type: none"> <li>○ Spray clothing, exposed skin, and ankles with insect repellent as a barrier.</li> <li>○ Wear light colored clothing that fits tightly at the wrists, ankles, and waist. Cover trouser legs with high socks or boots.</li> <li>○ Avoid grassy areas if possible.</li> <li>○ Search clothing and the body on a regular basis, especially hair and clothing; Ticks generally do not attach for the first couple of hours.</li> <li>○ If a tick becomes attached, pull it by grasping it as close as possible to the point of attachment and pull straight out with gentle, consistent pressure. Wash skin with soap and water. Then cleanse with rubbing alcohol. Place the tick in an empty container for later identification should you have a reaction. Record dates of exposure and removal.</li> <li>○ Do not try to remove the tick by burning it with a match or covering it with chemical agents.</li> <li>○ If you cannot remove the tick, or the head detaches, seek prompt medical help.</li> <li>○ Watch for warning signs of illness: a large red spot on the bite area, fever, chills, headache, joint and muscle ache, significant fatigue, and facial paralysis are reactions that may appear within two weeks of the bite. Symptoms specific to Lyme disease include confusion, short-term memory loss, and disorientation.</li> <li>○ Report all tick bites to the NPS volunteer program manager.</li> </ul> |
| <b>Mosquito Bite Prevention and Treatment</b>  | <ul style="list-style-type: none"> <li>○ Avoid heavy scents.</li> <li>○ Wear long sleeves and pants. Mosquito head nets may also be valuable in some instances.</li> <li>○ Use insect repellents.</li> <li>○ Avoid scratching.</li> </ul>   |
| <b>Bee/Wasp Sting Prevention and Treatment</b> | <ul style="list-style-type: none"> <li>○ Be alert to bees and hives. Watch for insects traveling in and out of one location.</li> <li>○ If you or anyone on the team is known to have allergic reactions to bee stings, tell a competent person and the rest of the crew. Ensure anyone allergic to bee stings always carries emergency medication with them, and others know where it is located.</li> <li>○ If you are stung, applying a cold pack may bring relief.</li> <li>○ If a stinger is left behind, scrape it off the skin. Do not use tweezers as this squeezes the venom sack, worsening the injury.</li> <li>○ If the victim develops hives, asthmatic breathing, tissue swelling, or a drop in blood pressure, seek medical help immediately.</li> <li>○ Watch for respiratory problems.</li> </ul>  |
| <b>Sun/Heat Exposure</b>                       | <ul style="list-style-type: none"> <li>○ Check the forecast. Cancel or postpone plans/projects in the event of extreme weather or temperatures.</li> </ul> <p><u>Sunburn</u></p> <ul style="list-style-type: none"> <li>○ Apply sunscreen (SPF 15 or higher) when exposed to sun and reapply at least every two hours.</li> <li>○ Wear long sleeve shirts, long pants, and appropriate headwear to protect skin.</li> </ul>   |

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|  | <p><u>Dehydration</u></p> <ul style="list-style-type: none"> <li>○ Wear loose fitting clothing, preferably closely woven fabrics of light colors.</li> <li>○ Maintain adequate water intake by drinking water periodically in small amounts throughout the day (about a cup of cool water every twenty minutes). Some over hydration is strongly recommended while continuing to eat throughout the day.</li> <li>○ Increase the amount of cool water and appropriate cool drinks (fruit juices and/or sports drinks) to replace sweat loss and to avoid dehydration.</li> <li>○ Avoid coffee and tea which contribute to dehydration. Sugary drinks such as soda should be avoided.</li> <li>○ Carry more water than you think you will need when doing field work. The amount of water needed during a workday may vary depending on duration in the field, tasks at hand, and weather.</li> </ul> <p><u>Long-term heat exposure</u></p> <ul style="list-style-type: none"> <li>○ Remain aware of the four basic factors that determine the degree of heat stress: air temperature, humidity, air movement, and heat radiation relative to the surrounding work environment.</li> <li>○ Know the signs and symptoms of heat exhaustion, heat cramps, and heat stroke. Heat stroke is a true medical emergency requiring immediate emergency response action.</li> </ul> |
| <p><b>Cold Exposure, Windchill, &amp; Snowy/Icy Conditions</b></p> | <ul style="list-style-type: none"> <li>○ Check the forecast. Cancel or postpone plans/projects in the event of extreme weather or temperatures.</li> <li>○ Be alert to changes in weather while outside.</li> <li>○ Wear the appropriate clothing and carry extra warm clothes.</li> <li>○ Stay well hydrated and eat high calorie foods to help maintain body heat.</li> <li>○ Watch out for ice. Wear traction devices to avoid slipping in icy conditions.</li> <li>○ Try not to sweat or become too tired.</li> <li>○ Avoid bodies of water or becoming wet.</li> <li>○ <u>Carefully watch for signs of cold-weather health problems, like hypothermia and frostbite.</u></li> </ul>  |
| <p><b>Lightning</b></p>  | <ul style="list-style-type: none"> <li>○ Although most common in the summer, thunder and lightning can occur anytime.</li> <li>○ Check your local weather and plan field time accordingly to avoid storms.</li> <li>○ If you can see lightning, seek shelter immediately. If you can hear thunder stop all field work and reach safety before the storm hits. Use "30-30 Rule": If time between strike and thunder is less than 30 seconds, <b>SEEK SHELTER.</b></li> <li>○ If caught in a storm away from your vehicle, try to find some form of enclosed building or shelter. <b>DO NOT</b> seek shelter under large trees or in open areas. Seek shelter in low lying areas such as a ditch. Avoid high elevations, open areas, tall objects, single trees, and falling tree hazards. Avoid wet ground and water sources. Sit on pack. Pile tools together and stay clear. (When in groups, spread out at least 15 feet apart.)</li> <li>○ When seeking shelter in a building, make sure all windows are closed.</li> <li>○ If caught in a storm near a vehicle, return to the vehicle and stay inside while the storm is active. Park the vehicle in a low area away from trees.</li> <li>○ <b>Allow 30 minutes after last thunder before leaving shelter.</b></li> </ul>   |
| <p><b>Wildlife Encounters</b></p>                                  | <ul style="list-style-type: none"> <li>○ Know the wildlife in your area, where they may be, what they may be doing each season, and when they are most active. Avoid places where predators are likely to be, such as berry patches and near dead animals. Know that all wild animals are unpredictable.</li> <li>○ Stay alert to your surroundings. Avoid startling a predator; Where sight distance is limited or flowing water is muffling sounds, make noise by singing or clapping hands. Be especially alert if hiking around dusk or dawn.</li> </ul>  |

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|  | <p><u><i>Black bear encounters</i></u></p> <ul style="list-style-type: none"> <li>○ DO NOT RUN! This may only instigate the bear’s instinct to chase a moving target. Food, like deer or small animals, run away. If you run, you look more like food to the bear.</li> <li>○ Stay calm. If you see a bear and it hasn't seen you, calmly leave the area. As you move away, talk aloud to let the bear discover your presence.</li> <li>○ Back away VERY SLOWLY if the terrain allows. Bears rarely attack people unless they feel threatened or provoked.</li> <li>○ Be BIG! Place your arms over your head, lift backpacks over your head, or open your jacket wide.</li> <li>○ Don’t turn your back. You should be aware of what the bear is doing.</li> <li>○ Don't make eye contact. Instead, look at the animal’s front feet. You will then always know where the bear is standing and what direction it is moving.</li> <li>○ Small children: Put them behind you or directly in front of you. This makes them look instantly larger. Teach children to get next to you immediately if you encounter a bear while hiking/working. NEVER let children out of your sight. Children are small enough that they may be identified as prey for a bear or other predator. Make sure your children know what to do if they see a bear.</li> <li>○ Speak softly. This may reassure the bear that no harm is meant to it. Try not to show fear.</li> <li>○ If attacked, fight back. Use anything you have close to you such as rocks, sticks, binoculars, walking sticks, and your fists.</li> </ul> |
| <p><b>Encounters with Illegal Activity</b></p> | <ul style="list-style-type: none"> <li>○ Be alert. Watch for threatening behavior from others or signs of illegal activity in an area such as dump sites, clandestine grow sites, etc.</li> <li>○ If you see something suspicious, gather as much information as you can without putting yourself in harm’s way. Retreat to a safe location immediately, write down the details that you can remember, and call 911.</li> <li>○ If you are at all uncomfortable with a situation, turn around and leave the scene immediately- abandon your equipment if necessary.</li> <li>○ Volunteers shall not attempt to enforce laws or policies, investigate suspicious activity, prevent damage to land or resources, or otherwise take action to confront unknown individuals engaging in inappropriate activities. This is outside of the scope of volunteer service. Volunteers may provide information and attempt to educate others to protect people or resources, but take no action beyond this. Do not aggravate the situation by arguing with others or trying to prevent them from continuing what they are doing. Any further action shall be limited to calling 911 and retreating to a safe location as the situation warrants.</li> <li>○ Follow up with local law enforcement, NPS, and NTCA staff to report the incident.</li> </ul>   |

## Tasks/Procedures & Hazards

| Task/Procedure & Required PPE   | Potential Hazards   | Recommended Actions or Procedures  |
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| <p><b>Walking to/from and working around project site</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Sturdy work boots or trail shoes</li> </ul> | <p>Slips, trips, and falls; Twisted ankles and knees; Poor footing</p> <hr/> <p>Struck by tools while walking</p> | <ul style="list-style-type: none"> <li>○ Always watch your footing and be attentive to trip hazards.</li> <li>○ Don’t be preoccupied while walking.</li> <li>○ Plan your day so you don’t have to rush over uneven terrain.</li> <li>○ Inspect the area prior to beginning any operation.</li> <li>○ Remove objects that could impede safe operations.</li> <li>○ Be familiar with walking surfaces.</li> <li>○ Maintain safe distance/spacing while walking.</li> <li>○ Use tool guards, if available.</li> </ul> |

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| <ul style="list-style-type: none"> <li>○ Eye protection</li> </ul>  |   | <ul style="list-style-type: none"> <li>○ Carry tool at your side below the waist, parallel to ground, gripped at balance point behind tool head, with head forward and with sharp edge down &amp; on down-slope side.</li> <li>○ Do not carry tools on your shoulders or across your body.</li> </ul>  |
| <p><b>Litter collection</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Leather and nitrile gloves</li> <li>○ Sturdy work boots or trail shoes</li> <li>○ Pants</li> <li>○ High-visibility reflective vest</li> </ul> | <ul style="list-style-type: none"> <li>○ Slips, trips, and falls</li> <li>○ Cuts and scraps</li> <li>○ Straining back, arms, or other body parts</li> <li>○ Contact with bodily fluids</li> <li>○ Contact with hazardous materials</li> </ul> | <ul style="list-style-type: none"> <li>○ Be aware of surroundings and potential slipping, tripping, and falling hazards.</li> <li>○ Wear leather and nitrile gloves.</li> <li>○ Bend at the knees when lifting. Use teamwork when carrying heaving items.</li> <li>○ Do not overfill trash bags.</li> <li>○ Use long-handled tools to move objects; Don't place hands or feet where you cannot see.</li> <li>○ Do not place any needles directly into trash bags. Use caution when putting needles and other sharp objects in a Sharps container.</li> </ul>   |
|   | <p>Feet or legs wedged between debris in dump pile; Stepping on hidden sharp objects</p>  | <ul style="list-style-type: none"> <li>○ Work from outside of dump site toward the center.</li> <li>○ Keep feet on solid ground</li> <li>○ Wear PPE.</li> </ul>  |
|   | <p>Exposure to hazards associated with marijuana plantations, active or abandoned meth labs, etc.</p>   | <ul style="list-style-type: none"> <li>○ Be familiar with the characteristics of meth labs/dump sites. Do not approach any suspected meth site: immediately evacuate all personnel from the site following the route you came in on and call 911.</li> <li>○ Be observant for things that are suspicious or out of place (trip wire strung across path, irrigation hose lays, evidence of fertilizer activity/trash, strong chemical odors, dump sites that include items such as propane tanks, acetone, shredded lithium batteries, lye/drain cleaner, coffee filters, cold medicine packages, etc.</li> <li>○ Immediately leave the area and call 911, then notify NPS and NCTA.</li> </ul> |
|   | <p>Vehicle traffic along the roadside and parking areas</p>   | <ul style="list-style-type: none"> <li>○ Wear a high visibility safety vest for all work along any roadway or parking areas.</li> <li>○ Face oncoming traffic.</li> <li>○ Look both ways before crossing the road. Use crosswalk where available. Wait for traffic to clear before crossing.</li> </ul>  |
| <p><b>Operating a motor vehicle</b></p>   | <p>Exposure to possible vehicle deficiencies, or vehicle not in proper working order</p>  | <ul style="list-style-type: none"> <li>○ Conduct a safety walkaround of vehicle to inspect tire inflation, discover fluid leaks, ensure gas and oil levels, and adjust mirrors.</li> <li>○ Familiarize yourself with vehicle controls if you have not operated that vehicle before.</li> </ul>   |
|   | <p>Potential motor vehicle accidents</p>  | <ul style="list-style-type: none"> <li>○ All persons operating a motor vehicle must be licensed and legal to do so.</li> <li>○ Never operate a vehicle under the influence of alcohol, drugs, or medication. Follow warnings on prescription medicine labels regarding the ability to drive.</li> <li>○ Do not attempt to drive if improperly rested.</li> <li>○ Always wear seat belt and shoulder harness.</li> <li>○ Cell phone use is prohibited while driving.</li> <li>○ Obey the speed limit.</li> <li>○ Always signal turns and lane changes.</li> </ul>   |

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|   |  | <ul style="list-style-type: none"> <li>○ Maintain proper spacing and following distances from other vehicles.</li> <li>○ Stop for rest breaks as necessary.</li> <li>○ Secure loose objects inside the vehicle that may strike/injure you or passengers during emergency stopping or maneuvering.</li> <li>○ Be alert to wildlife crossing roadway, particularly at dawn, dusk, after nightfall, and periods of increased animal movements at any time of the day (i.e. hunting and mating seasons).</li> <li>○ Do not drive in adverse weather conditions if trip can be delayed.</li> </ul>  |
| <p><b>Trailer</b></p> <p><b>PPE:</b></p> <ul style="list-style-type: none"> <li>○ Leather gloves</li> <li>○ Sturdy work boots or trail shoes</li> </ul> | <p>Vehicle and equipment failure</p>   | <ul style="list-style-type: none"> <li>○ Ensure loads do not exceed trailer rating.</li> <li>○ Ensure loaded trailer does not exceed towing/braking rating of the vehicle used to tow the trailer.</li> <li>○ Proper tire pressure should be maintained on towing vehicle and trailer. (Recommended PSI located on side wall of tire.)</li> <li>○ Always inspect vehicle tires for any abnormal wear and tear prior to each use.</li> <li>○ Hitch and electric light hookup of towing vehicle should be maintained and kept clean. Inspect prior to each use.</li> <li>○ Tow vehicle must have a secure place for the chains to be attached.</li> <li>○ Inspect trailer prior to each use. Check welds on trailers for cracks, trailer safety triangle should be visible when ramp is in closed/up position, trailer license plate should be properly attached, and tires inspected for any abnormal wear and tear prior to each use.</li> <li>○ Coupler, spring coupler, tongue jack, and electric light hookup should be maintained and kept clean and lubricated.</li> <li>○ Ensure that bearings are inspected and greased as needed.</li> <li>○ Spare tire(s) for both the trailer and towing vehicle and necessary tools for changing tires (to include adequate jacks) must be available when towing trailers.</li> </ul> |
|   | <p>Injuries when connecting/disconnecting the trailer to the tow vehicle: pinching fingers, crushing toes, back strain, carbon monoxide inhalation</p> | <ul style="list-style-type: none"> <li>○ Ensure that the tongue of the trailer is higher than the ball on the truck before backing the truck to the trailer.</li> <li>○ Ensure that towing vehicle is not running. Minimize exposure to carbon monoxide.</li> <li>○ Trailer jack should always be in locked position, whether in horizontal position for towing or in vertical position for raising and lowering trailer.</li> <li>○ Be aware of your/others' hand placement while lowering the coupler to the hitch ball.</li> <li>○ Wear gloves, work boots, and eye protection to minimize potential for severe injury.</li> <li>○ To avoid back strain, do not lift trailer. Use attached jack to raise and lower the trailer coupler onto the hitch ball. Never use fingers to guide hitch ball into coupler. Verify that the ball is the proper size for the coupler.</li> <li>○ Ensure that the spring coupler is locked in down position and that a coupler lock is secured in place.</li> <li>○ Attach safety chains properly to hitch rings. Cross the chains beneath the coupler- right chain to left hitch ring and left chain to right hitch ring. In the event of</li> </ul>   |



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|  | <p>separation, the cross over may catch the tongue and prevent serious accident and trailer damage.</p> <ul style="list-style-type: none"> <li>○ Make sure the pin securing the ball mount to the receiver is in place.</li> <li>○ Connect light plugs and make sure that all lights (brake and turn signals) are in working condition on trailer.</li> <li>○ Avoid connecting the trailer in low light conditions. If necessary, wear a headlamp and get a second person to assist and do an inspection.</li> </ul>   |
| Personal injury and back strain when loading and unloading equipment                     | <ul style="list-style-type: none"> <li>○ Minimize the angle of ramp(s) as much as possible. Trailer should be on a level surface when loading and unloading equipment.</li> <li>○ Ask for assistance if/when needed.</li> <li>○ Ensure that the equipment is securely attached to the appropriate vehicle.</li> <li>○ Before loading, check that the truck is in park and brakes are engaged on the truck.</li> <li>○ Ensure proper loading on the trailer: front to back and left to right per the manufactures trailer manual.</li> <li>○ Avoid attempting to load in low light conditions.</li> </ul>   |
| Equipment weight shifting while traveling and tie down straps breaking or malfunctioning | <ul style="list-style-type: none"> <li>○ Inspect ratchet straps for wear and tear, fraying or cuts, and replace as needed. Do not use damaged straps as damaged straps may not hold during an emergency.</li> <li>○ The sum of the working load limits from all tie downs must be at least 50% of the weight of the cargo. (Minimum strap requirement recommended.)</li> <li>○ Always carry extra ratchet straps.</li> <li>○ Ensure that all ratchet straps are tight and locked down securely.</li> <li>○ Tie up any excess ratchet strap. (If an end of the strap should be run over by the tire of the trailer while in motion, it may result in a large jolt of the trailer, loosening of other straps or potential loss of the load).</li> <li>○ Items other than flat loads (boards, panels, etc) must be secured at four points of contact: front, rear, right, and left.</li> <li>○ Heavier loads may require chains and binders/tightening system.</li> </ul> |
| Injury to people in path, hitting objects, and jackknifing while backing                 | <ul style="list-style-type: none"> <li>○ Physically inspect the backing path, identifying any potential obstacles, and ensure a safe route.</li> <li>○ Use a spotter when available to help guide you and increase safety awareness while backing.</li> <li>○ Align vehicle and trailer prior to backing. It is easier to back up a trailer in a straight line.</li> <li>○ Avoid making sharp turns.</li> <li>○ If you must back up the trailer at an angle, position the trailer to be backing up to the left. (Due to the position of the driver in the towing vehicle, there is better visibility on trailer if it is backing to the drivers' side.)</li> <li>○ Practice with empty trailer before towing with a load.</li> </ul>   |

Please acknowledge that you have reviewed this **PERSONAL SAFETY** hazard analysis and understand the hazards and required precautionary actions on the Volunteer Service Agreement. Please notify the volunteer program manager if you are unable to follow the requirements of this hazard analysis.