

<b>Appalachian National Scenic Trail</b>		<b>1. WORK PROJECT/ACTIVITY</b> Walk-Behind Mower	<b>2. LOCATION</b> Trail Wide	Includes work performed on lands of National Park Service, and various states' park and lands
<b>JOB HAZARD ANALYSIS (JHA)</b> References-FSH 6709.11 and -12 OSHA (Instructions on Reverse)		<b>3. NAME(S) OF ANALYST(S)</b>  Keith Stegall	<b>4. Work Supervisor</b>  Various	<b>5. DATE PREPARED</b>  03/09/2021
Required Standards and General Notes:				
Required Personal Protective Equipment	Safety glasses, hearing protection, long pants, gloves, sturdy boots. Long sleeves will protect arms, hard hat adds visibility and protects from overhead hazards, dust mask and face shield optional. See below for additional required PPE.			
Tools and Equipment	First aid kit			
Available Training	Read and understand Operator's Manual. Receive instruction from trained and experienced operator			
<b>7. TASKS/PROCEDURES</b>		<b>8. HAZARDS, POTENTIAL HAZARDS / INJURY SOURCE</b>	<b>9. ABATEMENT ACTIONS OR PROCEDURES</b> Engineering Controls * Substitution * Administrative Controls * PPE	
Pre-Operation Inspection		Injury Due to Lack of Knowledge	<ul style="list-style-type: none"> <li>● If unfamiliar with equipment, review manufacturer's operating manual prior to operation.</li> <li>● Supervisor must ensure operator's proficiency/knowledge in operation prior to being allowed to perform work with equipment.</li> </ul>	
		Injury from Lack of Inspection	<ul style="list-style-type: none"> <li>● Prior to operation, ensure all bolts are secure, fuel lines are connected, associated equipment such as bits are in proper working condition, etc.</li> <li>● Tag-out and replace/repair any damaged equipment</li> <li>● Thoroughly inspect equipment prior to operation.</li> <li>● Ensure all safety components are intact, pull cord is not frayed, nut and bolts are tight, etc.</li> <li>● Ensure throttle and stop switch are working. Disconnect spark plug.</li> <li>● Ensure blade is sharp.</li> <li>● If parts are missing or faulty, lockout/tagout equipment until deficiencies are addressed.</li> </ul>	
		Cuts / Lacerations	<ul style="list-style-type: none"> <li>● Wear heavy gloves and use caution when inspecting blades.</li> </ul>	
Transporting Mower in the Field		Exposure to Fuel	<ul style="list-style-type: none"> <li>● If not familiar with related fuel SDS, review prior to transport.</li> <li>● If transporting long distances, empty fuel tank before transport.</li> <li>● If transporting short distances, ensure fuel caps are tightly secured.</li> <li>● If exposed to fuels, follow related SDS guidance for treatment.</li> </ul>	
		Injury to Feet / Ankles	<ul style="list-style-type: none"> <li>● Wear appropriate footwear.</li> <li>● Determine and use safest path that provides the best option for firm and stable ground with least protrusions.</li> </ul>	

	Back / Muscle Strain	<ul style="list-style-type: none"> <li>● Use proper lifting technique when carrying tool, lift with your legs, not your back.</li> <li>● Use pack frames, wheelbarrows, handcarts, etc. to transport tool when possible.</li> <li>● Do not carry more weight than you can handle comfortably, seek assistance if necessary.</li> <li>● Take frequent breaks, switch-off with co-workers often.</li> </ul>
	Burn Injury	<ul style="list-style-type: none"> <li>● Be aware of muffler and other hot parts when carrying tool after operation. Whenever possible, let tool cool down prior to transporting.</li> <li>● Wear gloves and long-sleeved shirt (recommended).</li> <li>● Tools should be purged of fuel whenever being transported or not in use.</li> </ul>
	Injury to Others	<ul style="list-style-type: none"> <li>● Be aware of and communicate with others around you.</li> <li>● Do not swing tools around carelessly.</li> <li>● Tools should never be leaned against anything (e.g. a tree) where they can slip, slide, or fall.</li> <li>● When necessary, use a spotter to ensure others do not access your workspace and are not injured.</li> </ul>
	Injury to Hands/Fingers	<ul style="list-style-type: none"> <li>● Take care not to pinch or crush your hands/fingers when picking up and setting down tools.</li> </ul>
Transporting Fuel in the Field	Injury / Exposure to Fuel	<ul style="list-style-type: none"> <li>● Fuel may only be “field transported” and used in: <ul style="list-style-type: none"> <li>○ Original manufacturer’s container</li> <li>○ OSHA approved fuel container</li> <li>○ UL-labeled plastic fuel container</li> <li>○ Aluminum 1 quart or smaller “Sigg” fuel bottle specifically intended to carry fuel.</li> <li>○ Plastic Dolmar fuel container (Fuel-Mix / Bar Oil)</li> </ul> </li> <li>● Gas and/or Gas Mix fuel containers must be red in color and labeled for its contents and use.</li> <li>● Diesel fuel containers must be yellow in color and labeled for its contents and use.</li> <li>● Ensure fuel cap(s) is secured properly and tightly.</li> <li>● Do not fill containers above the fill line (or leave at least 2” of space between fuel and top of bottle).</li> <li>● Do not use fuel container for any other liquid containment.</li> <li>● Wear eye protection.</li> </ul>
Check Area to be Mowed	Injury from flying debris, holes, loose rock, etc.	<ul style="list-style-type: none"> <li>● Check for and remove from area, any large loose rocks, glass, metal, or other debris that could be thrown by mower.</li> <li>● Ensure the public/visitors are not in immediate cutting area.</li> <li>● Turn off mower when encountering public on treadway.</li> </ul>

Start Mower	Back / Muscle Injury	<ul style="list-style-type: none"> <li>● Be sure that you have firm stable footing, keep back straight, and use arm to pull starter rope with smooth motion.</li> </ul>
	Hand / Finger Injury	<ul style="list-style-type: none"> <li>● Do not wrap the starter rope around your hand.</li> <li>● Do not allow the cord to snap back into mower.</li> <li>● Guide the starter rope so that it will rewind properly.</li> <li>● Make sure that grip and cord are in good condition and replace if damaged or significantly worn. .</li> </ul>
	Cuts / Lacerations	<ul style="list-style-type: none"> <li>● Be careful of placement of feet.</li> <li>● Start mower on level area and do not let feet slip under mower deck when starting.</li> <li>● Ensure that blade interlock (if equipped) is functioning and in off position.</li> </ul>
Operating Mower	Unsafe Operation	<ul style="list-style-type: none"> <li>● Operator shall be familiar with all safety procedures and have documented training on all aspects of operation.</li> <li>● Refer to manufacturer's manual for maximum slope.</li> </ul>
	Cuts / Lacerations	<ul style="list-style-type: none"> <li>● Wear sturdy, cut resistant shoes or boots.</li> <li>● Use extreme caution when mowing on slopes and do not stand above the mower on slopes. Mow horizontally across slopes, not vertically up and down.</li> <li>● Keep a firm grip on mower handle and use both hands. Rough ground, roots and wet areas may cause handles to jerk unexpectedly.</li> <li>● Do not put hands near or under the deck when engine is running.</li> <li>● Do not remove or bypass any safety features such as guards or the blade/engine lockout lever.</li> <li>● Turn off mower when removing or clearing debris from under deck or in discharge chute.</li> </ul>
	Thrown Debris	<ul style="list-style-type: none"> <li>● Wear ANSI approved safety glasses or goggles.</li> <li>● Make sure that all safety guards and deflectors are in place and working properly.</li> <li>● Make sure that the blade is securely fastened in place and periodically check retaining bolt for tightness.</li> <li>● Carefully survey the area to be mowed for objects that could be thrown by the mower blades. Remove any hazards prior to mowing.</li> <li>● Use caution when mowing and be on constant lookout for objects or debris in the path of mower.</li> <li>● Maintain a safe distance of at least 50 feet from bystanders or other co-workers and use caution when mowing near buildings and vehicles. Always discharge away from bystanders and traffic.</li> <li>● Use proper PPE such as outlined above. Reflective vests are required when mowing near moving traffic.</li> </ul>

	Slips and Falls	<ul style="list-style-type: none"> <li>● Wear sturdy shoes or boots with non-slip soles.</li> <li>● Watch for trip hazards such as roots, rocks, and holes.</li> </ul>
Fueling / Refueling Mower	Fire Hazards	<ul style="list-style-type: none"> <li>● Turn off the equipment while fueling.</li> <li>● Keep sparks and open flames away when refueling equipment.</li> <li>● Avoid spilling gas by using a fuel funnel.</li> <li>● Do not overfill.</li> <li>● Allow fuel spills to dry up before operating equipment.</li> <li>● Use the type of fuel recommended in the instructions or on the label on equipment.</li> </ul>
	Exposure / Inhalation / Ingestion of Fuels / Fumes	<ul style="list-style-type: none"> <li>● If not familiar with related fuel SDS, review prior to fueling.</li> <li>● Running equipment produces carbon monoxide (CO) poisoning from the toxic engine exhaust.</li> <li>● Fuel/Re-fuel in well-ventilated area. Do not use indoors, in a garage, or within 20 ft of an occupied building.</li> <li>● Wear eye protection.</li> <li>● Wash hands after handling fuel/fuel container</li> <li>● Remove/replace clothing if exposed to fuel.</li> <li>● If exposed to fuels, follow related SDS guidance for treatment.</li> </ul>
Performing Maintenance	Struck by cutting attachments	<ul style="list-style-type: none"> <li>● Always stop the engine and make sure that the cutting tool has stopped rotating before performing any maintenance or repair work.</li> <li>● Remove key or disconnect spark plug before performing work on drive train or blade mechanism.</li> </ul>
	Malfunctions and/or injuries caused by faulty repairs	<ul style="list-style-type: none"> <li>● Follow the maintenance and repair instructions in the owner's manual.</li> <li>● Use only approved replacement parts and cutting attachments.</li> </ul>
	Greasing fittings: Grease or debris on skin or in eyes	<ul style="list-style-type: none"> <li>● Wear rubber or nitrile gloves and ANSI approved safety glasses.</li> </ul>
	Fuel Spillage	<ul style="list-style-type: none"> <li>● If turning mower over to access undercarriage, be aware that fuel may leak from tank or oil spill from crankcase.</li> <li>● Clean any spilled fuel or oil from mower before restarting.</li> </ul>
	Motor could start accidentally causing severe injuries	<ul style="list-style-type: none"> <li>● Before beginning work, pull off spark plug wire to ensure that motor cannot start.</li> <li>● When possible, remove blade from mower for sharpening.</li> </ul>
	Electric shock; electrocution	<ul style="list-style-type: none"> <li>● If using electrical tools for sharpening or other repairs, inspect cord, use GFCI-protected outlet.</li> <li>● Do not use if work area is wet.</li> </ul>
	Severe cuts and abrasions	<ul style="list-style-type: none"> <li>● Use caution and wear gloves when inspecting or changing blades or knives.</li> </ul>

	Blowing off mower: Debris, dust, and grass clippings in eyes	<ul style="list-style-type: none"> <li>• Wear ANSI approved safety glasses. Stand back from blower while using.</li> </ul>
<b>10. OFFICIAL SIGNATURE</b>	<b>11. TITLE</b>  <b>Acting Chief Ranger</b> (over)	<b>12. DATE</b>  <b>09/02/21</b>

Previous edition is obsolete

**JHA Instructions (References-FSH 6709.11 and .12)**

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

**Block 7:** Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

**Block 8:** Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

**Block 9:** Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

**Block 10:** The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

**Emergency Evacuation Instructions (Reference FSH 6709.11)**

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

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**JHA and Emergency Evacuation Procedures Acknowledgment**

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

**SIGNATURE      DATE**

**SIGNATURE      DATE**

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