U.S. Department of Agriculture Forest Service **JOB HAZARD ANALYSIS *(JHA)*** References-FSH 6709.11 and -12 *(Instructions on Reverse)*	**1. WORK PROJECT/ACTIVITY** Riding Mower(s)	**2. LOCATION** George Washington and Jefferson National Forests	**3. UNIT** All Units of the George Washington and Jefferson National Forests
JOB HAZARD ANALYSIS (JHA)	**4. NAME(S) OF ANALYST(S)** Steve Beri, Matthew Helt	**5. JOB TITLE** Recreation Program	**6. DATE PREPARED** 11 February 2022

Required Standards and General Notes:	Operator must be trained on the specific type of riding mower to be used.
Required Personal Protective Equipment	Safety glasses, hearing protection, sturdy boots, safety vest if working on or near roadways. Optional hard hat offers additional visibility and protection from overhead hazards, face shield and/or dust mask are optional, gloves are optional except when servicing equipment. High-viz vest near roads and traffic.
Tools and Equipment	First aid kit
Available Training Materials	Receive instruction from trained and experienced operator or read and understand equipment manual.

7. TASKS/PROCEDURES	**8. HAZARDS, POTENTIAL HAZARDS / INJURY SOURCE**	**9. ABATEMENT ACTIONS OR PROCEDURES Engineering Controls * Substitution * Administrative Controls * PPE**
Review Manufacturer's Operating Manual	Lack of knowledge of equipment can lead to accidents	● Review manufacturer's operating manual for each piece of equipment to be used. This is to be done at the beginning of each season, by any new operator, or sooner, if conditions change. ● Maintain and/or replace safety and instruction labels, as necessary. ● Machines should be serviced annually, unless a USFS employee, partner, or volunteer performs documented annual maintenance.
Transporting Mower in the Field/Work Site and back	Logistics/ Transportation Overview	● Ask questions to more seasoned employees. ● Understand towing requirement/training for trailers if using them (see towing/trailer JHA). Properly secure and brace equipment. ● If transporting long distances, empty fuel tank before transport. ● If transporting short distances, ensure fuel caps are tightly secured. ● If not familiar with related fuel SDS, review prior to transport. ● If exposed to fuels, follow related SDS guidance for treatment. ● Have a tailgate safety session before transport
	Burn Injury	● Be aware of muffler and other hot parts when carrying tool after operation. Whenever possible, let tool cool down prior to transporting. ● Wear gloves and long-sleeved shirt (recommended). ● Tools should be purged of fuel whenever being transported or not in use.

Pre-Operation: Sharpening Blades	Potential for bodily harm from falling equipment	● Where practical, detach mower deck from machine to avoid being underneath equipment. ● Use proper jack stands and hoists. ● Secure mower so that it remains stable. ● Remove blades from equipment for sharpening.
	Electric shock; electrocution	● If using electrical tools for sharpening or other repairs, inspect cord, use GFCI-protected outlet. Do not use if work area is wet.
	Severe cuts and abrasions	● Use caution and wear gloves when inspecting, sharpening, or changing blades.
	Exposure to harmful/ poisonous plants.	● Blades may have residual sap or contaminants from poisonous vegetation; protect skin with appropriate PPE, gloves, and clothing.
	Burns from hot blades	● Wear heavy gloves and block/lock the blade from moving.
	Injury from flying sparks and metal chips; debris embedded in eyes	● Wear ANSI approved safety glasses. Verify that safety side shields are in place.
Pre-Operation: Greasing Fittings	Grease or debris on skin or in eyes	● Wear rubber or nitrile gloves and ANSI approved safety glasses.
Pre-Operation: Blowing off Mower	Debris, dust, and grass clippings in eyes	● Wear ANSI approved safety glasses. Stand back from blower while using.
Pre-Operation: Safety check of mower	General condition	• Walk around to identify any missing, broken, damaged parts or pieces to assess general condition, and that all safety equipment is present, including safety guards and deflectors. Inspect the mower visually prior to starting. • Check seat belt and roll bar. • Ask questions to more seasoned employees.
	Under inflated or damaged tires or wheels	● Check tires and wheel hardware.
	Unable to shut off engine	● Ensure throttle and stop and/or kill switch are working. ● Ensure that the brakes work properly to include emergency brake (if applicable).
	Lacerations from blades	● Wear heavy gloves and use caution when inspecting blades. ● Do not inspect blades when mower is on.
Pre-Operation: Check area to be mowed	Damage to self, mower, or others through slips, trips, impact.	● Check for and remove from area, any large rocks, glass, metal, or other debris that could be thrown by mower. ● Assess route for moving between mowing sites if needed. ● Ensure the public/visitors are not in immediate cutting area. ● Examine area to identify areas of low overhead clearance.
	Severe Slope	● Develop mowing plan that identified steep slopes and what approach will be taken to accomplish task. Refer to mower user manual for max slope specifications.

		● Drive zero turn mower up and down slopes rather than sideways for greater stability. Stop and turn off the lawn mower immediately if the blade hits any hard object, inspect the blade, and make the necessary repairs before using mower again. ● Reduce speed on slopes, sharp curves (when they cannot be avoided), and slippery or muddy surfaces.
Mount and start mower	Slip/trip/fall	● Always ensure 3-point contact when mounting and dismounting.
	Bodily Injury from Starting Operations	● Ensure seatbelt engaged. ● Ensure safety features (i.e., neutral switch) operating properly. ● If applicable, ensure the rollover bar is in proper position. ● Start the lawn mower outdoors. ● Wear ear protection to protect against loud decibel ranges.
Operating Mower	Accidents caused by improper or unsafe operation	● Operator shall be familiar with all safety procedures and have training on all aspects of operation. ● Never attempt to make adjustments or repairs to the mower while the engine is running. ● Only allow the operator on the machine while the engine is running; never allow passengers to ride on the mower. ● Wear safety belt and use roll bar (if machine has them) ● Keep hands away from blade. Use a stick to unclog or remove grass from the mower. ● Machine should be turned off when unclogging or removing debris from mower.
	Loss of control	● Mow in accordance with manufacturer's recommendations. Stay within maximum slope allowed for each machine to minimize rollover risk. ● Mow no closer than one mower width from drop offs, water, or hills that exceed the slope limit. Use a walk behind mower or string cutter in this danger zone. Discuss with supervisor if a mowing map is available showing priority areas vs. hazard areas. ● Watch for hidden hazards such as holes, roots, drainpipes and insects' nests. ● Shut the mower off when stopping to pick up debris.
	Struck by thrown debris, obstacles	● Clear the work area of rocks, bottles and debris that might be thrown by the blade. ● Wear ANSI approved PPE, including: safety glasses or goggles, and hearing protection. Reflective vests are required when mowing near moving roads and vehicles. ● Periodically ensure that the blade is securely fastened in place and check retaining bolt for tightness. ● Use caution when mowing and be on constant lookout for objects or debris in the path of mower. ● Continually check overhead clearances carefully before driving under low hanging tree branches, wires, openings, etc., where the operator may be struck or pulled from the machine.

		● 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. However, a mower can hurl object(s) in any direction. ● Shut off mower when encountering visitors within mowing vicinity. ● Do not leave blades rotating while crossing a graveled area.
Transporting Fuel in the Field	Injury / Exposure to Fuel	● "Plastic fuel containers may not be used (Dolmars are an exception for short-term storage of flammable or combustible liquids). Store fuels in approved metal safety cans with spring-loaded lids. All fuel containers must be clearly labeled. For additional requirements, see the Forest Service Hazmat User's Training Guide and the Interagency Transportation Guide for Gasoline, Mixed Gas, and Diesel, and 29 CFR 1910.106(d)." ● Fuel may only be "field transported" and used in: ○ Aluminum 1 quart smaller "Sigg" fuel bottle specifically intended to carry fuel. ○ Plastic Dolmar fuel container (Fuel-Mix / Bar Oil) ● Metal Gas and/or Gas Mix fuel containers must be red in color and labeled for its contents and use. ● Metal Diesel fuel containers must be yellow in color and labeled for its contents and use. ● Ensure fuel cap(s) is secured properly and tightly. ● Do not fill containers above the fill line (*or leave at least 2" of space between fuel and top of bottle*). ● Do not use fuel container for any other liquid containment. ● Wear eye protection. ● Fill the engine when it is cool, not while it is still hot after it has been used. ● Check oil level and refueling the engine before starting the work while engine is still cool.
Fueling / Refueling Mower	Fire Hazards	● Turn off the equipment while fueling. ● Keep sparks and open flames away when refueling equipment. ● Avoid spilling gas by using a fuel funnel. ● Do not overfill. ● Allow fuel spills to dry up before operating equipment. ● Use the type of fuel recommended in the instructions or on the label on equipment.
	Exposure / Inhalation / Ingestion of Fuels / Fumes	● If not familiar with related fuel SDS, review prior to fueling. ● Running equipment produces carbon monoxide (CO) poisoning from the toxic engine exhaust. ● Fuel/Re-fuel in well-ventilated area. Do not use indoors, in a garage, or within 20 ft of an occupied building. ● Wear eye protection. ● Wash hands after handling fuel/fuel container ● Remove/replace clothing if exposed to fuel. ● If exposed to fuels, follow related SDS guidance for treatment.

Performing Field Maintenance of Equipment	Struck by Cutting Attachments	● Always stop the engine and make sure that the cutting tool has stopped rotating before performing any maintenance or repair work. ● Remove key or disconnect coil.
	Malfunctions and/or injuries caused by faulty equipment	● Follow the maintenance and repair instructions in the owner's manual. ● Use only approved replacement parts and cutting attachments.
10. OFFICIAL SIGNATURE JOBY TIMM Digitally signed by JOBY TIMM Date: 2022.03.15 17:48:28 -04'00'	**11. TITLE** Forest Supervisor	**12. DATE** 3/15/22

Previous edition is obsolete **(over)**

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.

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