U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY Crosscut Saw Operations - bucking, limbing & felling	2. LOCATION USFS - Forest Wide	3. UNIT Region 6		
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST Back Country Horsemen of Washington	5. JOB TITLE BCHW Safety Committee	6. DATE PREPARED March 2017		
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	10. POST ABATEMENT ACTION RISK RATING (Severity/Probability Matrix)		
			Severity	Probability	Risk Code
General Crosscut Saw Operation	Serious potential injury during crosscut saw operation to sawyer(s), crew members or public trail users	Maintain Required Qualifications: Crosscut saw operation certification in accordance with FSM 2358 Must operate within the limits of certification First aid / CPR certification	I I I - Marginal	D - Seldom	4 - Low
Personal Protective Equipment (PPE)	Serious potential personal injury from falling limbs, flying debris, or sharp tools	Operaters are responsible for having proper PPEs: Hard hat, eye protection, gloves, long sleeve shirt, long pants, and boots Boots must be leather or cut-resistant, with non-skid soles and have ankle support See PPE FSH 6709.11,21,13 First aid kit located on the jobsite OSHA standard 1910.266 App. A.	I I I - Marginal	D - Seldom	4 - Low
Tailgate Safety Meeting	Communication between Trail Work Leader and crew members is important to avoid injuries	Trail Work Leader and crew members must participate in a Tailgate Safety Briefing at the start of the project. See Tailgate Safety Guide Crew members MUST fill out a Medical Decleration Form Discuss communication proceedures Discuss Emergancy Action Plan (EAP) Discuss tasks and proceedures for the project Sawyers MUST NOT work alone	I V - Negligible	E - Unlikely	4 -Low
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Travel to worksite	Potential personal injury during transport of sharp crosscut saw(s) and trail tools	Use covering sheath for crosscut blade Use tool guards for trail tools Use proper transport for saws and tools carried on trail stock Foot traffic must travel 10 feet apart. Carry crosscut saw with teeth facing outward from your body Remove rear handle of saw when walking to worksite	I I I - Marginal	D - Seldom	4 - Low

Equipment	Potential personal injury with improper use of sharp crosscut saw(s) and trail tools Cuts and lacerations	Follow safety, operation and maintenance recommendations for crosscut saws Have on hand an axe, wedges, maul, or single bit axe When not cutting always have the crosscut teeth protected and away from workforce	I V - Negligible	D - Seldom	4 - Low
Worksite	Potential worksite injuries must be discussed between Trail Work Leader and trail crew before project starts Overhead hazards Down logs in escape route Brush and limbs in worksite Log movement during cutting Slippery and uneven worksite	Make worksite hazard assesment prior to sawing. Check for overhead hazards and NEVER work under overhead hazards. Determine escape routes Clear area around work site of hazards Pay close attention to footing Pay close attention to log movement during cutting Post lookouts to alert trail users moving through the area	I V – Negligible	D - Seldom	4-Low
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Worksite Safety	Potential worksite injuries must be discussed between Trail Work Leader and trail crew throughout the project Log movement during and after cutting Cut piece track after cutting Potential personnal injury from rain, snow and / or wind conditions	Space workers so the activities of one will not create a hazard Workers not essential for the project must keep outside the safety circle Except for sawyers have workers work on the same contour rather than some working above others Do not saw in the dark or under hazardous weather conditions	I V - Negligible	D - Seldom	4 - Low
Crosscut Operation	Serious potential personnel injury during improper crosscut sawing techniques Binds trapping crosscut saw Log drop when cutting limbs Rolling log pieces Splintering saplings and limbs Not notifying a NO-GO decissiion Hazardous trail conditions left for other trail users	Anticipate log tensions and compressions, then plan mitigation Use caution when cutting limbs supporting logs off the ground Use caution when sawing on the downhill side of a log especially a second sawyer on a crosscut saw. Do not saw logs on steep slopes with workers below Carefully relieve tension on saplings and limbs before cutting Asses all potential hazards using GO/NO-GO checklist Never leave a hazardous situation, such as a half cut or hung up log	I V – Negligible	C - Occa-sional	4 – Low

Cut Plan	Serious potential personnel injury during crosscut sawing from unplanned log movemnt	Mitigate cut sequence for potential binds based on bearing points and lie of log Determine mechanics of removing the cut pieces Execute cut plan Brief swampers Remove springpoles first Observe kerf closely to determine if behavior of log corresponds to perdicted bind Insert wedges on compression side as soon as possible When double-bucking, move second sawyer from offside for the release cut	I V – Negligible	D - Seldom	4 – Low
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Communications	Critical information must be available for personnel in case of an injury Delays in getting prompt medical aid for seriously injured	Trail Work Leader must have a Trailhead Communication Plan (TCP) and an Emegancy Action Plan (EAP) for the trail crew. Communication equipment as specified in TCP If trail crew divides into multiple teams, a copy of the TCP and EAP must accompany each team. Two-way radios and / or mobile phones for communication between sperate teams Check in and check out before and after project in accordance with TCP If an EAP is acctivated contact BCHW and land management agency	I I I - Marginal	D - Seldom	4 – Low
Felling Operations	Serious potential injury to sawyer(s), crew or public trail users Struck by snags, down trees, widow makers Rot on the stump affecting holding wood Tripping/struck due to poor escape route	SIZE UP (Situational Awareness) From a short distance, walking 360 degrees around tree, look up for widow makers, conk, slipping bark. Don't move from the escape route towards the felled tree until all movement has stopped. Detect solid or sponge wood by "sounding" with falling axe. If needed bore into stump looking for coloring in the sawdust Always look for and clear out escape routes 45 degrees away from tree. Walk out both the escape route and where the tree is to be felled looking for such hazards as snags, down logs, jill pokes, rocks, stumps, hang ups and low hanging limbs Situational Awareness/Individual Complexity Form	I - Catastro-phic	D - Seldom	2 - High

Securing Felling Area	Serious potential injury to sawyer(s), crew or public trail users Potential fatal injury to sawyer(s). crew or public trail users	The faller has the responsibility and authority to identify, secure, and manage the felling area. A MINIMUM OF 2-1/2 TIMES THE HEIGHT OF MATERIAL BEING FELLED IN ALL DIRECTIONS MUST BE SECURED. No one shall be allowed in the secured felling area without the authorization of the faller In addition on the entire downhill side will be included in the secure area on hillsides with steep slopes where material can roll for long and unpredictable distances A safety zone will be established outside the secured area and everyone must remain there until all felling is completed and the "all clear" has been given by the faller One person shall be appointed and responsible to maintain reliable communications with the faller and the crew members in the safety zone to ensure nobody enters the secured falling area A road or trail guard will be set up on all roads and trails entering and leaving the secured felling area Effective communications must exist between the guards and the faller Before leaving the felling area the faller needs to ensure that no hazards remain such as hang ups, unusable logs, or other dangers To protect the lives of employees, contractors, and the public it is the responsibility of the faller to see that these standards are firmly adhered to It is the responsibility of the supervisors and all employees engaged in chainsaw operations to understand and follow these established standards	I – Catastro-phic	D – Seldom	2 – High

Felling Cut	Serious potential injury to sawyer(s), crew or public trail users Serious fatal injury to sawyer(s), crew or public trail users	Make the horizontal cut of the face 1/3" the diameter of the stump Always match the sloping cut and horizontal cut together, use 2" stump shot (this means make the back cut 2" higher than the horizontal cut Look up as you make all cuts to tree Use a wedge on all back cuts unless the tree has a heavy lean, or the tree is to small to insert a wedge. Use adequate felling axe for felling Always lookup after each time of wedge has been driven into tree Be aware of wind direction and speed Always leave a minimum of 2" of holding wood across the stump.(DEPENDING ON THE SIZE OF TREE BEING FELLED AND OR CONDITION OF TREE BEING FELLED) Do not cut corner wood Always give a warning shout before you start the back cut, NEVER BE AFRAID TO SAY NO	I – Catastro-phic	D – Seldom	2 – High

10. LINE OFFICER SIGNATURE	11. TITLE BCHW President	12. DATE

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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 official approving the JHA. The official 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 suspected 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.Work Leader

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 values for Severity, Probability and the overall Risk Assessment Code (RAC) will correspond to the Risk Management Matrix. When completing this form using a computer, simply use the pull down feature to populate these cells. If completing by hand, use the Risk Matrix to determine these values.

Block 11: The JHA must be reviewed and approved by the appropriate manager / supervisor as identified in the Risk Decision Authority Matrix.

Blocks 12 and 13: 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.

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