



WASHINGTON STATE LOGGER SAFETY INITIATIVE

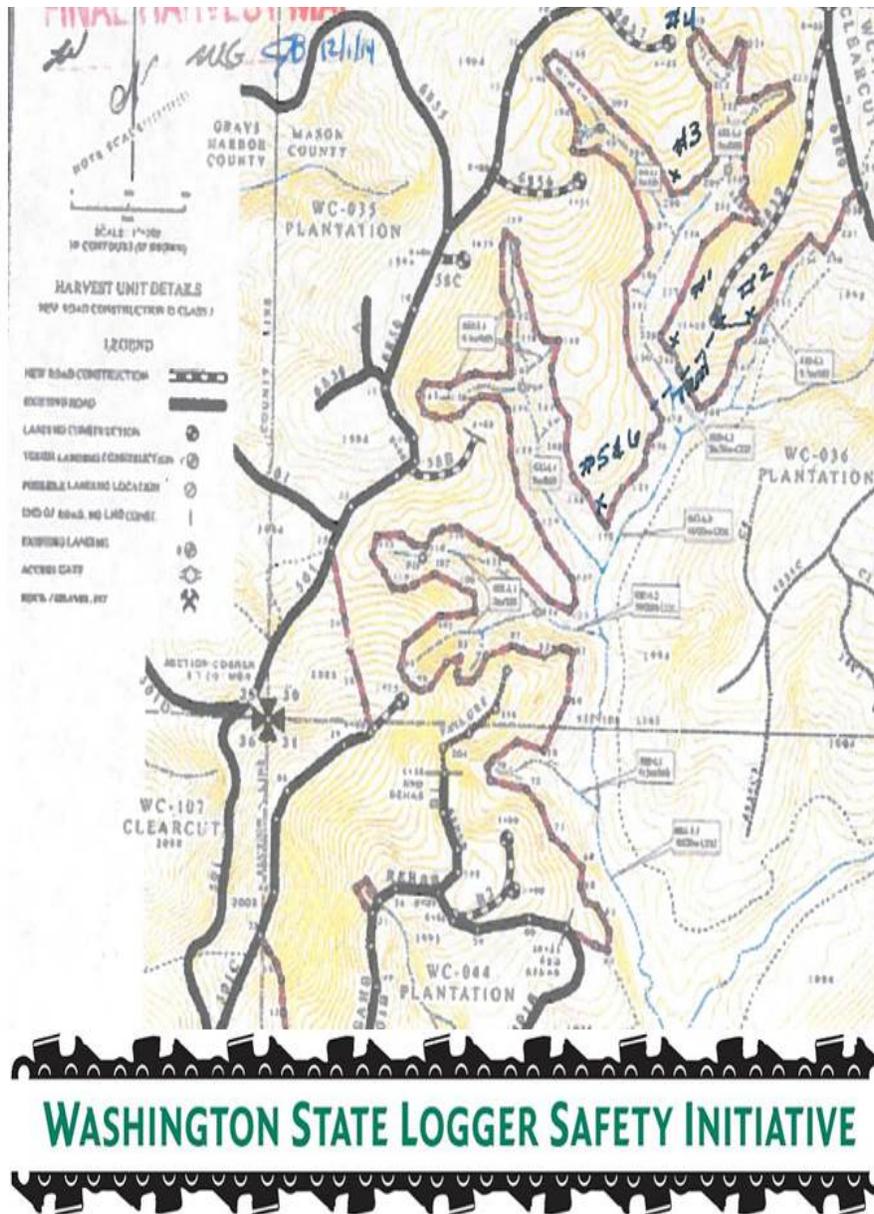
Keeping Washington loggers safe.

Preparation of Cutting a Unit

Cutting timber has dramatically changed in the recent past. The advent of the hot saw and the decreasing size of timber have impacted practices. It seems that taking the time to lay out a unit prior to falling it has become a lost art form. However, planning and preparation before cutting is critical and needs to be done on each unit. If the loggers or landowners are not giving you enough lead time it is up to the owner of the cutting company to talk with them about having enough time to safely fall a unit. Many cutters have said that they are pushed for time so they will have independent fallers on the weekend cutting at less than a tree length apart to get the wood on the ground before the tower arrives. This practice should not occur and with proper planning and communication it can be changed. It is the responsibility of the contract cutter to have a safe workplace for his crew.

Cutters complain that they are told not to open up wide strips, but to take their strip to the top of the hill as fast as they can so a tower can set up and start logging. Another common occurrence is that on the first day of cutting a shovel will be moved in to start logging. Planning needs to be done with landowners, loggers, and cutters so that each part of the operation can be done efficiently and safely. Timber fallers now have several jobs going at once and have to be able to move them around. They are cutting oversized and steep slope for buncher's and keeping slightly ahead of several towers. While this makes planning even more of a challenge, cutting corners to help loggers and creating unsafe work for cutters is not an option.

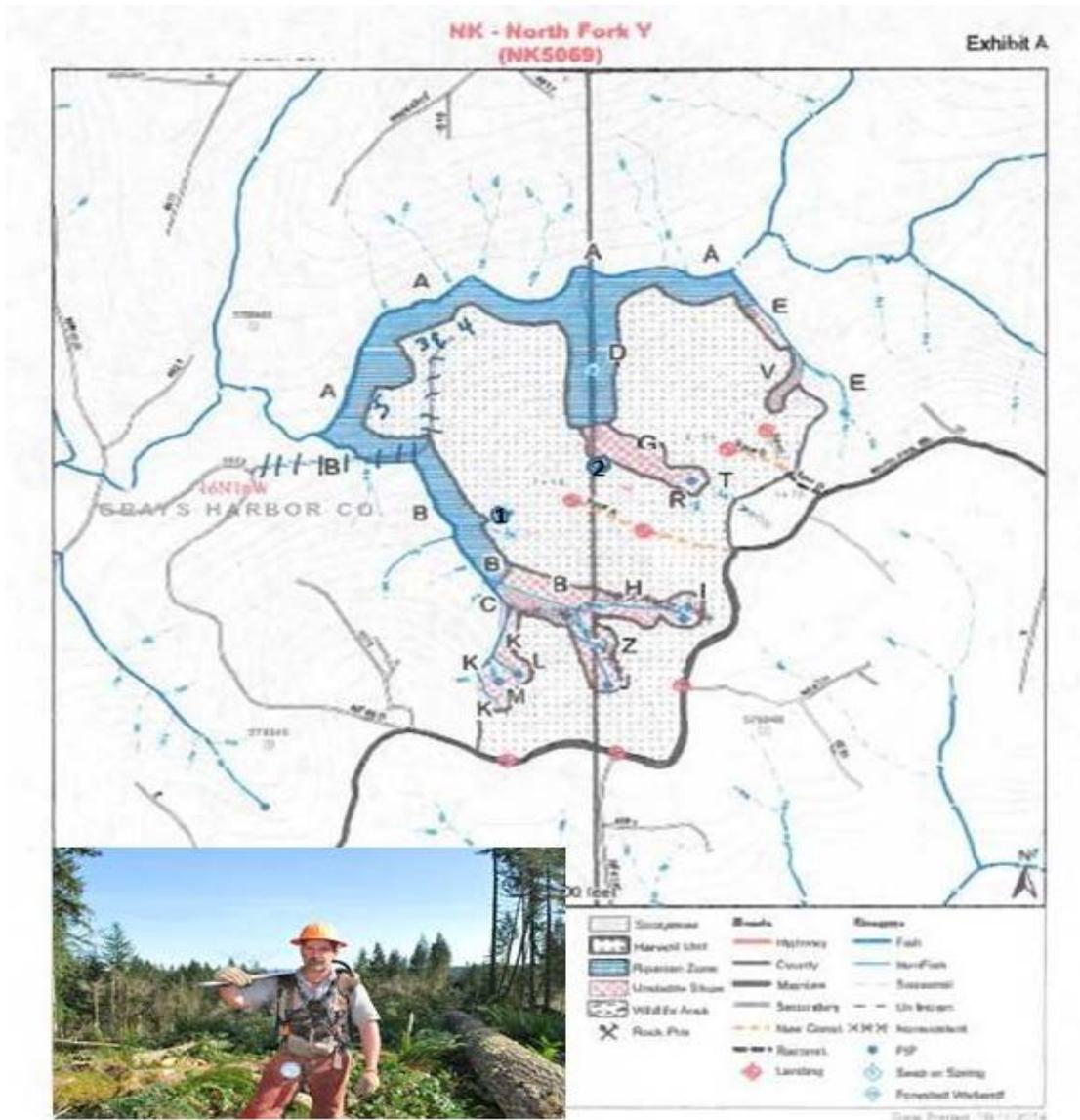
Before starting the job take the time to walk each job and map out strips. There will always be curve balls thrown such as market conditions, logging plans, or weather. That is why your cutting plan must also include the ability to react. Make sure there is a lead man at each cutting operations keeping everyone lined out. Below are two units that have been planned for falling.



Map #1: Is a 73 acre fell and buck clear cut with 200' tall fir and hemlock. Cutter #1 is starting in a draw to open it up and give #2 and #3 two tree lengths of room to safely fall. A trail was cut between cutters #5 and #6 and #1 and #2 to get in and out of the unit easier and in case of an injury there is quick access to a road.

Cutters #5 and #6 are starting out doubled up until they have opened up enough room to maintain two tree lengths apart. Cutters #3 and #4 are working close enough together to hear one another and as the unit is worked out there will be enough room for everyone to safely be two tree lengths apart and still hear one another.

It is planned out so at the end of the unit there will be areas to safely cut. In this case two cutters will finish the unit each having a hand held radio and there will be an operator onsite with a radio.



Map #2: This is a tree length unit for a tower setting. Cutters # 3 and #4 are starting out together at the bottom of the unit. Cutter #5 is starting on the other side of the draw. After one day cutters #3 and #4 will have enough room to split up,

Cutter #1 and #2 are starting in and working up draws to cut the yoder ground. As the tower setting gets narrow #1 will go cut oversized on the buncher ground and #2 and #5 will start cutting the tower setting.

One of the main reasons for laying out your unit and opening up properly is to get the required two tree length spacing between cutters. Make sure to open up each strip wide so it is easier to maintain distance between cutters as they work their way up the hill. At times opening up a strip may require your cutters to double up. LSI nor state law allows for two cutters to be falling the tree at the same time. WAC 296-54-539 allows for a team of cutter to be working on the tree. The requirement of two way radio's for LSI need to be taken advantage of and cutter's talking to each other so they can move if they are getting too close. There needs to be a lead person in charge of each site ensuring this is happening.

Cutters seem to think that tree length falling is just tipping trees down the hill and preparation only applies to fell and buck units. That is not true. Someone still needs to walk the unit to find problem areas, spacing of strips, lead of wood, boundaries, and RMZ's. Owners know their cutters abilities and by walking the unit ahead of time they can place their best suited people in the proper place. Often times cutting in RMZ's requires extra planning to find out how to safely fall the timber and lay it for the best yarding while maintaining two tree lengths apart.

Another part of preparation is getting danger trees down. Danger trees must be taken down as soon as they can safely be felled. At times these trees may be in leave areas or on foreign ownership, but if it is going to impact the safety of your cutters or the rigging crew they need to be put on the ground. If the danger trees are out of your cutting unit contact the landowner prior to falling them, but do not work in the area if they are creating a hazard.

Individual responsibility also plays a large role in timber falling. Timber falling is an independent job where the faller makes their own decisions. Each faller needs to take accountability of their own actions. It is better to walk away from an unsafe condition than to get killed or injured by choosing to perform an unsafe act. The biggest issue is usually cutters not having enough lead time to be safe. As an industry we need to have better communication and planning between, loggers, landowners, and cutters.

Case 1: A 45 year old timber faller died after being struck by a twenty foot top that had broken from a tree felled by a co-worker. The victim was working a strip of the logging site down slope from two other cutters. Another timber faller was cutting in the adjacent area, and felled a tree measuring approximately 115-125 feet in height. As the felled tree descended to the ground, it struck one or more standing trees and broke into several sections. The top section of the felled tree struck the victim as he was trying to escape. The local emergency medical rescue unit was

Summoned via radio and responded to the incident scene, but the victim died from the injuries sustained in the incident.

Safety Requirements and Safe Practices

- Maintain a spacing of two tree lengths between fallers.
- Never place a cutter below other cutters.

Case 2: Two timber cutters were falling trees approximately 117-123 feet high while working approximately 90 feet apart. One cutter had a fir snag that was 53 feet tall and 11 inches in diameter cut up that he was intending to knock down with a 27.5 diameter 117 foot tall green fir. The faller cut all the hinge wood off of the green fir and it fell in a unintended directions striking and killing the other faller.

Safety Requirements and Safe Practices

- Maintain a spacing of two tree lengths between fallers.
- Hinge wood must be left to guide the tree in falling in its intending direction.

Timber Cutter Dies When Struck by Snag

Task: Falling timber

Occupation: Timber cutter

Release Date: April 3, 2014

A 28-year-old timber cutter (victim) died when he was struck by a partially cut snag that was knocked down by another tree intentionally felled to bring it down. Three experienced cutters, including the victim who was also the employer, were falling tree length timber at a job site. The victim and another cutter were working together to even up a cutting line. The cutter made an under and back cut into a snag (danger tree). The snag did not fall. The cutter spoke with the victim, who was working less than two tree lengths away falling trees, about how to bring down the snag. They decided that the victim was to stop cutting and wait while the cutter cut a tree that would then fall on the snag and push it to the ground. Going uphill from the snag, the cutter cut a tree to fall in the direction of the snag. As the tree was falling, he turned and saw that the victim was making a cut into a nearby tree. In an attempt to get the victim's attention, the cutter yelled and threw his hard hat toward him. The falling tree struck the side of the snag, causing the snag to fall 90 degrees to the right of its intended line of fall. The victim was struck by the falling snag and died at the scene.



Snag that struck and killed a timber cutter when pushed over by a felled tree.

Safety Requirements

- The employer must assign work areas so that a) trees cannot fall into an adjacent occupied work area; and b) the distance between work areas is at least two tree lengths of the trees being felled. See WAC 296-54-539(1)(a)(b).
- Cutters must be informed of the movement and location of other employees placed, passing, or approaching the vicinity of tree being felled. See WAC 296-54-53910(3).
- Cutters must give audible warning when falling trees (except when trees are less than 18 inches in diameter and cutter has unobstructed view of area and is assured no one is within the area) and a) indicate the direction of fall; b) ensure that all employees are out of the reach of the tree; and c) ensure that all employees are in clear of logs, fallen trees, snags, or other tree that may be struck by the falling tree. See WAC 296-54-53910(4)(a,b,c).
- If a cutter has determined a tree cannot be safely felled, the work must stop until the cutter has conferred with a supervisor or an experienced cutter and determined the safest possible work method or procedure. See WAC 296-54-539(7).
- A cutter must not fall a tree or danger tree alone when at least two cutters are necessary to minimize hazards. See WAC 296-54-539(11).

Recommended Safe Practices

- Cutters must work as a team to ensure the safety of all workers in the work area.
- Avoid "pushing" a danger tree, other than to overcome a falling difficulty.

Resources*

- Free workplace safety and health consultations are available from L&I at: www.SafetyConsult.Lni.wa.gov
- Free video from Labor and Industries, "Be Safe in the Woods" at: www.LNI.BeSafeintheWoods
- Accident Prevention Program for Cutting Operations. Washington State Logger Safety Initiative at: www.lni.wa.gov/Safety/Basics/Programs/Accident/Samples/LSICuttingOperationsSampleAPP.doc

*These internet links have been shortened for publication and will not operate in your web browser as written. To access these resources, please go to the SHARP publications page at www.lni.wa.gov/Safety/Research/Pubs/, click on *Logging*, open this document and follow the links from there. Prepared by Randy Clark, WA State Fatality Assessment and Control Evaluation (FACE) Program and the Division of Occupational Safety and Health (DOSH), WA State Dept. of Labor & Industries. The FACE Program is supported in part by a grant from the National Institute for Occupational Safety and Health (NIOSH grant# 5 U60 OH008487-09).

Timber Cutter Suffers Broken Leg When Struck by Cut Tree Sliding Downhill

Task: Falling Timber

Occupation: Hand Cutter

Release Date: November 15, 2012

In January 2012, a 28-year-old timber cutter with two years of cutting experience suffered a broken leg when he was struck by a felled tree. The injury occurred when the tree slid downhill before he was in the clear. On the day of the incident, the victim and another cutter worked separately for about four hours, then paired up to fall the remaining few trees on a slope when they were no longer able to keep a two tree-length separation.

With three trees left to fall, the victim moved down the hill to fell the tree closest to the bottom of the draw. He planned to walk on a previously felled tree to the bottom of the slope and then go up the other side of the draw. While the victim was still crossing to the other side of the draw, the other cutter, who had 15 years of experience logging, felled one of the remaining trees.

The tree fell in the intended direction when cut, but hit the end of a bucked log which was raised six feet above the ground. The falling tree landed on the elevated end of the log, pivoted, and slid downhill toward the victim. The victim was only 30 feet away and did not have time to escape. The sliding tree hit him in the leg, breaking the bone in his thigh. The other cutter extracted the injured victim with the help of a friend.



Raised end of bucked log.

Safety Requirements

- Employee work areas must be spaced and employee duties organized so the actions of one employee do not create a hazard for any other employee. See WAC 296-54-513(1).
- A distance of more than two tree lengths is maintained between work areas on any slope where rolling or sliding of trees or logs is reasonably foreseeable. See WAC 296-54-539(1)(d).
- The employer's accident prevention program must cover how and when to report injuries. See WAC 296-54-515(3)(b).

Recommended Safe Practices

- Never assume. Always verify that co-workers are in the clear before cutting.
- Workers need to maintain safe distances from each other. Follow the two tree-length rule.
- Employers need to be sure all employees know and understand the emergency procedures for getting help to an injured worker. It could save a life.

Resources*

- For more logging safety resources, see the WA L&I Safety Topic page and go to logging:
[LNI.wa.gov/Safety/Topics/AtoZ/](http://lni.wa.gov/Safety/Topics/AtoZ/)
- Fallers Logging Safety Manual for new fallers from Oregon FACE:
FallersLoggingSafetyManual.OHSU
- Free Video from Labor and Industries: Be safe in the woods at:
LNI.BeSafeInTheWoods

Need more information?

Please contact Eric Jalonen,
Research Investigator at
360-902-6751
or email Eric.Jalonen@Lni.wa.gov

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