

Thinning & Brushing Situational Awareness



**PACIFIC NORTHWEST AGRICULTURAL
SAFETY AND HEALTH CENTER**

farming • fishing • forestry



**OCCUPATIONAL SAFETY AND HEALTH
CONTINUING EDUCATION**

ENVIRONMENTAL & OCCUPATIONAL
HEALTH SCIENCES



WASHINGTON STATE UNIVERSITY
EXTENSION



Thinning & Brushing Situational Awareness



Learning Objectives

- The importance of planning before to start
- How to prevent slips, falls, & trips while walking
- Identify tree hazards and avoid struck-by trees and limbs
- Safety tips for Thinning & Brushing activities

What is Situational Awareness?



Image: Northwest Forest
Worker Center

Situational Awareness (SA) is the ability to collect the correct information, analyze it, and predict what will come next, so the appropriate actions can be taken.

National Institute of Health



**How do you assess the
worksite?**

Planning

Before Getting Started

- Get location of site: GPS cords. from phone
- Legal Township, Range, Section, Quarter
- Section & road directions of how to get there
- Who to call for checking in/out when working alone
- Who to call for accidents; 911; Sheriff's office
- Fire rescue; Helicopter evacuation
- Gates & access limitations
- Worker/crew training
- Personal Protective Equipment/Use
- Chainsaw/Tool Inspection
- Vehicle Inspection

Planning

Pre-Operation Process with Crew

- Boundaries, work progress, responsible contacts
- Identifiable Hazards: windthrow; steep terrain, areas, rolling hazards, burned areas; roads, & mitigations plans
- Safety meeting with crew to review hazards & how to deal with them
- Who is the competent person to assess hazards if needed
- Work arrangements to keep in the clear

Thinning & Brushing Hazards

- Driving distances on low-grade forest roads
- Chainsaw injuries
- Slip and Trip hazards
- Hypothermia
- Fatigue
- Muscle strains
- Chemical burns
- Gasoline fire potential
- Heat-illness and dehydration
- Insect stings
- Overhead/falling debris
- Lightning



Constant alertness while walking

Slips, trips, and falls are the most frequent injuries in forestry.



Illustration: Mary
Ann Zapalac

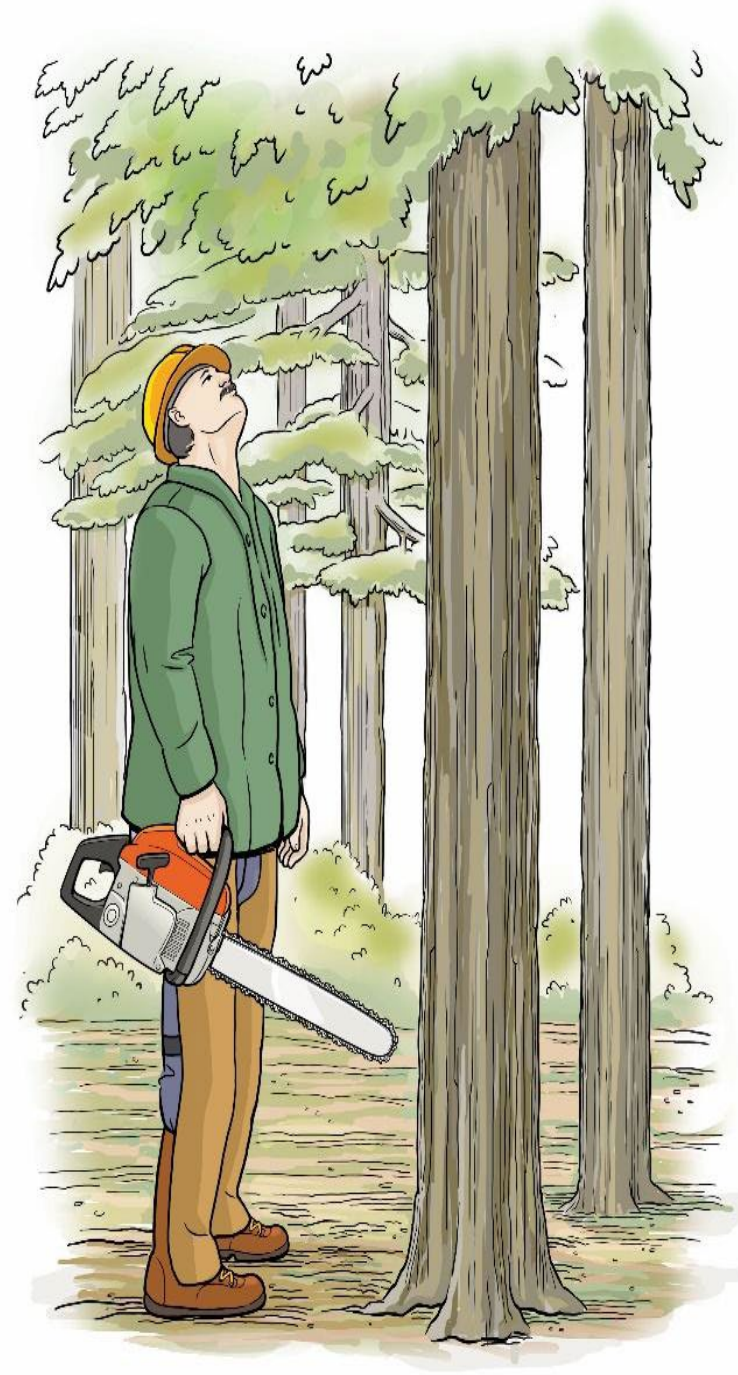
The 4 Elements of Safety

An easy way to remember the things you can do to **prevent slipping, tripping, and falling** at work is to sum them up as the Four Elements of Safety:

- Preparation
- Attention
- Balance
- Take care of yourself and each other

Attention

- Look up, look down, look all around!
- Maintain 3 points of secure contact when stepping over slash or getting on and off the crummy.
- Avoid climbing or walking over fallen logs.
- Pay attention what you and your team members are doing.

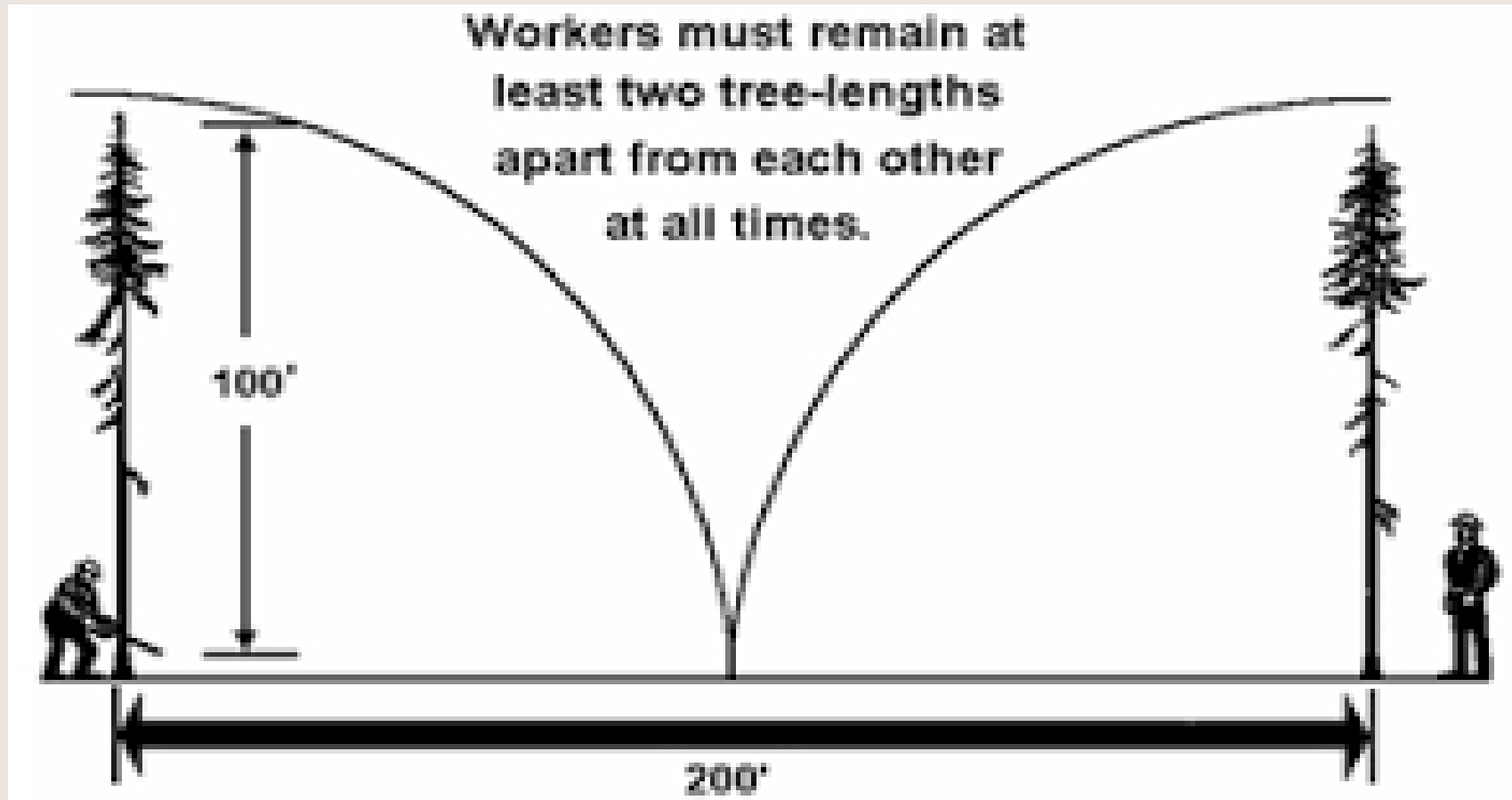


Balance

- Avoid awkward positions. Reposition your body to maintain stability and control of the saw.
- Turn sideways when walking on steep slopes.
- Don't cross ravines on logs.
- Don't compete with your co-workers. No rushing!



Take Care of Yourself & Each Other



NASD- Logger Safety Initiative

Take Care of Yourself and Each Other

- Take rest breaks. We make more mistakes when we are tired.
- Watch out for each other.
- Communicate about hazards you see.





DISCUSSION

Group Activity : Developing Situational Awareness





DISCUSSION

Group Activity : Developing Situational Awareness

- **What potential risks do you see in the photo?**
- **Are they taking care of each other?**
- **Are they just walking through or cutting?**



DISCUSSION

What mistakes do you see?





What are the most common hazards in tree thinning?

Thinning most common hazards

- **Overhead hazards**
- **Lack of visibility**
- **Fell and buck**
- **Smaller tree complacency**

In June 2018, a 44-year-old timber cutter with 12 years of experience was seriously injured when he was struck by a falling small hemlock.



Photo 2



Photo 3

Safety Requirements

- One worker must not fall a tree or danger tree when the assistance of another worker is necessary to minimize the risk of injury caused by overhead hazards, loose bark, or interlocked limbs, conditions of the tree or cutting conditions. See [WAC 296-54-539\(11\)](#).
- Domino falling of trees, including danger trees, is prohibited. Domino falling does not include the falling of a single danger tree by falling another tree into it. See [WAC 296-54-53910\(9\)](#)

Recommended Safe Practices

- Always make a thorough risk assessment of hazards in your work area. When conditions are especially dangerous slow down and look for hazards, such as leaners and trees that are bound up with each other's tops. Perform assessments more frequently as you work.
- When planning operations at a site, consider hazards when deciding whether to use hand fallers or mechanized equipment.

HANG-UPS

Most dangerous situation

- Never try to cut the tree with a hung tree in it!!!
- Cut the tree off the stump
- Try cutting a short chunk off the base of the tree
- Use a lever to push the tree off the holding limbs
- Use a lever and strap to roll the tree off the limbs
- Fall and adjacent tree into hang up to break it free – DO NOT DOMINO FALL (more than one tree)
- Mark the area and wait for machine assistance



Thinning Safety Tips

Overhead hazards if you are cutting a tree

- Direction of fall? Looking for hang-ups & widow makers
- Tree lean assessment using plumb bob
- Snag or green tree
- Other worker locations
- Felling cuts? rot, roots, butt swell
- Stay precise with smaller timber – Take time to make accurate face cuts and level back cuts.

Thinning Safety Tips

Lack of Visibility



- Wear high-visibility colors to stand out.
- Maintain clear communication with co-workers in low-visibility areas.
- Assess trees from multiple angles – Move around or hike uphill for a better view of the canopy and treetop.

Brushing and Slashing Safety Tips

Chainsaw

- Engage the chain brake when moving short distances.
- Check your chain tension often.

Brush saw

- Cut on left side of blade so machine pulls away from operator
- Harness adjusted to prevent back strain

Spacing

- Each person assigned a flagged area
- Work uphill in zig zag pattern (to prevent debris hitting others)
- Keep stumps low and cut parallel to ground to avoid sharp points
- Larger stems should be fallen with small undercut



Source: BCForestSafe

Image: NW Forest Worker Center

You Are Your Best Asset!

“Those who depend on you deserve to have you whole as a spouse, a parent, a sibling, a son or daughter, a friend or a colleague at work. They need you in their lives.”

*John J. Garland, P.E. Forest Engineering
Extension, Oregon State University*



KNOWLEDGE CHECK



- 1) What is the recommended distance between workers when felling?
- 2) What are 3 things each person can do to plan before work?
- 3) What are 3 ways we can prevent slips, trips, and falls?
- 4) What are 3 considerations with a hang-up?



Resources

Washington State Logger Initiative

Quarterly Cutting Training: Cutting in a Thinning 2021

https://Ini.wa.gov/safety-health/_docs/LSIQ321_Cutting_Training_Thinning.pdf

The Four Elements of Safety

Northwest Forest Worker Center.

<https://osha.oregon.gov/edu/grants/train/Documents/NFWC%20-%20Preventing-Slips-Trips-and-Falls-in-the-woods-English.pdf>

Health and Safety for Forestry Workers: “Be a Safety ACE”

SHIP Grant Program

<https://resources.oshce.uw.edu/1mkdh7h/>

Resources

United States Forest Service

Chainsaw & Crosscut Saw Training Course

<https://www.fs.usda.gov/t->

[d/pubs/htmlpubs/htm06672804/page04.htm](https://www.fs.usda.gov/t-d/pubs/htmlpubs/htm06672804/page04.htm)

Acknowledgements

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