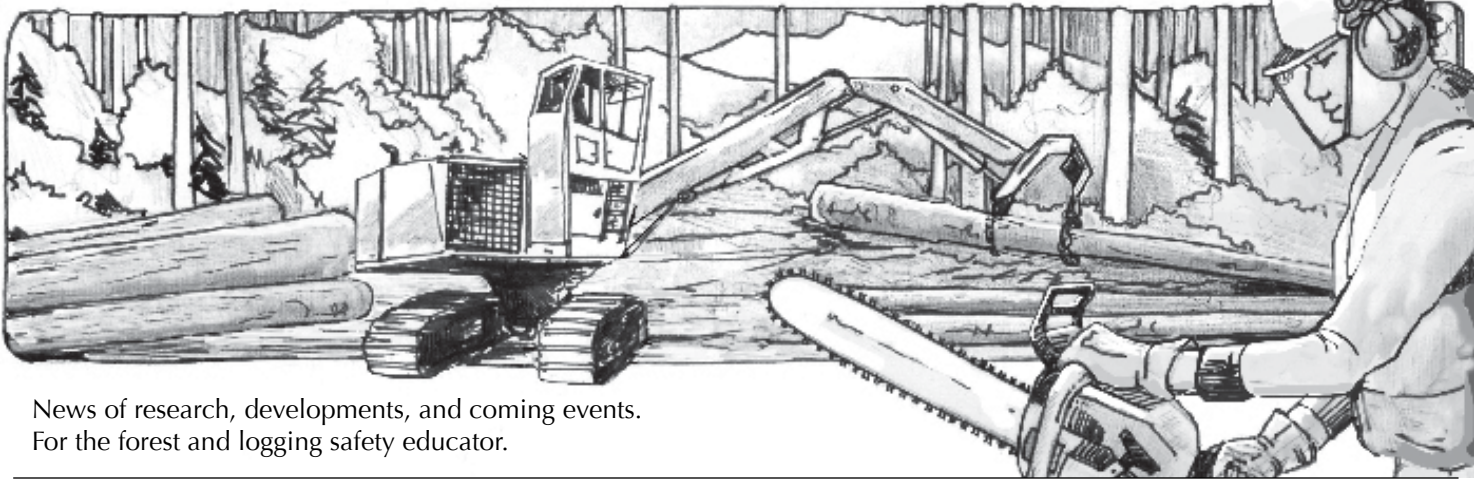


Northwest Forest Worker Safety Review



News of research, developments, and coming events.
For the forest and logging safety educator.

Issue 6

March 2008

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UWDEOHS, (Neitzel)

Hearing Loss – Risks and Prevention

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Nothing can restore lost hearing. Once it's gone, it's gone!

There are many hazards common to forestry work. Being struck by trees, logs, or heavy equipment; cuts and amputations from saws; and sprains and strains from rough terrain are just a few of them. One important but often overlooked hazard is noise exposure.

We have known for hundreds of years that loud noise can harm hearing, yet we continue to expose ourselves to dangerous noise at work and at play. Noise-induced hearing loss (NIHL) is one of the most common occupational illnesses in the US and elsewhere.

If you do not protect your ears, you can expect to develop permanent hearing loss. You may also develop permanent ringing, buzzing or roaring in your ears.

Continued on page 3



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NIOSH's National Occupational Research Agenda

Forestry Sector

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NORA Council Research for Forestry

Since 1996, the National Occupational Research Agenda (NORA) has become the framework through which occupational safety and health research is carried out in academia and the National Institute for Occupational Safety and Health. The NORA research priority setting process involves collaboration and input from diverse partners in research, government, and the workplace. This is currently underway for the Agriculture, Forestry and Fishing (AgFF) sectors. The representatives on a NORA AgFF Council are drafting research goals for the workforce in this area.

The Forestry Subcommittee, of the NORA AgFF Council, is developing a set of research goals which include: better surveillance of forest activities, research on education and transfer, forestry safety goals for revised safety codes, new technologies e.g. "smart clothing", and understanding of risk-taking behaviors. Implementation of these health goals can improve protective equipment, assess worker health, and reduce musculoskeletal disease. Consider becoming a corresponding NORA Council member and please comment on the AgFF goals. Information can be found at: <http://www.cdc.gov/niosh/nora/councils/agff/default.html>

Logging and Safety Resources

- Amerisafe logging safety tips. <http://www.amerisafe.com/safety/tipofthethmonth.html>
- Associated Contract Loggers. <http://www.idahologgers.com/links.html>
- Forestry Safety Topic Centre, British Columbia Workers' Compensation Board (BCWCB). <http://forestry.healthandsafetycentre.org/s/Home.asp>
- Logging Hazard Training Cards and Glossary of Terms. www.depts.washington.edu/pnash/ORforest_training.php
- Logging Safety Recognition, Control, and Standards, OSHA. www.osha-slc.gov/SLTC/logging/index.html
- Logging Safety Research, NIOSH. www.cdc.gov/niosh/injury/traumalog.html
- National Institute for Occupational Safety and Health (NIOSH) safety and health facts sheets. www.cdc.gov/spanish/niosh/index.html
- National Timber Harvesting and Transportation Safety Foundation, Coaching the Professional Logger video. www.loggingsafety.com
- Occupational Safety and Health Association (OSHA) logging e-tool. <http://www.osha.gov/SLTC/etools/logging/mainpage.html>
- Oregon OSHA. <http://www.orosha.org/>
- U.S. Forest Service [and WA state agencies and associations] 2006, *Guidelines for Selecting Reserve Trees*. <http://www.lni.wa.gov/FormPub/Detail.asp?DocID=1755>



Northwest Forest Worker Safety Review

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PNASH conducts research, develops interventions, and provides professional education and outreach to improve occupational safety and health. We serve workers in farming, fishing and forestry in Washington, Oregon, Alaska, and Idaho.

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To add names to our distribution list, suggest ideas for future issues, or list events, please contact Marcy Harrington at 206-685-8962, 1-800-330-0827 marcyw@u.washington.edu.

Hearing Loss – Risks and Prevention *Continued*

Measuring Noise

Noise is measured in decibels (dBA). Long-term exposure to high noise can cause permanent, irreversible hearing loss. Most workplace regulations specify a full-shift (i.e. 8-hour) exposure limit of 85 dBA. Exposures at or above that level must be reduced, since they present an unacceptable risk of NIHL. How loud is 85 dBA? It's about as loud as standing on a very busy street corner, or in a noisy bar or restaurant. A useful rule of thumb is that if you must raise your voice or shout to be heard above the noise in your workplace, it may be at or above 85 dBA. Another indication of excessive noise levels is tinnitus (ringing, whistling, or buzzing in your ears) or a feeling of "muffled" or "unclear" hearing after a noise exposure.

"I thought if I lost my hearing, it would be quiet. But that constant ringing keeps me awake at night and I can't hear my friends very well on my cell phone."



UW DEOHS, (Neitzel)

Noise Exposure in Forestry and Logging

The only way to determine exactly how loud noise levels are is to measure them with a sound level meter or personal noise dosimeter. The University of Washington has made a large number of measurements on various forestry jobs and equipment in Washington, Idaho, and Alaska. Study results are shown in the following table - note that most forestry jobs and equipment fall into the red "Hazardous" zone.



UW DEOHS, (Neitzel)

Equipment/job	Full-shift average noise level (dBA)	Hearing risk
Forwarder	70	Safe
Harvester	73	
Processor	79	
Log stacker	80	Caution
Shovel	80	
Rigging slinger	81	
Boom boat	82	
Excavator	82	
Feller/buncher	85	Hazardous
Yarder	86	
Logging truck driver	87	
Front end loader	88	
Skidder	88	
Chokerman	88	
Landing man	90	
Dump truck driver	91	
Road grader	91	
Feller	98	

Fig. 1 Note: levels are examples only and may not apply to specific worksites.

Hearing Loss

Hearing loss results from extended periods of exposure to noise levels over 85 dBA. It can even result from a single nearby shotgun blast or other very loud noise (more than 125 dBA). Although some think of hearing loss as a minor inconvenience, it has a major negative impact on people's lives. Hearing loss makes it hard to communicate with and understand people, creates stress in work and social relationships, and is often associated with depression and isolation. NIHL is also often accompanied by incurable tinnitus. Use of hearing aids does NOT return your hearing to normal, and hearing aids can be inconvenient and difficult to use.



"My little girl doesn't understand why I can't hear what she is whispering in my ear. She says 'Mommy hears me when I whisper'"

A study of workers compensation claims in Washington from 1984-1998 found that logging workers had the highest rate of accepted hearing loss claims of any industry or occupation (American Journal of Industrial Medicine 42:502-510, 2002). A study of claims in Oregon found that workers in the lumber and wood products industry had the third highest claims rate of any industry from 1984-1998 (AJIM 45:417-427, 2004). Finally, over the past 7 years in British Columbia, logging workers have had one of the highest rates of noise-related hearing changes of any industry, with about 10% of hearing tests every year showing new hearing loss.

Prevent Hearing Loss

Since noise induced hearing loss is permanent and irreversible, prevention is the best approach. Here are a few ways to prevent hearing loss:

- Spend as little time in noise as possible
- Move away from high noise sources whenever possible
- Take breaks from high noise whenever possible to give your ears a rest
- If you operate heavy equipment, keep the windows closed whenever possible
- Keep equipment properly maintained and saw blades sharpened
- Always wear hearing protection whenever noise levels are over 85 dBA – even if the noise only lasts a moment

Using hearing protection is a good idea for the equipment and jobs in the "Caution" zone listed in Figure 1, and a must for jobs in the "Hazardous" zone. There are many

different models of hearing protectors on the market – over 300! – but they all fall into a few major categories

- Foam earplugs
- Premolded earplugs
- Custom-molded earplugs
- Earmuffs
- Banded ear caps



Each category of hearing protector has strengths and weaknesses, and different models of protectors block different amounts of noise. The Noise Reduction Rating (NRR) labeled on every protector sold in the US shows how many decibels the protector can block when worn correctly. For most jobs and types of equipment shown in Figure 1, an NRR of 15-20 dB should provide enough protection. However, fellers and others who use chainsaws for long periods of time should consider wearing double protection (i.e., earplugs AND earmuffs at the same time).

The bottom line in hearing protection is that the best protector is the one you'll wear. Find a protector that's convenient, comfortable, and lets you communicate, and then always wear it whenever you're in high noise. Also, keep in mind that noise off the job can cause NIHL. It doesn't matter what the noise source is – if it's loud enough, it can hurt your hearing.

Take a few moments out of your day to think about how to reduce your noise exposure levels at work and at home. Your ears and hearing are worth protecting!



Resources

CDC/NIOSH

www.cdc.gov/niosh/topics/noise

National Hearing Conservation Association guide to selecting hearing protectors

http://hearingconservation.org/docs/Prac_Guide1.pdf

OR-OSHA's hearing conservation guide

<http://www.cbs.state.or.us/osha/pdf/pubs/3349.pdf>

US Forest Service report on levels in forestry machines

http://www.srs.fs.usda.gov/pubs/ja/ja_seixas001.pdf

UW report on noise and vibration levels in forestry machines

http://staff.washington.edu/rneitzel/general_release_forestry_report_2002.pdf

Worksafe BC guide to noise levels in forestry

http://www2.worksafebc.com/pdfs/hearing/How_Loud_Series/logging.pdf

WISHA noise reduction ideas bank (search for "logging" industry)

<http://www.lni.wa.gov/Safety/Topics/ReduceHazards/NoiseBank/search.asp>

HAZARD ALERT – Post Storm Damage

History has shown that storm damage and logging can be fatal. In December 2007 a severe storm caused an unprecedented amount of damage to forestlands and farms in southwest Washington. Recovery will take years and has created dangerous conditions for professional loggers. This storm has been compared to the Columbus Day Storm of 1962.

In the three-year period after the Columbus Day storm, more work took place in blow down conditions with more side bind, root wad, leaner and hang-up hazards. Fatalities increased by approximately 50%. Caution and experience are essential – please pass along the message and keep up your training and education efforts.

Don't let history repeat itself.

Check out the Seattle Times article, *Windstorm's Wrath Forces Emergency Harvest* at http://seattletimes.nwsourc.com/html/localnews/2004199401_salvagelogging25m.html.

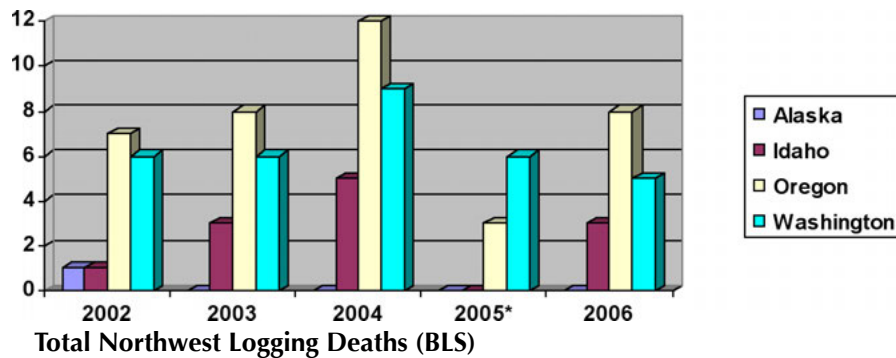


Deadly Storm of 1962

Year	Logging deaths pre-storm
1962	48
	Logging deaths post-storm
1963	63
1964	62
1965	68

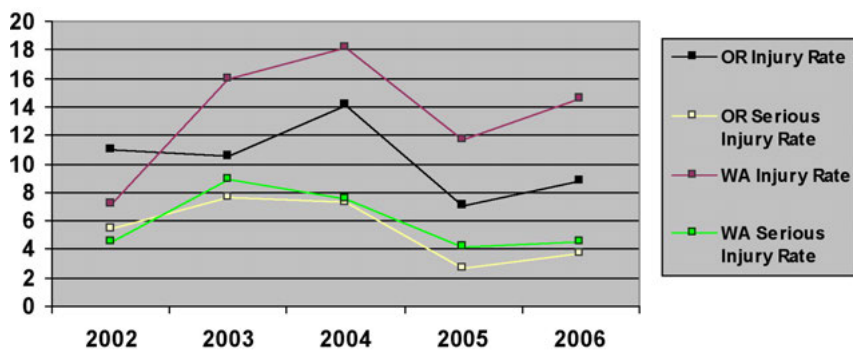
Northwest Injury and Fatality Update

The number of fatalities dropped in 2006, close to those seen in 2002 and 2003.



*The US Bureau of Labor Statistics is missing 2005 fatality data from Oregon and Idaho. The 2005 information for Oregon in the above graph is drawn from preliminary information from OR-OSHA. The Census of Fatal Occupational Injury information listed on the Idaho Industrial Commission does not list any logging deaths in Idaho for 2005. It is unclear whether the sharp drop off in fatalities in OR and ID in 2005 is a result of incomplete records or whether 2005 was truly an exceptional year in safety.

To learn from and prevent workplace fatalities, the national Fatality Assessment Control and Evaluation (FACE) program provides detailed investigation reports on their websites. These reports are an excellent source of information for the logging safety educator. For example, cases from Northwestern states provide a range of information on skyline, helicopter, and salvage logging injuries.

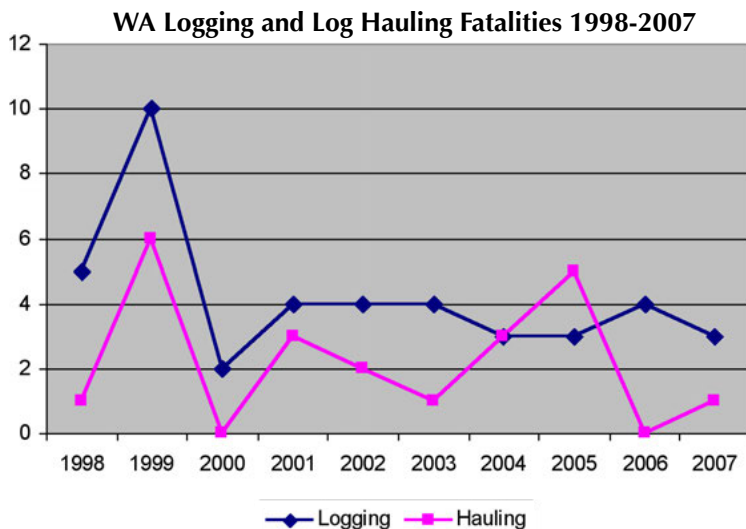


Oregon and Washington Logging Injury Rates (per 100 full time workers)

The injury rates in Washington and Oregon mirror the fatality numbers in 2006. After a dramatic drop in 2005 the overall injury rates climbed again in 2006. Despite this increase, the 2006 rates were down from the 2003-04 numbers in both states. Encouragingly the serious injury rate (injuries resulting in lost work time or job change) climbed very slightly, and remained under 5% for both states for the second year in a row.

WA Logging and Log Hauling fatalities

Over the last decade the logging and log hauling fatalities in Washington state have tracked closely, rising and falling together. Only 2005 and 2006 are deviations from this pattern. This correlation may show us that some of the conditions that cause dangers on logging slopes, also cause road dangers.



Logging Truck, Sultan Basin (DNR) 2000

Injury and Illness Surveillance Resources

- Center for Research on Occupation and Environmental Toxicology (CROET), Logging Resources <http://croetweb.com/links.cfm?topicID=31>
- NIOSH Fatality Assessment and Control Evaluation (FACE) Program, <http://www.cdc.gov/niosh/face/>
- NIOSH FACE Fatality Investigation Reports, <http://www.cdc.gov/niosh/injury/traumalgface.html>
- North American Industry Classification System, Standard Industrial Classification BLS Injury, Illness, and Fatality, <http://www.bls.gov/iif/>
- Oregon OSHA, <http://www.orosha.org/>
- Oregon OSHA Div. 7 – Forest Activities Rules, http://www.cbs.state.or.us/osha/standards/div_7.html
- Rural Technology Initiative Final Report, http://www.ruraltech.org/projects/fwaf/final_report/index.asp
- WA Safety and Health Assessment & Research for Prevention (SHARP), <http://www.ini.wa.gov/Safety/Research/About/>

PNASH SUPPORTED SMALL GRANTS

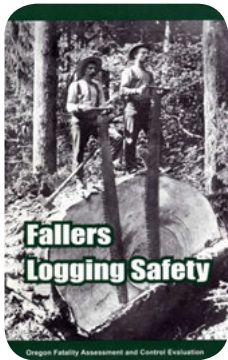
Every year the PNASH Center offers small grants for new safety research and development projects. In 2007 we were happy to award \$25,000 for two forest safety pilot projects.

Logging Safety Gets a New Point of View

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Oregon Fatality Assessment and Control Evaluation (OR-FACE), a program of the Center for Research on Occupational and Environmental Toxicology at Oregon Health & Science, is taking science into the woods with a sports camera. Through support from a pilot project funded by PNASH, a Viosport POV1 helmet camera and recording device are being used to observe the safety behavior of loggers at work. By mounting a small camera on a hardhat, this new technology allows first person point-of-view observation of worker behavior in a remote locations.

Video observation studies are common in clinical, classroom, and workplace settings but to-date they have only been able to use fixed-position cameras. The PNASH grant provides an opportunity to test the latest technology for use as a mobile camera and recorder unit.



Along with this point-of-view video observation of worker behavior, the Oregon Fatality Assessment is implementing a multifaceted evaluation of its logging safety training booklet, *Fallers Logging Safety*, published in 2007. The evaluation includes a postage-paid satisfaction survey reply card and a two-stage knowledge survey that is mailed to logging firms along with each booklet order.

About 1,000 booklets were mailed in December to Oregon loggers through the cooperation of Associated Oregon Loggers. The response was substantial. In the first few weeks over 400 additional booklets were requested. The reply cards indicate the booklet is appreciated, is useful in safety meetings, and that it was rated 'excellent' by experienced fallers.

Will it actually encourage safety at the stump where it counts? This is the elusive question for training evaluations. If all goes well, the camera may tell.

Fallers Logging Safety and other Oregon Fatality Assessment publications are available online (www.ohsu.edu/croet/face), or paper copies are free upon request while supplies last (503-494-2281 or orface@ohsu.edu).

Cedar Block Cutting

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PNASH pilot project funds have enabled a team of center researchers to initiate a community-based research project to identify and address the occupational health and safety issues faced by cedar block cutters working on the Western Olympic Peninsula. Cedar block cutting involves the salvage of usable cedar from stumps, slabs and windfalls. Although block cutting, which provides the raw material for cedar shingles and shake, has been an important occupation in the greater Pacific Northwest for decades, little is known about the health and safety issues surrounding the occupation.

Through 14 interviews with cedar block cutters, researchers are beginning to understand the daily tasks that these workers perform. These initial conversations have highlighted several important safety and health issues:

- ⇒ Block cutters must carry tools over rough forest terrain for long distances. This can lead to injury due to falls, especially in rain and snow;
- ⇒ General body strain resulting from long days of very physical work is common;
- ⇒ The tools used by block cutters, especially chainsaws, can severely injure workers;
- ⇒ Safety mechanisms on tools designed to prevent injury (such as chainsaw kick-back brakes) are sometimes disassembled to increase tool efficiency;
- ⇒ Helicopter transport of cedar blocks is hazardous - It has led to deaths from falling blocks as well as injuries from workers being entangled and lifted by the sling that connects the blocks to the helicopter;
- ⇒ Personal protective equipment is not consistently used because of discomfort, cost and other reasons.

These issues and others that may arise will be explored further through focus groups. PNASH researchers and their partners from the Labor Education and Research Center at the Evergreen State College will work with the community to prioritize and develop solutions that address these major health and safety concerns.



UW Libraries, Digital Collections (IZSN2484)

Northwest Logging and Forestry Safety Events

2008

Meeting Complex Silvicultural Objectives Through Uneven-Aged Management in the Douglas-fir Region

March 27

The Hilton - Vancouver, WA

<http://www.westernforestry.org/unevenaged/unevenaged.htm>

Intermountain Logging Conference

April 10 – 12

Mirabeau Park Hotel & Convention Center - Spokane, WA

(208) 245-3425

Region X VPPPA Conference – STARS of the West

May 13 - 15

Sun Valley Resort, Sun Valley, Idaho

www.RegionXVPPPA.org

Blue Mountain Occupational Safety and Health Conference

June 10

Blue Mountain Conference Center - La Grande, OR

(888) 292-5247

oregon.conferences@state.or.us

Central Oregon Occupational Safety and Health Conference

September

Eagle Crest Resort, Redmond, OR

(888) 292-5247, oregon.conferences@state.or.us

Washington Governor's Industrial Safety and Health Conference

September 24 - 25

Spokane Convention Center, Spokane, WA

<http://www.wagovconf/overview.htm>

Southern Oregon Occupational Safety and Health Conference

October

Smullin Center, Medford, OR

(888) 292-5247, oregon.conferences@state.or.us

99th Pacific Logging Congress Annual Convention

November 3 - 5

Ceasar's Palace – Las Vegas, NV

<http://www.pacificloggingcongress.org/>

2009

Oregon Logging Conference

2009 (date unknown, most likely the last week of February)

P.O. Box 10669, Eugene, Oregon 97440 USA

USA Phone: (800) 595-9191, International Phone: (541) 686-9191

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Note: Logging courses are also offered to members of state contract logging associations. Please contact your association for more information.

