

Northwest Forest Worker Safety Review



News of regulations, research, developments, and coming events compiled by the Pacific Northwest Agricultural Safety and Health Center.

Issue 9

May 2010



INSIDE

New Yarders...Old Yarders	1
PNASH Forestry Projects	3
WPS Pesticides	4
Forestry Safety VIPs	5
NW Injury Report	6
Workplace Death Decline	7
Work or Lose Your Job	8
Resources & 2010 Logging Events	10

New Yarders...Old Yarders

Dr. John J. Garland, P.E., Affiliate Professor, PNASH, garland49@q.com

Yarders are the machines that make cable logging possible. The tower, the winches, and the power source combine to extend logging 2000+ feet from the road and suspend logs over sensitive streams. Yarders at the turn of the last century were winches mounted on log sleds and conveniently used big trees for spars. By the mid 20th century, steel towers and winches were mounted on self-contained, self-propelled units. A few innovations were developed later, but many yarders still use the same technology that has been used for the last 30 years or so.

However, at the recent Oregon Logging Conference, Koller North America introduced a new yarder to the US. The K-702 fifty foot tower¹ (Figure 1) is mounted on a tracked undercarriage. Details can be found at www.kollerna.com. You will see the potential for passing yarder functions to the crew setting chokers and the processor operator — eliminating the yarder operator and even the yarder cabin. Combined with electronic chokers, it may be possible to avoid the hazardous job of unhooking logs. New technologies are on the horizon...

(Continued on page 2)

¹trade name does not constitute an endorsement by PNASH or the University of Washington



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But what about the old yarders? Many cable operators are using yarders that are 30 even 40 years old—well beyond their design life. Without maintenance and repairs, such yarders cannot be expected to function safely. Logging engineer John Evans, of NDC Timber, addressed some of these needs at the recent Washington Contract Loggers Safety Conference. John outlined when yarder inspection, maintenance, and repairs are needed:

- On a daily basis
- When towers are moved
- At year end or shutdown
- Every 5 years or less
- And especially, whenever something isn't working or just doesn't seem right!

John's ideas make sense and his examples confirm the need for using Magnaflux™ or other techniques to find stress cracks unseen by visual inspection. Airplanes are taken out of service before they fail and so should yarders. John correctly links the machine maintenance to the people and economics that must be considered. For a full copy of his comments, send me an email at garland49@q.com.



Figure 1. Koller 702



PNASH

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is produced by the Pacific Northwest Agricultural Safety and Health Center (PNASH) at the University of Washington's School of Public Health and Community Medicine.

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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University of Washington Campus, Seattle

PNASH Forestry Projects

Concluded Pilot Project: Point-of-View Video Analysis of the Impact of a Faller Safety Training Program (2006-2009)

Oregon Health and Sciences University researchers conducted a video observation study of loggers at work. It concentrated on fallers using video equipment attached to a hard hat for a first-person point of view. This is a promising technique for research and training. Learn more on page 4.

New Pilot Project: Older Loggers in Physically Demanding Logging will Compare Steel with Synthetic Rope (2009-2010)

Dr. John Garland, Affiliate Professor, PNASH-UW, (541) 231-6241 or garland49@q.com

In the Northwest, 50% of loggers are at least 45 years old - and that percentage is growing. This pilot project will assess the ergonomic and economic benefits of using synthetic rope to replace wire rope in standardized logging tasks for older workers.



Earlier research measured logging workloads with steel and synthetic rope in younger loggers. Synthetic rope weighs one ninth that of similar strength wire rope. Prior research has documented the potential gains for younger forest workers, but older forest workers stand to gain the most. The project is supported by the Pacific Northwest Agriculture Safety and Health Center (PNASH) at the University of Washington. Logging company volunteers over age 40 will help compare heart rate measures. Workers will carry and pull the two ropes on standard logging tasks at their worksite. Participants will wear a chest strap to measure heart rates and their location will be monitored by GPS position data. Field data collection will take place in the Spring and early Summer 2010 in WA and OR. All safety and health precautions in logging will be observed at the field sites. If you or your company would be willing to participate in the study, please contact: John Garland at (541) 231-6241 or garland49@q.com.

Concluded: The Sustainable Harvest Project (2007-2009)

This small project was supported through the Musser Foundation to work with Specialty Forest Product (SFP) harvesters in the Olympic Peninsula to reduce unpermitted harvesting and improve the health of the environment and workers. The study's approach included the community's immigrant Hispanic harvesters and local organizations. Out of the project came a new training resource – a DVD with information on worker rights, ecological conservation of the salal resource and the forest in general, basic health and safety of harvesters and a new video on how to access community health services (actors were local harvesters).

Latino immigrant workers are increasingly finding employment as laborers in Pacific Northwest forests. This project provided a baseline understanding of the hazards faced by salvage cedar block cutters and the barriers they may face in addressing these occupational health and safety hazards. Employing community based participatory research methods, 13 key informant interviews were conducted with forest and community workers.



University of Washington, Special Collections (IZ5N2836)

Now Online:

Hispanic Forest Harvester Safety Training

http://depts.washington.edu/pnash/research_summaries.php#forestry_peninsula

Forestry WPS Poster: Protect Yourself from Pesticides / Protejase de los Pesticidas

Oregon OSHA, 440-4856, 9/09

Introduction to the problem:

The EPA's Worker Protection Standard (WPS) applies to pre-harvest application of pesticides in the forestry sector. One requirement of the WPS is that a pesticide safety poster be displayed for the employees applying pesticides, and for those who work in areas where pesticides have been applied in the previous thirty days, plus the restricted entry interval of the pesticide applied.

The pesticide safety poster in current use is designed for general agriculture and does not tailor information for the forest industry. For example, a logger would not look at the general use poster and think that it applies. Logging companies had requested WPS information that looked relevant for forest operators.

How is it used in Oregon?

The Forestry WPS poster meets the requirements for the pesticide safety poster that is to be displayed when pesticides have been applied within the previous 30 days plus the restricted entry interval.

Is the poster available for use by others?

Yes. The poster is available on-line from outside the state via the following link: <http://www.orsosha.org/pdf/pubs/4856.pdf>. This poster is in the public domain. While the Forestry WPS poster contains Oregon related information; it can be modified by other states with their relevant information. For assistance in obtaining a document suitable for modification for a different state, please contact: Patricia Young, Oregon OSHA Graphic Artist at (503) 947-7394 or by email at: patricia.g.young@state.or.us.



Logging Safety – the Subject of New Safety DVDs

Roy Williams, InstructoVision, instructovision@comcast.net

InstructoVision, an instructional video company in Kent, WA has received funding from The Safety and Health Investment Project (SHIP) program of the Washington State Department of Labor and Industry to produce three DVDs on Logging Safety. The overall theme will be the Hazards and Safe Work Practices and Procedures.

The three subject areas to be covered are: Timber Cutting, Rigging Crew, and Landing. Filming is expected to begin in early June with free DVDs distributed to the industry late in 2010 or early in 2011.

An advisory panel from the Timber Industry will oversee the entire project. They include: Jerry Bonagofsky, Chief Executive Officer of the Washington Contract Loggers Association, Inc.; Duane Evans, Vice President, US Forestry Operations, Port Blakely Tree Farms; Neil Hoiland, Harvest Manager, Weyerhaeuser; Gary Schuyton, Contract Logging Supervisor, Northwest Timberlands Div., Green Diamond Resource Co.; Tom Ford, Logging/Wood Products Specialist, WA State Dept. of L & I; and Steve Poppe, Regions 4 Logging Safety Consultant, WA State Dept. of L & I.

For more information or to make suggestions, please contact: Roy Williams, InstructoVision@Comcast.net.

Hardhat Video Camera Shows the Faller's Point of View

Terry Hammond, Oregon Fatality Assessment, hammond@ohsu.edu

Tree fallers work fast. The Fallers Video Observation Study, a PNASH-funded pilot project completed in fall 2008, observed student and professional fallers at work in the woods with a helmet-mounted video camera, and saw a remarkable difference in work pace. One professional faller cut 125 trees in 4 hours. A beginning student, in the same time, cut 2 trees. The professional cutters approached a tree like a golfer (where attitude matters): step up, look out, look up, look to set the saw; and the tree is down in a minute or less.

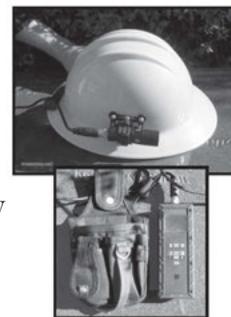
The logging safety consultant for the study, Jeff Wimer, also manager of the Student Logging Training Program at Oregon State University, which provided the student participants, was fascinated by the opportunity to look over the shoulder of professional fallers at work.

The study coded the critical action steps to safely fall a tree – assess the area, assess the tree, develop a safe work area, fall the tree, get in the clear – and found differences not only between fallers at different skill levels, but also between individuals. One professional faller, for example, stayed at the stump significantly longer than his older partner.

The study also coded direction of view while falling the tree, and found a characteristic pattern for professional fallers – a glance back to check the escape route or canopy behind them, whereas students at all levels rarely looked back.

The Viosport POV.1 camera used for the study is rugged, lightweight, and can record 8 hours or so; but also has a cord running from the camera down the back of the neck to the storage unit/battery pack, which the professional fallers found distracting. Any distraction while moving fast through the brush can be a hazard, and the helmet camera is probably not suitable for using with professional fallers except in favorable circumstances.

The two helmet cameras for the study are available for other researchers or employers who may wish to use them. Point-of-view video can be used to evaluate work behavior or as a training tool (watching yourself on video can help correct mistakes).



Forestry Safety VIPs

TOM FORD **Retirement**

Big news in NW logging safety is the retirement of Tom Ford, Logging Safety Specialist, Washington State Department of Labor and Industries (LNI). His official last day is March 31st. Tom is a fourth generation logger and a dedicated safety professional – well known in Washington state and beyond for his technical expertise and safety education and consultation work. Tom reports that he plans on doing a lot of hunting and fishing, as well as some consultation and training in logging and chainsaw safety. He also states, “I will miss all the great folks I’ve met along the way.” We’ll miss you too, congratulations on a successful career!

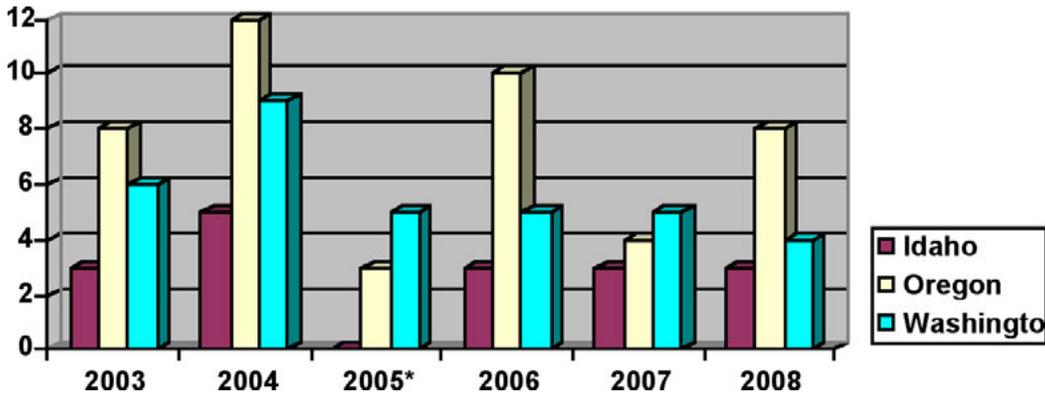
John Garland **New Faculty Appointment**

PNASH is very happy to announce the appointment Dr. John Garland as an Affiliate Professor to the UW Department of Environmental and Occupational Health Sciences (and PNASH). Dr. Garland is a Professor Emeritus at Oregon State University and is well recognized for his work in logging and forestry workforce development, and safety standards and innovations. Most recently, Dr. Garland has been serving as councilmember to the National Institute of Occupational Safety and Health to develop the National Occupational Research Agenda (NORA) guidelines for the forestry sector.

For assistance at WA LNI as of April 1st, you can rely on **Steve Poppe**, Logging Safety Consultant, WA LNI- Region 4, (360) 902-5317 or popv235@lni.wa.gov.

NW Injury/Fatality Report

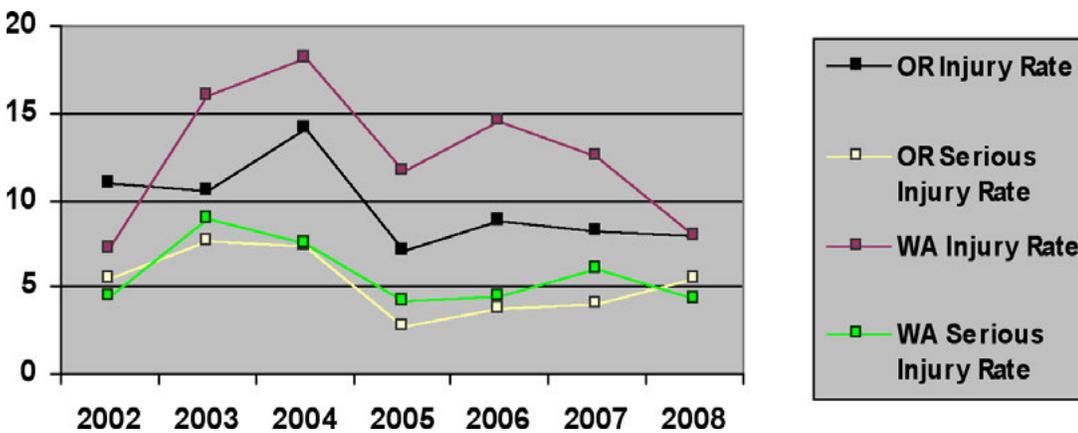
Robin Russell, PNASh, pnash@u.washington.edu or 1-800-330-0827



The US Bureau of Labor and Statistics is missing 2005 fatality data from Oregon and Idaho. The Census of Fatal Occupational Injuries (CFOI) data for Idaho does not record any logging deaths in Idaho in 2005.

Figure 1. Total NW Logging Deaths (Source: BLS) * 2005-Idaho: no data. Oregon: OR - OSHA

Logging injury rates in the Northwest have continued the decline we've been experiencing since 2006, and serious injuries (those with days away from work) are suffered by fewer than 6% of workers each year. In both states, injuries that cause employees to lose days of work represent 40% of all injuries. These serious injuries cost the logging industry in terms of manpower in the woods, as well as in terms of absolute dollars through the worker compensation system.



When viewing Figure 2., keep in mind that the logging workforce in Oregon (6,800 in 2008) has consistently been about 50% larger than Washington's (4,500 in 2008), so total Oregon injuries are still significant.

Figure 2. Oregon and Washington Logging Injury Rates (per 100 full time workers)

What is happening in Forestry Services?

Annually we review logging in our injury update. We usually do not include statistics on other work in the woods because of statistical inconsistencies. These Forest Services (forest harvesting, nurseries, and management among others) are an expanding industry, but are a challenge to accurately describe across the region. For example, over most of the last decade (2003-2008) logging injuries result in days away from work about 40% of the time. This number is about 10% higher than in the workforce at large (See Fig. 3). Oregon's Forest Services injury numbers also echo this trend.

What about Washington? Here we see a substantial discrepancy. Over the same period, the statistics indicate that Forest Services workers in Washington actually experience a lower rate of injuries that result in time away from work than all those working in private industry. This is not an isolated instance of one very low year skewing the data. In fact, four of the last six years show this same pattern. Differences in coverage and reporting are likely a major reason for this variance. For example, some work that Oregon considers Forest Services is considered Logging in Washington. There may also be other factors at play here because the Oregon numbers are closer to what you might expect from a job that often takes place in challenging terrain. Until definitions, categorization, and reporting of non-logging forest work are standardized across the region, statistical comparison of the northwest as a whole will remain difficult. See article, *Even if Injured* on page 8, for more information on Oregon's Forest Services injury and fatality rates.

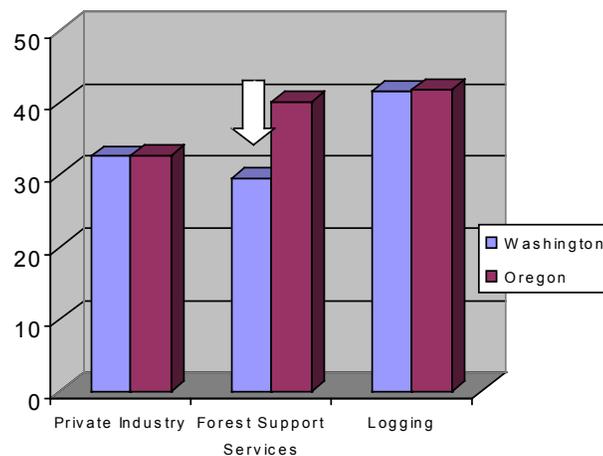


Figure 3. Serious injuries in the Northwest

WORKER'S COMPENSATION IN OREGON ANNOUNCES

Workplace Deaths Continued to Decline over Past Decade 2009 Figure Ties Record for Lowest in Oregon History

Oregon Department of Consumer and Business Services Press Release

Thirty-one people covered by the Oregon's workers' compensation system died on the job during 2009, announced the Department of Consumer and Business Services (DCBS).

That total brings the average total number of workers who died on the job during the past decade to just below 40 – a significant decrease from the average of 55 workplace deaths per year in Oregon in the 1990s and 81 per year in the 1980s. On-the-job injuries also have been declining in recent decades: the statewide rate of reported workplace injuries and illnesses has decreased more than 50 percent since the late 1980s.

“Oregon workplaces are much safer today, and that’s due to a significant effort by both employers and workers to prevent injuries and deaths,” said Cory Streisinger, DCBS director. “This year, as we commemorate the 20th anniversary of Oregon’s historic workers’ compensation reforms, we must recommit to a focus on prevention, to help ensure Oregon workers come home safely to their families each day.”

Construction, trucking and transportation and agricultural industries saw the largest concentration of deaths, with six in each category. Overall, 12 of the deaths were the result of motor vehicle crashes.

“It’s always good to see the number of fatalities go down, but we must never forget that these numbers represent real people,” said Michael Wood, administrator of Oregon OSHA, a division of DCBS.

Even if Injured - Work or Lose Your Job

Carl Wilmsen, Executive Director, Alliance of Forest Workers and Harvesters
alliancefwh@sbcglobal.net or (510) 525-4053

Mateo's¹ feet suddenly slipped back, finding no grip on the steep, loose soil. He threw his arms back to regain his balance, but his body lurched sideways, wrenching and twisting his knees at an impossible angle. Although the pain was excruciating, he thought twice about asking to be taken to a doctor. It is understood among forest workers that to complain is to lose your job. As one worker put it, "You get hurt, you work or you lose your job. You get sick, you work or you lose your job."

A study conducted by the Alliance of Forest Workers and Harvesters and the Ecosystem Workforce Program at the University of Oregon found that Latino workers are more likely than Caucasian workers to feel this way. Although there are no precise figures, experts estimate that the majority of forestry services workers in the Pacific Northwest are now undocumented Latin American immigrants.²

The forestry services industry has a high rate of injuries and illness. From 2003 to 2008 there was an average of 8.86 injuries and illnesses per 100 workers in Oregon compared to 5.3 for all of private industry (Figure 1). Common injuries include broken bones, open wounds, severe poison oak rashes, and dehydration. The fatality rate is much higher among forest workers than the rate for all industries as well (although not as high as for loggers).

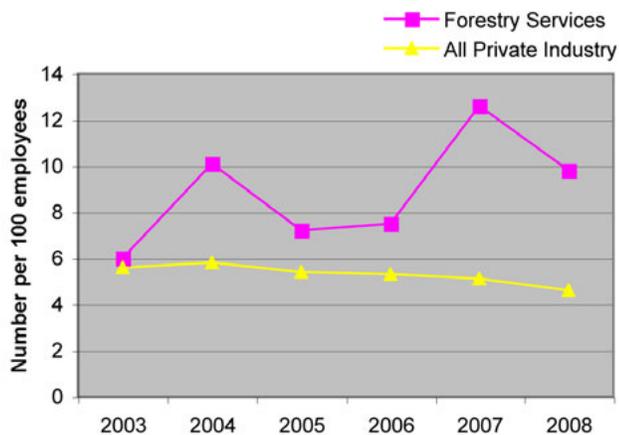


Figure 1. Oregon nonfatal injury and illness rates

Although workers often do not report injuries, those that do face many obstacles to receiving medical care. When Mateo asked his foreman to take him to a doctor, the foreman told him he could not until he had information about the insurance company. It took him two months to get that information.



Figure 2. Reducing wildfire fuels

Once Mateo did finally see a doctor, he then faced having to navigate the workers' compensation system in the state in which the accident occurred, not where he is resident. This made the process of getting workers' compensation benefits excessively burdensome for him.

Unfortunately, Mateo's story reveals how health care delivery does not always adequately provide for workers in an industry in which injury and illness rates are high. Yet, worker training and education in occupational safety and health are measures that can help both workers and employers. One contractor, for example, keeps his workers' compensation premiums down by providing extensive training, including safety training, to his crews. The Alliance of Forest Workers and Harvesters is now developing a program specifically designed to educate forestry services workers about safety on the job and available health care services.

¹ Not his real name.

² Moseley, Cassandra. 2006. "Working Conditions in Labor-Intensive Forestry Jobs in Oregon." EWP Working Paper Number 14, University of Oregon, Ecosystem Workforce Program; Sarathy, Brinda. 2006. "The Latinization of Forest Management Work in Southern Oregon: A Case from the Rogue Valley." *Journal of Forestry* (October/November):359-364.

Elsewhere in the nation...

Southwestern US Stakeholders Explore Forestry and Logging Safety Issues

Jeffrey Levin, MD, MSPH Director Southwest Center for Agricultural Health, Injury Prevention & Education, Jeffrey.Levin@uthct.edu.

Despite recognition of the ongoing burden of injury, illness, and fatalities among forestry workers on a national scale, limited information is available on a regional basis - limiting opportunities to develop potential solutions. The NIOSH funded SW Ag Center organized two forestry/logging stakeholder meetings in 2009 to discuss regional findings, initiatives, and challenges to identify areas for potential collaboration. Participants included loggers, industry and small business interests, academia, NIOSH, Department of Labor, insurance, and timber/forestry associations representing the 3 highest productions states in U.S. Public Health Region VI (Arkansas, Louisiana, and Texas).

Acute and significant musculoskeletal injuries (sprains/strains/fractures/dislocations) represent the highest proportion of events (see Figure 1) and per case indemnity and medical costs in Louisiana, with workers' compensation making up 60% of payroll in some instances (Louisiana Forest Products Lab). An OSHA Strategic Partnership (OSP) was created in May of 2000 with the Louisiana Forestry Association and Louisiana Logging Council (OSHA Region VI) increasing safety and health training in the region. There has been a steady decline of logging fatalities in Louisiana since.

In 2007, forestry and logging comprised 16% of all fatalities in agriculture, forestry, fishing, and hunting, and 2% of all fatal occupational injuries in the United States. (BLS, 2007) Similarly, in 2005, forestry support activities accounted for nearly 2% of all nonfatal occupational injuries and illnesses in agriculture, involving days away from work. (BLS, 2005)

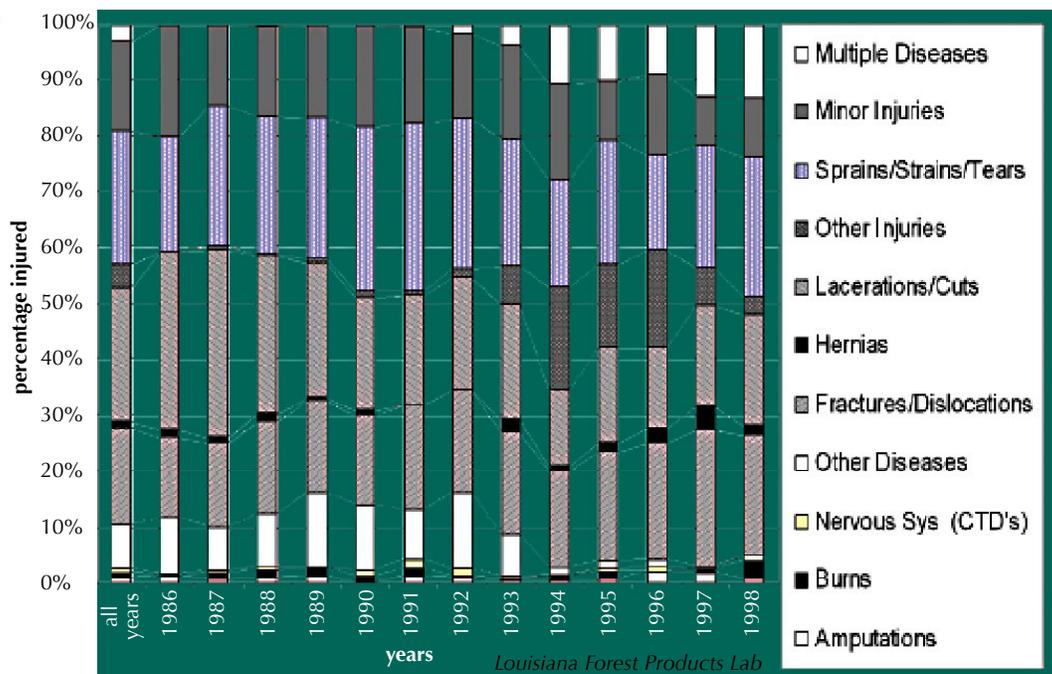
The NORA Agriculture, Forestry and Fishing (AFF) Sector Council suggests that logging is among the top three most dangerous jobs based on fatality rates, with important regional differences in practices and workers. (NORA National AFF Agenda, 2008) The National Academies have identified emerging forestry issues among the high-priority research areas in AFF. (NAS review of AFF Research at NIOSH, 2008)

Training is an effective tool for improving safety knowledge, but training methods may influence both participation and behavior change in the workplace. Collaboration of key stakeholders to assess additional factors influencing risk among forestry workers/loggers will be important to developing effective safety training in targeted areas.

Nature of Injury Louisiana Loggers

Figure 1. Acute and significant musculoskeletal events represent a high proportion of logging injuries in Louisiana.

(Courtesy of C.F. de Hoop)



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/>
- WA Safety and Health Assessment & Research for Prevention (SHARP), <http://www.lni.wa.gov/Safety/Research/About/>

Logging Safety Resources

- Amerisafe logging safety tips <http://www.amerisafe.com/safety/tipofthethmonth.html>
- Associated Contract Loggers <http://www.idahologgers.com/links.html>
- Field Guide for Danger Tree Identification and Response <ftp://ftp2.fs.fed.us/incoming/r6/ro/toupin/DangerTree04052010/FieldGuide2008.pdf>
- Forestry Safety Topic Centre, British Columbia Workers' Compensation Board (BCWCB) <http://www2.worksafebc.com/Safety/Home.asp>
- Logging Hazard Training Cards and Glossary of Terms http://www.depts.washington.edu/pnash/ORforest_training.php
- Logging Safety Recognition, Control, and Standards, OSHA <http://www.osha-slc.gov/SLTC/logging/index.html>
- Logging Safety Research, NIOSH <http://www.cdc.gov>, <http://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>

2010 Northwest Logging and Forestry Safety Events

- 72nd Intermountain Logging Conference and Equipment Show, April 8-10, Mirabeau Park Hotel and Convention Center, Spokane, WA <http://www.intermountainlogging.org/> (208) 245-3425
- Region X VPPPA Conference, May 11-13 Anchorage, AK <http://www.regionxvpppa.org/default/index.cfm> (503) 378-3272
- Blue Mountain Occupational Safety & Health Conference, June 9 Blue Mountain Conference Center, La Grande, Oregon www.orosha.org/conferences/2010/BlueMount2010_webflyer.pdf, (888) 292-5247
- Central Oregon Occupational Safety & Health Conference, Eagle Crest Resort Conference Center - Redmond, Oregon, September 22 & 23 http://www.orosha.org/conferences/OSHA_conference/cntrl_or_occ_sfty_hl.html (503) 378-3272
- 59th Annual Governor's Industrial Safety and Health Conference, Spokane Conference Center, Spokane, WA, September 29 & 30 <http://www.wagovconf.org/>, (888) 451-2004
- Southern Oregon Occupational Safety & Health Conference, October 20 & 21, Smullin Center, Medford, Oregon http://www.orosha.org/conferences/OSHA_conference/sthrn_or_occ_sfty_hl.html (503) 378-3272
- 2010 Pacific Logging Congress "Live-In-The Woods" Show, September 16-18, Longview Timber Tree Farm, Clatskanie, OR <http://www.pacificloggingcongress.org/> (425) 413-2808

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

PACIFIC NORTHWEST AGRICULTURAL SAFETY AND HEALTH (PNASH) CENTER
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