Northwest Forest Worker Safety Review

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

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INSIDE

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NIOSH Releases National Agriculture, Forestry and Fishing Agenda

The *National Agriculture, Forestry and Fishing Agenda* was recently released by NIOSH, a publication based on ideas presented in a 2006 meeting organized by PNASH Center and the Department of Environmental and Occupational Safety and Health (DEOHS).

The half-day event, a National Occupational Research Agenda (NORA) Town Hall meeting in Seattle, brought together 120 industry safety leaders. Fifty-one speakers presented their research ideas, which included diverse testimony of occupational health issues specific to the agricultural sector.

The Agriculture, Forestry and Fishing sector includes the activities of growing crops, raising animals, harvesting timber, and harvesting fish and other animals on a farm, ranch, or from their natural habitats. More than a million paid workers were estimated to be in this sector in 2005.

The National Agriculture, Forestry and Fishing Agenda consists of three strategic goals relevant to the whole sector. They are focused on surveillance; vulnerable populations; and outreach, communications and partnerships.

For a copy of the agenda, visit http://www.cdc.gov/niosh/nora/comment/agendas/AgForFish/

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PNASH

Northwest Forest Worker Safety Review

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

Aches, Pains, and Strains

Helen Murphy and Marcy Harrington, PNASH
pnash@u.washington.edu or (800) 330-0827
(Illustrated by Stacey Holland)

For all workers, musculoskeletal disorders are the leading cause of disability. Work Related Musculoskeletal Disorders (WMSD) are physical conditions affecting muscles, tendons, nerves, and joints that are *not* due to an injury event, such as falls, slips, and struck-bys. Between 1997 and 2005, Washington State Department of Labor and Industry Workers' Compensation claims show there were 336,608 State Fund WMSDs. These claims cost the state $4.1 billion dollars (adjusted to 2005 dollars). While representing 27% of all State Fund accepted claims, these claims were responsible for 45% of all costs. Keep in mind that the incidence rate (workers injured) for WMSDs is decreasing, but the severity rate (lost work days) is increasing.

For each logging worker injured in Washington state, the average cost of a WMSD claim is $9,000
(averaged over 2006-2008).

Logging was in the top 25 occupations at risk for the following WMSD injuries (claims data below are for all WA occupations, 1997-2005):

Back:

Back disorders are more common but less costly (averaging $11,626 per claim) and require the least time away from work (195 days). For loggers in particular, studies have shown that the lower back accounts for the majority of strains and sprains.

Sciatica (pinched nerve):

If the back problem involves a pinched nerve, then it is very expensive ($69,237 per claim) and results in 554 lost workdays on average. The sciatic nerve runs between L5 and S1 and can be compressed by herniation of the disk there. Sciatic pain is manifested as radiating back pain that goes below the knee. *(See Figure 1: Sciatica)*

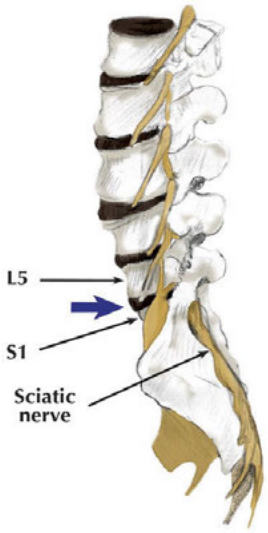

Figure 1. Sciatica

Rotator Cuff Syndrome (shoulder damage):

Rotator Cuff Syndrome involves inflammation, degeneration, and tearing of the tendons around the shoulder. These injuries are expensive in terms of costs and time off work. Average time lost is almost a year (323 days), and the cost averages $29,877 per claim. Excessive force, repeated elevation, or forward flexion of the arm are activities most likely to cause this syndrome. *(See Figure 2: Rotator cuff)*

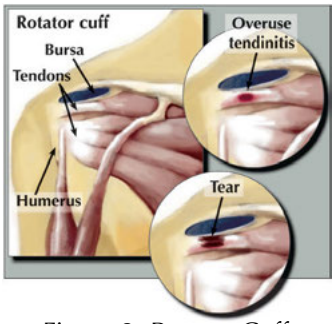

Figure 2. Rotator Cuff

Carpal Tunnel Syndrome (hand/wrist damage):

The compression of the median nerve at the wrist due to inflammation is called Carpal Tunnel Syndrome. Evidence supports an association between vibration and Carpal Tunnel Syndrome. The average cost of Carpal Tunnel Syndrome is $21,208 per claim, with an average of 250 workdays lost. *(See Figure 3: Carpal Tunnel)*

Neck:

While neck disorders are relatively uncommon, they are the second most costly type of musculoskeletal disorder, averaging $15,813 per claim and require the most time away from work to recuperate (279 days on average).

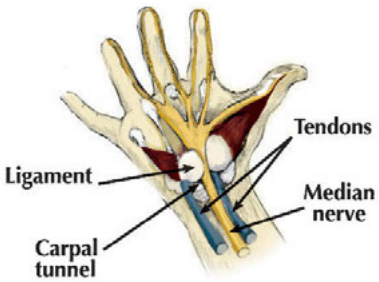

Figure 3. Carpal Tunnel

Upper Extremities:

Most of these claims involve the hand and wrist, followed by the shoulder and elbow. The shoulder and hand/wrist WMSD claims resulted in higher costs per claim ($16,092 and $10,983, respectively), compared to the elbow/forearm area WMSDs ($8,317). A contributing factor may be Hand-Arm Vibration (HAV), which is defined as the transfer of vibration from a tool to a worker's hand and arm. The signs and symptoms of HAV syndrome include numbness; tingling and whiteness of the fingers, pain in response to cold exposure; and a reduction in grip strength and finger dexterity. These symptoms will increase in severity as exposure to vibration increases in intensity and duration.

Causes of musculoskeletal disorders

Physical stress on the body's muscles, tendons, nerves, and joints are the root causes of work-related musculoskeletal disorders. It is not merely how much force, but how long the body part is under stress or how often that matters most.

Long-term exposures to physical stress that lead to musculoskeletal disorders, include:

- Working for prolonged periods in a stooped position
- Carrying heavy loads in awkward positions
- Working with hands, arms, or elbows above shoulder level
- Kneeling or squatting
- Repetitive, forceful gripping
- Subjecting the whole body to continuous vibration

Solutions

Dealing with these ergonomic risks is where the creativity comes in. For example, It often requires redesigning tools or a rethinking how the work is conducted. This will help reach the ultimate goal of improving workers' posture, reducing the physical force required of the task, and limiting exposure to repetitive motions and vibration.

Here are some prevention tips:

- ***Avoid tasks above shoulder height***. Tasks should be within 16 inches of the worker.
- The diameter of tool handles should allow the worker to ***grip all around the handle,*** with the thumb and fingers overlapping by 3/8 inch.
- To ***limit stooping***, provide workers with long handled tools
- Give workers the following ***advice about lifting***:
  - Position loads between hands and shoulder level. Avoid lift from the floor and higher than the shoulder
  - Keep the load as close to the body as possible throughout the entire lift.
  - Get a good grip and balance the load.
  - Never twist while lifting. Instead, turn the entire body. While turning the head and torso, also turn feet so that they point in same direction as the lift.
  - Avoid carrying a heavy load more than 10 feet without getting help or mechanical assistance.
  - If the load cannot be lifted between both bent knees, lift with a bent back and hips, keeping knees relaxed. Being close to the load is more important than bending your knees.

  (See Figure 4: Safe Lifting and Pulling)

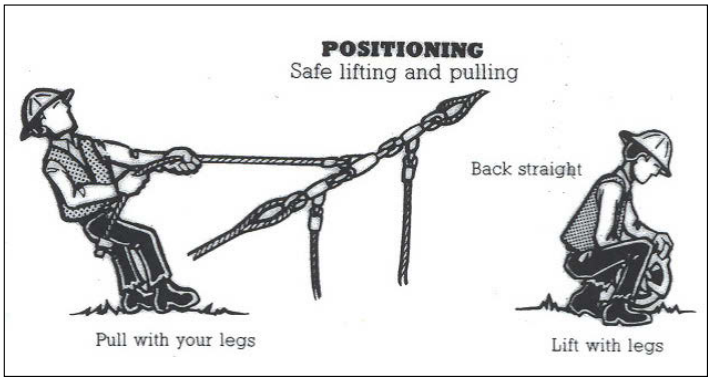

Figure 4. Safe Lifting and Pulling
(Illustrated by Don Poole)

- **Minimize hand-arm vibration**:
  - Maintain machines in proper working order. Unbalanced rotating parts or unsharpened cutting tools can give off excessive vibration.
  - Arrange work tasks so vibrating and non-vibrating tools are used alternately.
  - Restrict the number of hours a worker uses a vibrating tool during the workday. Encourage employees to take 10-minute breaks from the source of the vibration every hour.
  - Keep hands warm and dry and do not grip a vibrating tool too tightly.

Resources

- Work-Related Musculoskeletal Disorders of the Neck, Back, and Upper Extremity in Washington State, 1997-2005
- Washington State Department of Labor and Industry, 2007
- Musculoskeletal Disorders and Workplace Factors. NIOSH Publication No. 97-141, July 1999
- Occupational Safety and Health Administration (OSHA), http://www.osha/gov

Extreme Cold
A message from the desk of the Director of NIOSH

Workers who are exposed to extreme cold or who work in cold environments may be at risk of cold stress. Extreme cold weather is a dangerous situation that can cause health emergencies for workers who work outdoors, with or without shelter, or in unheated environment. NIOSH recommends that employees and employers plan wisely to prevent the risk of hypothermia, frostbite, and other cold-related hazards for workers exposed to these conditions.

Some recommendations for how employers can help protect their workers include scheduling cold jobs for the warmer part of the day; using relief workers or assigning extra workers for long, demanding jobs; and providing warm liquids and warm areas to workers during breaks.

It is also important for employers to make workers aware of the potentially unrecognized hazards of cold temperatures and of the measures that workers can take if working outside in harsh conditions. If possible, work should be moved to heated inside structures; otherwise, workers should wear appropriate cold weather clothing, especially covering for the ears, face, hands, and feet. Using schedules and shelters provided by employers, workers should also move into warm locations during work breaks and limit the amount of time outside on extremely cold days.

For more information and a full list of recommendations for employees and employers please consult our resources for addressing cold stress at http://www.cdc.gov/niosh/topics/coldstress/.

Think ahead to summer heat!

Heat illness can be deadly, so take the time to educate yourself on signs and symptoms, prevention, and treatment. PNASH has educational resources online at http://www.depts.washington.edu/pnash/heat_illness.php.

New Media for Teaching Safety

A wide variety of logging safety videos are available on YouTube.com. YouTube.com is a video-sharing website where users can upload, view, and share video clips. Some of the most informative and well-constructed videos come from WorkSafe BC. WorkSafe BC is dedicated to promoting workplace health and safety for workers and employers. WorkSafe BC Safety Videos are posted at http://www.youtube.com/user/WorkSafeBC.

For more logging safety videos visit:

- Setting Standards for Safety: Mechanical Harvesting
  http://www.youtube.com/watch?v=h8GMfMxb-7c
- Logging Safety Awareness
  http://www.youtube.com/watch?v=yWzzPsvzFS4
- Operator Dies in Skidder Rollover
  http://www.youtube.com/watch?v=rPOITju_PN4
- Setting the standard: Helicopter Logging
  http://www.youtube.com/watch?v=UAqe7FeBdOs

NW Injury/Fatality Update

Robin Russell, PNASH
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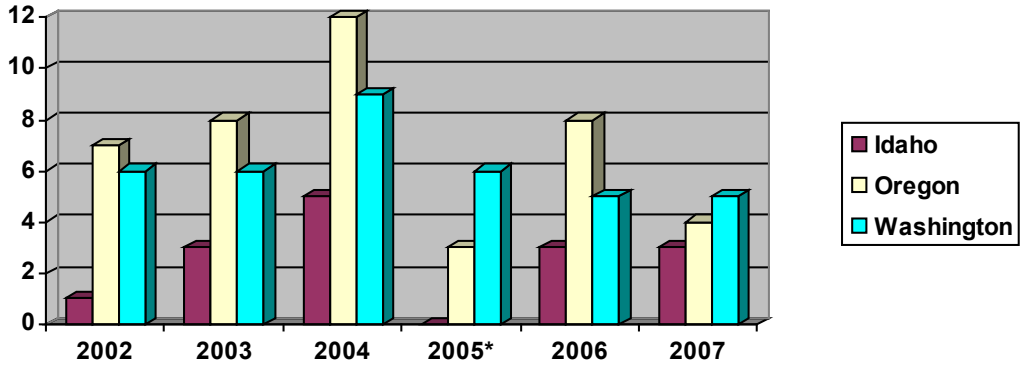
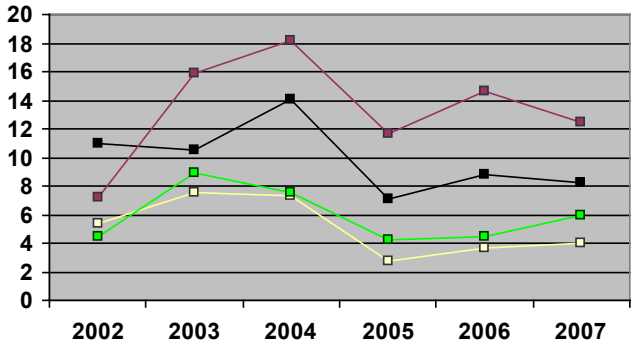
Northwest Injury and Fatality Update



Note that 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.

In order to learn from and prevent work place fatalities, the national Fatality Assessment Control and Evaluation (FACE) program provides detailed investigation reports and recommendations for prevention of similar incidents. 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.



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

After coming down from their 2004 highs, the injury rates in Oregon and Washington, as reported in the BLS Survey of Occupation Injuries and Illness (SOII), have remained relatively constant over the past three years.
One trend seems to stand out: injury rates in Oregon and Washington tend to rise and fall together. This synchronicity makes sense; after all, these two states generally share the same climatic and weather conditions that can influence the danger level in the woods. Unfortunately, and disturbing for Washington loggers, logging in Oregon has remained substantially safer than logging in Washington over the last five years. In the last five years, out of every hundred loggers, four more loggers have been injured in Washington, compared to the numbers injured in Oregon. This difference in the number of loggers injured may not sound like a lot, but consider the fact that Oregon has 37% more people working in the woods than Washington. Yet, Oregon has 9% *fewer* total injuries than Washington. This means that if Oregon loggers were being injured at the same rate as Washington workers then 1,800 more of Oregon's loggers would have sustained injuries during the same period. At this point, more information is needed to determine what is causing the safety di screpancy between the two states.

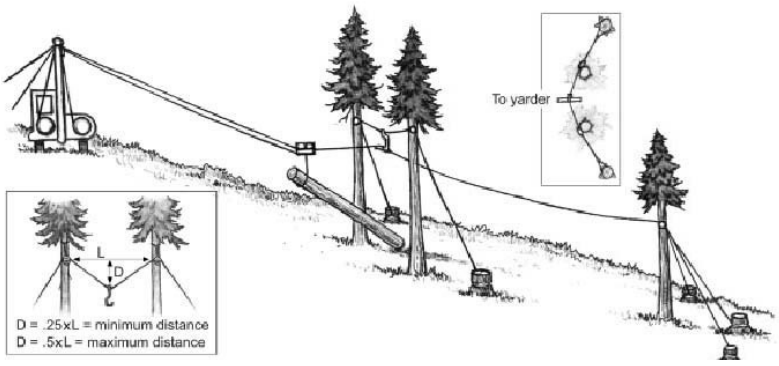
All numbers are based on BLS employment, CFOI, and SOII data. Accessed January, 2009. http://www.bls.gov/iif/oshstate.htm

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 and Safety Resources

- Amerisafe logging safety tips
  http://www.amerisafe.com/safety/tipofthemonth.html
- Associated Contract Loggers
  http://www.idahologgers.com/links.html
- 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/niosh/injury/traumalog.html
- National Institute for Occupational Safety and Health (NIOSH) safety and health facts sheets
  http://www.cdc.gov/spanish/niosh/index.html
- National Timber Harvesting and Transportation Safety Foundation
  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



Logging Hazard Training Card

Compared to All Commercial Carriers, Log Truckers Have Better Safety Record.

Larry Mason, UW College of Forest Resources, larrym@u.washington.edu and Ken Casavant WSU School of Economic Sciences, casavantk@wsu.edu. Preprinted from University of Washington News, authors: Sandy Hines and Kathy Barnard.

A report on the log truck industry just delivered to the state legislature indicates that the number of traffic accidents involving log trucks declined 11 percent while collisions for all commercial trucks increased by 15 percent in Washington between 2004 and 2006.

"This safety record has been built by drivers who have been in the business a long time," says Ken Casavant, Washington State University professor of economics and one of the report authors. "A log trucker in this state is generally a seasoned driver with a lot of knowledge. Log truckers may not know everything about the business side of their work, but they sure know how to run their trucks."

But that safety record could be jeopardized in the future, wrote researchers at the University of Washington's College of Forest Resources and WSU's School of Economic Sciences in the report.

A survey of log truckers in Washington revealed an experienced but aging workforce, with an average age of 55 and an average of 27 years experience in log truck operations. Fifty-one percent reported plans to retire or diversify out of the logging industry, and nearly everyone surveyed said skilled drivers are harder to find now than 10 years ago. From 1998 to 2006, the number of log trucks registered in Washington declined by 36 percent.

The business side has been tough in recent years. The report authors found that in 2006, 28 percent of log-trucking companies lost money, 50 percent broke even, and 21 percent made a profit. No such figures are available for 2008, but the price of diesel this year has jumped 80 percent, increasing the total cost of operations by 20 percent.

Problems for log haulers could also have implications for Washington's forest industry, which employs 45,000 people and generates $2 billion in wages and $16 billion in gross business revenues a year.

"These guys are doing everything they can to make it under difficult circumstances. They're not buying new trucks. They work long hours," says Larry Mason, a researcher with the UW College of Forest Resources and lead author of the report.

"These are men and women who have worked all their adult lives in the forest product industry and love being in the trucking business," Casavant says. "Many are like small farmers -- they like to run their own businesses."

Of the 129 log truck companies who responded to a survey during the investigation, nearly 65 percent of the companies are owner-driver operations with a single truck and trailer. In 2006, a trucker made an average of $33,000 a year and worked on average 69 hours a week.

Concerns about costs and safety, he says, prompted the legislature, led by Senators James Hargrove and Brian Hatfield, to commission the study.

"Analysis of accident data provided by the Washington State Patrol and the Washington Department of Transportation for all collisions involving log trucks for years 2002 through 2007 showed no trend of increasing safety hazard to warrant public concern," the report says. A review of Washington

Department of Labor and Industries data for on-the-job injuries and fatalities of log truck drivers also showed no trend indicating worsening safety problems.

Of the 129 log truck companies that responded to a survey conducted as part of the investigation, nearly 65 percent are owner-driver operations with a single truck and trailer. In 2006, a trucker on average made $33,000 a year and worked 69 hours a week.

"These are men and women who have worked all their adult lives in the forest product industry and love being in the trucking business," Casavant says. "Many are like small farmers -- they like to run their own businesses."

Loading logs is often assumed to be the most dangerous part of log truckers' work, Mason says. Loading involves backing trucks up to log landings -- sometimes up steep, winding logging roads slick with mud or snow -- securing loaded logs with cable binders and making one's way along logging roads back to the highway. However, only 11 percent of surveyed log truckers said that was the most dangerous part of their job.

The other 89 percent indicated that increasing traffic congestion and worsening road conditions are the biggest dangers they face.

In addition to rising costs, aging drivers and long hours of service, other factors that could affect safety and economic viability include the ongoing effects of deregulation, poor driver recruitment and an influx of out-of-state log trucks, all of which should be monitored.

Mason, C.L., K.L. Casavant, B.R. Lippke, D.K. Nguyen, and E.Jessup. 2008. The Washington Log Trucking Industry: Costs and Safety Analysis. Report to the WA State Leg. University of Washington, College of Forest Resources. Seattle. Washington State University, School of Economic Sciences. Pullman. 109 pp. http://www.ruraltech.org/pubs/reports/2008/log_trucks/log_truck_report.pdf

You are Your Own Best Asset!

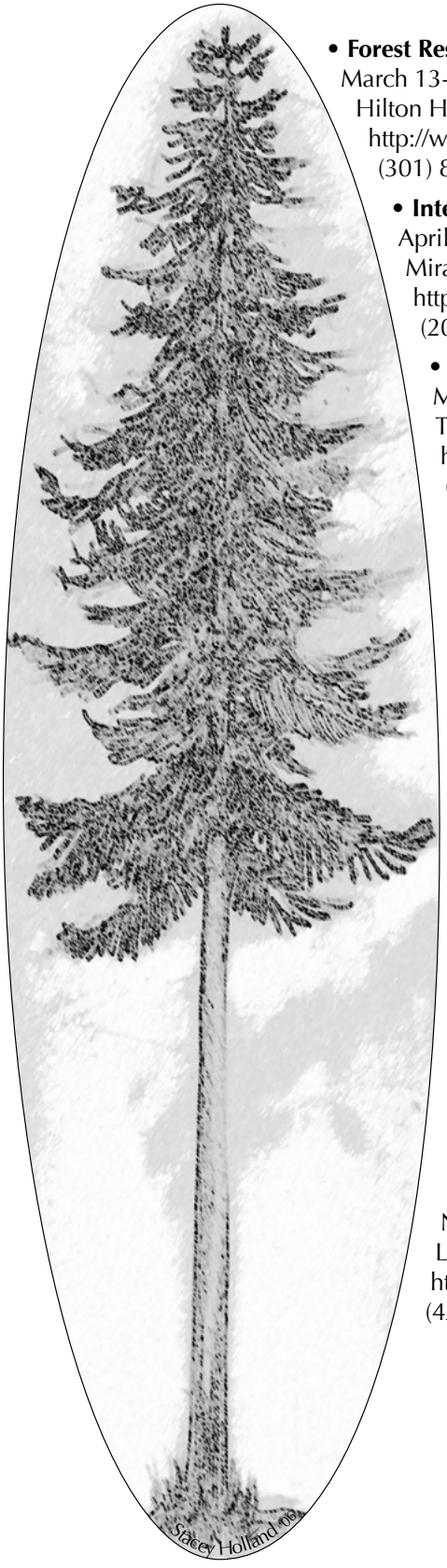
Dr. John J. Garland, PE,
Consulting Forest Engineer & Professor Emeritus,
garland49@q.com

It should not take a near fatal event or near-miss accident at work for you to realize that you are your own best asset. You, yourself, your body, your mind. If all your finances, your home, your cars, and your recreation toys were swept away by fire, flood, or catastrophe, you could start again and achieve your goals in a short time--if you are intact. 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.

This attitude could change the way workers and managers approach safety and health decisions. From the serious accidents in forest work that I have investigated or the near-misses I have seen (or even experienced), workers might have made different decisions if this thought was guiding them. When you are your own best asset, you might not make the mistake of trying to cut the tree that has a tree hanging it. When you are your own best asset, you might take the five extra steps to put yourself further in the clear. You might step off the stump carefully, rather than jump off and use up one of the 300 jumps (in my estimate) allowed before you have knee damage. You might take care of your health and what you put in your body, avoiding risks that shorten your working life. You might stop to assess the risks rather than just taking action. You would do these things because those who care, depend on you, and you **are** your own best asset.

University of Washington Special Collections (IZ5N2804)

2009 Northwest Logging and Forestry Safety Events



- **Forest Resources Association Annual Meeting: The Challenges Ahead**
  March 13-16
  Hilton Head, SC
  http://www.forestresources.org/NEWS/news-releases/19jan2009-NR.html
  (301) 838-9385

- **Intermountain Logging Conference and Equipment Show**
  April 2-4
  Mirabeau Park Hotel and Convention Center, Spokane, WA
  http://www.intermountainlogging.org/
  (208) 245-3425

- **Region X VPPPA Conference**
  May 19 – 21
  The Davenport Hotel, Spokane, WA
  http://www.orosha.org/conference/OSHA_conference/region_x_vpppa_conf.html
  (no info) or http://www.regionxvpppa.org/access.cfm?m=1&p=4 (no info)
  (503) 378-3272

- **Blue Mountain Occupational Safety & Health Conference**
  June 10
  Blue Mountain Conference Center, La Grande, OR
  http://www.orosha.org/conference/OSHA_conference/blue_mnt_occ_sfty_hl.html
  (no info posted)

- **Central Oregon Occupational Safety & Health Conference**
  September 16 - 17
  Eagle Crest Resort Conference Center, Redmond, OR
  http://www.orosha.org/conferences/OSHA_conference/cntrl_or_occ_sfty_hl.html
  (503) 378-3272

- **58th Annual Governor's Industrial Safety and Health Conference**
  October 7 - 8
  The Greater Tacoma Convention and Trade Center
  http://www.wagovconf.org/overview.htm
  (888) 451-2004

- **Southern Oregon Occupational Safety & Health Conference**
  October 21 - 22
  Smullin Center, Medford, OR
  http://www.orosha.org/conference/OSHA_conference/sthrn_or_occ_sfty_hl.html
  (503) 378-3272

- **100th Pacific Logging Congress Annual Convention**
  November 2 - 4
  La Quinta Resort, La Quinta, CA
  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 AGRICLUTURAL SAFETY AND HEALTH (PNASH) CENTER
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