

# Northwest Forestland Worker Safety



**Pacific Northwest Agricultural Safety and Health Center**

School of Public Health and Community Medicine, University of Washington

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## ***Northwest Forestland Worker Safety***

offers a forum for organizations promoting safety and health in the forest industry to share information. It provides an annual update on relevant safety developments and is distributed without charge throughout the Northwest to individuals and groups active in logging safety and health.

If you have news you would like to share in these pages or someone you would like to add to our distribution list, please contact Marcy Harrington, [marcyw@u.washington.edu](mailto:marcyw@u.washington.edu), 800-330-0827. To learn more about PNASH, please give us a call or visit our Web site: <http://depts.washington.edu/pnash/>

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## Oregon Adopts New Safety Rules for Logging and Forest Related Industries

Mike Lulay, (503) 947-7431, or toll-free in Oregon, (800) 922-2689

The Oregon Occupational Safety and Health Division (Oregon OSHA) has announced that new Oregon Administrative Rules for safety and health in forest-related industries are effective December 1, 2003. The new rules, which were developed by a committee of industry representatives working in conjunction with Oregon OSHA, are designed to protect workers who work in Oregon's forests.

Vocations covered by the updated rules include logging or timber thinning, log hauling and yarding, reforestation and stream restoration, forest road construction or maintenance, forest fire fighting, chemical application, clearing and slash disposal, marking, chipping, and timber cruising.

Providing safety rules in straightforward language was a goal of the update process. "A new choker-setter could come to work and everything they need to review is in one subsection," says Mike Lulay, technical specialist for Oregon OSHA. Rules are more clear and concise, updated to reflect current technology in forest practices and eliminating outdated or obsolete provisions to ensure uniformity between OR-OSHA requirements for other industries and forest-related activities.

The three main changes in the new safety rules are:

### **The elements of a basic safety and health management program are spelled out.**

Rules now address in clear language management commitment, supervisor responsibilities, accident investigation requirements, employee involvement, hazard identification, training, and annual evaluation of the safety and health management program.

### **The safety standard is process oriented.**

For improved understanding, rules were written based on the typical sequence of processes occurring in a forest-based occupation.

### **Protective structures for machine operators are addressed.**

The rules address design provisions for Tip-Over Protective Structures (TOPS) and fully enclosed cabs to protect equipment operators. Equipment manufactured after July 1, 2004 will be required to be fully enclosed to protect the equipment operator.

The new rules are the result of multiple public hearings during fall 2002 and several years of meetings by the OR-OSHA Forest Activities Advisory Committee, made up of representatives of the logging industry, timberland owners, organized labor, state and federal agencies, and other industry stakeholders. Additional information about the rule changes, and text of the adopted rules, is available on the Oregon OSHA Web site: <http://www.orosha.org/>

Oregon OSHA will conduct training sessions to familiarize employers and workers with the new rules throughout Oregon during regional meetings of Associated Oregon Loggers chapters. The sessions are also open to the public.



**Roseburg**

**August 1**

**Klamath Falls**

**August 15**

Elmer's Restaurant, social time at 6:30pm, dinner meeting begins at 7:00pm.

**Coos Bay**

**September 5**

**Vernonia**

**September 6**

**Seaside**

**October 9**

Contact Associated Oregon Loggers at (800) 452-6023 for information or to reserve a seat at the meeting.

**Northwest Forestland Worker Safety** 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 to improve the safety and health of workers in farming, fishing, and forestry. It is funded through CDC/NIOSH (Award # 5U50OH0754-03) and the state of Washington.



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## Road Hazards for Log Truck Drivers

FACE Program, Washington State Dept. of Labor and Industries, (888) 677-4277

Between 1998 and 2002, 11 log truck drivers lost their lives bringing their harvest to saw, pulp, or plywood mills in Washington state. They left behind eight wives, eight children, and numerous grandchildren who will never again see, hear, or hold their loved ones. The monetary cost of those lost lives can't compare to the larger cost to the families and society.

The following hazards are ones that these truck drivers may have faced on a daily basis, but didn't live to tell about. Don't let any of them happen to you or your drivers.



- ▶ **Excessive Speed:** *Speed kills* – drive at the posted speed limit and take into account weather and road conditions.
- ▶ **Tailgating:** *Use the 3 second rule* – there should be at least a 3 second gap between your vehicle and the one in front of you (this should be increased as the conditions indicate).
- ▶ **Driver Inattention:** It is estimated that at least 25% of all vehicle crashes are caused by driver inattention. Keep your eyes on the road and hands on the wheel.
- ▶ **Load Stability:** Keep your load within legal height and weight limits. It could cost you your life and that of others.
- ▶ **Equipment Failure:** Inspect your vehicle prior to driving – It's the law.
- ▶ **Bulkhead Guard:** Don't drive a log truck without a bulkhead guard (cab guard or headache rack) – they're there for a reason.
- ▶ **Loading and Unloading:** Don't be caught under a log – use safe and secure methods to load and unload your truck and trailer.
- ▶ **Driver Fatigue:** *Stay awake – Stay alive.* Investigators thought that fatigue may have contributed to a quarter of the log truck crashes.
- ▶ **Seatbelts:** *Buckle-up.* Seat belts save lives!

Stay tuned. You will soon receive a more in-depth fact sheet on log truck hazards and safety recommendations, which you also download from the L&I Web site, <http://www.LNI.wa.gov/sharp/face>. These materials were developed by the Washington State Fatality Assessment and Control Evaluation (FACE) Program, operated by the Safety and Health Assessment and Research for Prevention (SHARP) Program at the Washington State Department of Labor & Industries. The FACE Program is partially funded by the National Institute for Occupational Safety and Health (NIOSH). For more information, call (888) 667-4277 or visit the L&I site.

## **Update: Wire Rope vs. Synthetic Rope in Forest Operations**

*Dr. John J. Garland, PE, Forest Engineering Department, Oregon State University, john.garland@oregonstate.edu*

Loggers like using the new synthetic rope, but are skeptical at first about its strength since it's so light. But the new rope is winning converts as more loggers begin to use it.

Since 1999, a series of projects have been conducted to replace wire rope with synthetic rope in forest operations like cable harvesting, tractor winch lines, and wrappers for securing loads on log trucks. These projects were funded by a Worksite Redesign Grant from Oregon OSHA. A research team studied ergonomic potentials, placed synthetic rope in the hands of loggers, developed end-connectors, and tried various applications.

*The potential ergonomic gains of using synthetic rope are heart rate reductions for logging tasks and faster recovery after exertion. This is to be expected from handling rope 90% lighter than most wire rope used today.*

The rope is about 90% lighter than comparable steel wire rope but is just as strong at the same diameter. The projects are concluding and publications will be soon available from the author. Conclusions include:

- Ergonomic benefits are reduced workloads and no injuries from jiggers (broken wires producing punctures)
- Synthetic rope is suitable for static lines (guylines), winchlines, and log truck wrappers, and some running lines in cable harvesting
- Sufficient end connectors are available to use the synthetic rope efficiently
- Cost of the rope is more than wire rope, but economic gains accrue to offset the additional costs

Additional research is underway to expand the uses of the synthetic rope in forest operations.

## **Using Loggers and Logging Equipment to Fight Wildland Fires**

*Chris Bielecki, Master of Forestry Candidate, Forest Engineering Department, Oregon State University, chris.bielecki@oregonstate.edu*

Loggers and the equipment they use have increased applications--including firefighting and fireline construction. In Oregon, the state holds logging crews responsible for making a reasonable suppression effort when wildfires occur on their operations. Many contractors have built specialized machines to use in these emergencies, and some have also found work battling wildfires on adjacent property or under the jurisdiction of a government agency. In these situations, the personnel may be required to meet additional safety standards, including supplementary training on fire behavior and coordination with the fire management teams. In addition to defining problems and issues involved in wildland fire fighting, the research focuses on training, policy (especially from a safety aspect), and equipment.

## **Wildland Firefighter Injuries in Idaho and Montana**

*PNASH & Richard Mangan, Blackbull Wildfire Services, pnash@u.washington.edu, blackbull@bigsky.net*

Wildland firefighting is a dangerous business. Between 1990 and 1998, 133 individuals lost their lives during fire activities. While we have reasonably accurate records of the fatalities that have occurred on wildfires, there is little information about firefighters that have suffered non-fatal injuries battling wildfires. Many of these injuries are well known to those who work in the fire environment: slips/trips/falls; cuts from hand tools and power saws; muscle strains; bruises (and worse) from rolling rocks and falling objects. Although this knowledge exists in a general context there is a critical lack of specificity about these injuries that would allow fire managers and safety and health specialists to develop effective plans to reduce them.

To better understand injuries to wildland firefighters, Blackbull Wildfire Services and PNASH are working on a study reviewing injury data on selected large, long-duration wildfires in the Northwest during the 2000 fire season. Analysis is currently underway on the association between the type, severity, and rate of injuries, the class of firefighter involved, and the time spent fighting the fire.



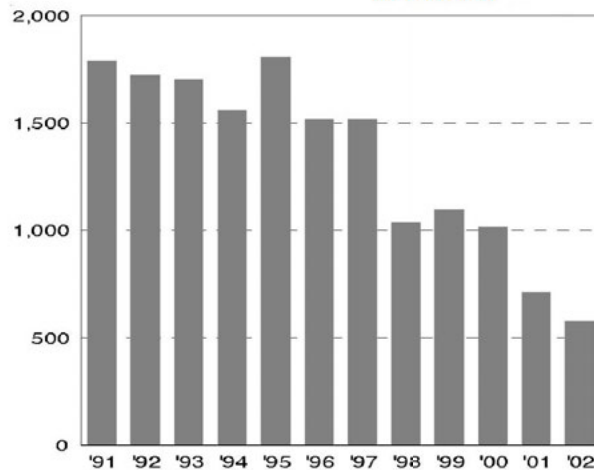
## In the News: Alaska Trends in Logging and Employment

From *Alaska Economic Trends*, December 2003

<http://almis.labor.state.ak.us>, [trends@labor.state.ak.us](mailto:trends@labor.state.ak.us)

In 1991, nearly 1800 workers were employed in logging operations in Alaska. By 2002, less than a third of these jobs (581) still existed. Cutting restrictions unilaterally imposed by the U.S. Forest Service in Alaska in the early 1990s were a major factor in this decline, but a global economic trend is increasingly impacting Alaska, British Columbia, and the Pacific Northwest.

### Logging Employment In Alaska



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

In essence, the growing worldwide production of timber has exceeded demand for most of the past decade. A series of mergers and consolidations in the industry is also a factor, as these companies have closed or consolidated plants in high-cost areas and shifted investments to lower-cost areas, often in the developing world and the American south.

Also during the 1990s, several pulp mills and associated sawmills in southeast Alaska were closed, drastically reducing local processing capacity and

demand. During this period Alaska loggers increasingly relied on the harvest and export of raw logs and rough-cut lumber from private lands to Asia. Asian economies, however, suffered a series of shocks and recessions during the 1990s, and the dollar gained strength against most Asian currencies. Alaskan exports became more expensive and faced increased competition from Russia, China, Japan, Korea, and even the tree farms of New Zealand.

This growing competition from low-wage areas cannot be ignored, especially as Alaska is a high-cost area within the United States, which is a high-cost area within the emerging world economy. In 2001, for instance, timber fallers in Alaska earned an average annual wage of \$60,920, compared to Oregon's \$46,740 and Georgia's \$21,870. Alaska loggers earned nearly twice the annual US average of \$32,580. The difference between US wages and those in developing countries is, of course, far greater, and tree farms located in low-cost areas are expected to capture an ever greater share of world markets.

While most indicators fail to point to any significant revival of the Alaska timber industry, there are a few bright spots. Recent low mortgage rates ushered in a building boom that has increased both the domestic demand for softwood lumber and its price. The decline of the dollar in relation to the euro and the yen has made Alaska exports more affordable, while the rise of the Canadian dollar has increased the cost of Canadian lumber. In addition, some Alaska mills may begin installing dry kilns, a major step toward providing finished lumber for local markets and saving the costs of transporting green lumber south. Lastly the sluggish Japanese economy is showing signs of rebounding.

## News From Abroad: New Zealand Felling Injuries Analyzed

Liz Ashby, Tim Bentley, & Richard Parker

Centre for Human Factors and Ergonomics (COHFE), NZ Forest Research Institute

[www.COHFE.co.nz](http://www.COHFE.co.nz)

Summary of Felling Injuries: An Exploratory Analysis of Logging Tasks and Safety.  
COHFE Report Volume 3, No. 3, 2002

The Forest Research Institute at the Centre for Human Factors and Ergonomics has a 17-year track record in improving worker safety, health and performance. Their 2002 report on felling injuries analyzed data from the logging accident reporting scheme (ARS). A detailed breakdown of the felling task—hierarchical task analysis—was performed and hazards associated with each task component were considered. The full report is available at <http://www.forestresearch.co.nz/>

### COHFE Findings



- 351 felling lost time injuries (LTI) and felling minor injuries were reported to the logging ARS between January 1996 and December 2000, accounting for 23% of all logging injuries reported to the ARS over the same period.
- Approximately one-half of the reported injuries involved lost time, with the rest being minor injuries (less than one complete days absence from work).
- The 173 lost time injuries reported to the ARS resulted in 2227 lost workdays. The average lost time was 13.6 days, indicating that felling injuries tend to be fairly serious. These figures do not account for the considerable time lost due to minor injuries where less than one full day's absence was recorded.
- Much of the faller's task involves assessments of conditions related to the environment, as well as the condition of the tree/s to be felled and the likely risks each tree or stand of trees presents to the faller. Where judgments are poor, the potential for injury is increased.
- The task analysis indicated that fallers undertake a range of tasks other than the act of felling trees, most notably walking, which was associated with 21% of lost days (averaging 13.9 days).
- Sloped, slippery underfoot conditions and obstacles such as rocks and logs present potential hazards that must be considered by the faller in their hazard assessments - slip, trip and fall events accounted for 20% of the injuries.
- There was a late morning peak of injuries - but this peak was greater than that observed for all logging injuries, suggesting felling workers undertaking heavy work may be particularly susceptible to fatigue-related injury.
- The large majority of felling injuries involved the faller being struck by an object, with 'struck by' injuries accounting for 84% of lost days, with an average of 15.6 days.
- Greatest numbers of injuries were reported by inexperienced loggers in their first few months of logging. Particular attention needs to be paid to developing the relevant decision-making skills for inexperienced fallers.
- 28% of injuries were to the head and face area, although they were associated with an average of 8 days per incident, probably due to the use of safety helmets, visors, and protective eyewear.

## Bureau of Labor Statistics: Logging Most Dangerous Job in America

Early in December 2002, a falling tree section struck and killed an 18-year-old logger, making him the last of 104 forest workers to die in 2002. That year, timber cutters led the nation with the highest on-the-job mortality rate of any vocation. The rate of 118 timber cutters per 100,000 workers was more than 26 times that of the average U.S. worker reported the Bureau of Labor Statistics. The fishing industry ran second with 71 fatalities per 100,000 workers, with drowning the most common cause of death.

Overall, the National Census of Fatal Occupational Injuries for 2002 recorded a total of 5,524 fatal work injuries, a decline of 6.6 percent from 2001. The count for 2002 was the lowest ever recorded by the fatality census, which has been conducted yearly since 1992. The fatality rate also reached a new low of 4.0 fatal work injuries per 100,000 workers in 2002. However, fatal work injuries in the agriculture, forestry, and fishing industry increased about 6% in 2002, due to increases in forestry and in agricultural crop production fatalities. (Compiled from CNN Money and US Department of Labor reports)

## Short Splices

### Wildland Fire Summit, eh?

The 7th Annual Wildland Fire Safety Summit, sponsored by the International Association of Wildland Fire (IAWF) was held November 18-20, 2003 in Toronto, Ontario, Canada. Hosted by the Ontario Ministry of Natural Resources, the Summit was attended by 180 delegates and vendors from 9 Canadian provinces, and 16 US states. The agenda covered all aspects of wildland fire safety, including lessons learned from case studies, new safety technology, and aviation safety concerns. The proceedings are available at <http://www.safetysummit.org/>

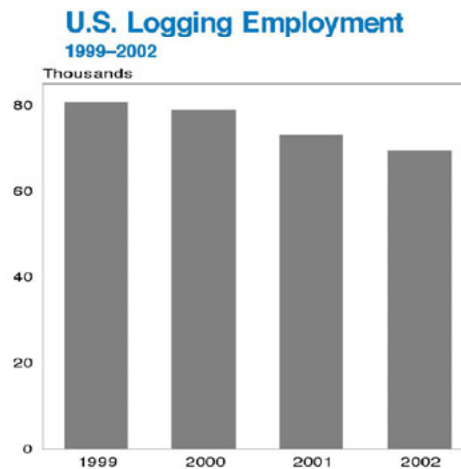
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### New Logging Safety Video and CD ROM

Alaska Dept. of Health and Social Services  
Contact: Debra Choromanski  
[deborah\\_choromanski@epi.hss.state.ak.us](mailto:deborah_choromanski@epi.hss.state.ak.us)

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### Some More Dismal Statistics



Source: U.S. Bureau of Labor Statistics



## Upcoming Northwest Logging and Safety Events

- January 17**      **Washington Logging Safety Conference**  
St. Martin's College, Olympia, WA  
Washington Contract Loggers Association  
800-422-0074
- February 25-28**      **Oregon Logging Conference**  
Theme: Oregon Forests Are the Key to Oregon's Economic Recovery  
Eugene, OR  
[www.oregonloggingconf.com](http://www.oregonloggingconf.com)
- March 15-17**      **Alaska Governor's Safety and Health Conference**  
Theme: Worker Safety – Improving Your Return on Investment  
Anchorage, AK  
[www.labor.state.ak.us/lss/agsc/](http://www.labor.state.ak.us/lss/agsc/)
- March 9-11**      **Cascade Occupational Safety & Health Conference**  
Eugene, OR  
[www.cbs.state.or.us/external/osh/educate/conferences/confer.htm](http://www.cbs.state.or.us/external/osh/educate/conferences/confer.htm)
- June 13-16**      **International Mountain Logging Conference**  
Topics including transportation and harvesting safety  
Vancouver, BC Canada  
[www.feric.ca/en/wd/home/events/](http://www.feric.ca/en/wd/home/events/)
- July 27 – August 6**      **OSHA 3070 – Safety and Health in Sawmills and Logging Operations**  
Location to be determined  
[www.osha-slc.gov/fso/ote/training/](http://www.osha-slc.gov/fso/ote/training/)
- September 21-24**      **Central Oregon Occupational Safety & Health Conference**  
Redmond, OR  
[www.cbs.state.or.us/external/osh/educate/conferences/confer.htm](http://www.cbs.state.or.us/external/osh/educate/conferences/confer.htm)
- September 29-30**      **Washington State Governor's Safety and Health Conference**  
Spokane, WA  
<http://www.lni.wa.gov/wisha/gov-conf/>
- October 20-21**      **Southern Oregon Occupational Safety & Health Conference**  
Medford, OR  
[www.cbs.state.or.us/external/osh/educate/conferences/confer.htm](http://www.cbs.state.or.us/external/osh/educate/conferences/confer.htm)

*Note: Additional events and courses are offered to members of state contract logging associates.  
Please contact your association for more information.*

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## Logging Safety Information Resources

Logging Safety Research, NIOSH  
[www.cdc.gov/niosh/injury/traumalog.html](http://www.cdc.gov/niosh/injury/traumalog.html)

Logging Safety Recognition, Control, and Standards, OSHA  
[www.osha-slc.gov/SLTC/logging/index.html](http://www.osha-slc.gov/SLTC/logging/index.html)

National Timber Harvesting and Transportation Safety Foundation  
[www.logginsafety.com](http://www.logginsafety.com)

Forestry Safety Topic Center, British Columbia Worker's Compensations Board (BC WCB)  
<http://forestry.healthandsafetycentre.org/s/Home.asp>