

# A Look at Logger Training after 35 years

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**ABSTRACT:** Nearly thirty five years ago an assessment was made of logging training in the Pacific Northwest for the Pacific Logging Congress. Today logging training is still a paramount concern of the industry. With 55% of Oregon's logging workforce over age 45, there will be changes coming in the near term. Logging training has not been successful in institutions, in special training programs funded by government grants, nor in most firms who lack the resources to conduct the training they need. What has been tried? What had success? What failed? What are the best prospects for the future? What are the obstacles to training? What are the economic and other benefits of training for the firm and the forestry sector? This review covers 35 years of activities in the U.S., Europe and other countries. What will work in the future is also discussed and prospects for success are outlined.

## INTRODUCTION

Nearly thirty five years ago, the author conducted a review of logging training in the Pacific Northwest (including Idaho, Montana, and California) to establish the status of logging training. The review set the research agenda for the author and associated colleagues in the region. Now as the PNW comes out of a deep recession, training needs are emerging as forestry workforces expand during the recovery. Safety issues and insurance costs remain as important issues in logging. For example, the workers compensation rate for non-mechanized logging (generally cable logging and manual felling) is set at \$19.61 per hour worked making it equal to the prevailing wage for many logging jobs. It is instructive to look at the changes from the first assessment years ago to the current circumstances in a series of tables and commentary.

## THE PEOPLE

Table 1. below compares some dimensions relating to the people involved in logging from the late 1970's to today. The original review characterized the typical worker of the day and is shown below in comparison to two characterizations of the logging workforce of today.

### Worker of late 1970's

*From the time he was old enough to help out around the place, he was picking up skills that would serve him as a logger. He learned to use hand tools, to use simple rigging to multiply his strength, and to grab a wrench to fix something mechanical that failed. Most importantly, he learned to work hard for long hours until the job was done. He started out in logging, successively acquiring skills in every area from choker-setting to timber falling. He worked for no fewer than ten different outfits and he learned from the men he worked with. Now in the twilight of his career, he notes some differences in the logging work force.(Garland, 1979)*

### Dual Workforce of Today

#### Generation Y

*From the time he played his first video game, he operated all devices. He likes games but not hard work. He hasn't had to work at menial jobs and lacks fitness and stamina. He can read but prefers texting to people rather than talking face to face. He deserves a high paying job that allows time for friends and family.*

*Immigrant Worker*

*From the time his parents came here, he worked hard in the fields with them for long hours. His language and technical knowledge are not strong. He can work in difficult conditions but distrusts bosses and authority. He expects others to look out for themselves as he does. He prefers working with others like himself.*

Another significant difference is that the current workforce is aging with loggers in PNW states reaching a level between 50-60% of workers over age 45. A review of Idaho log truck drivers found that in a group of 300+ drivers, over half were over age 66 (Garland, 2008). There are problems recruiting workers in logging making the age distribution worse compared to a balance age class of the first review. Also, the logging workforce has shrunk to less than half the size of the earlier workforce and loggers have lost comparative income and social standing of prior years. Now some of those supporting the mechanized logging industry as mechanics, computer technicians, machine shops are not recognized in the logging workforce statistics.

Table 1. The People

LATE 1970'S	TODAY
Greatest Generation WWII & Baby Boomers	Generation X & Generation WHY? Plus Immigrant Workers
Balanced Age Distribution	Aging Workforce
Adequate Recruitment of New Workers	Shortage of New Entrants to Workforce
Attitude: Work performance defines person	Attitude: Family, friends, social life as important as work
Above average income & social standing	Average or below income & diminished social standing
Workforce significant size compared to all workers, rural communities dependent on timber	Half the workforce remains, insignificant compared to all workers, understated support workers, eg mechanics, trucking

## THE INDUSTRY

The forest industry has undergone radical changes from integrated forest and mill owners to real estate investment trusts using timber management organizations to contract for timber harvests. Corporate logging camps with large logging employment have been replaced with small contractors of 6-10 employees on average. Many logging firms are sole proprietors or small partnerships in felling, trucking or shovel logging. Table 2. Shows further differences.

Table 2. The Industry

LATE 1970'S	TODAY
Integrated forest and mill owners & federal timber dependent mills	Real estate investment trusts & timber industry management organizations
Corporate logging with workers exceeding 200 in logging camps & large contractors	Contractor firms with average firm size 6-10 employees, few corporate loggers
Forest Service timber sales & private industry logging with high harvest levels, little export	Half the harvest levels, little government timber except state sales, shift to South for timber, export markets
Many mills, many markets, many products	Limited markets, few mills, and emerging products, eg, biomass

## THE OPERATIONS

This review cannot chronicle the technological changes in logging ranging from lighter, faster chainsaws, mechanical harvesting machinery, or synthetic rope to replace wire rope, but it does need to make general observations. Table 3. contrasts the mechanization trend away from motor manual operations and the reduction in the size of timber harvested. Less obvious trends in the PNW are the major uncertainties facing logging owners where the planning horizons are so short as to make equipment replacement a real challenge and profitability of the firm in doubt. Some good logging firms did not weather the recession.

Table 3. The Operations

LATE 1970'S	TODAY
Motor manual operations on flat, moderate & steep slopes w/beginning mechanization	Cable/motor manual on steepest slope, mechanized operations on flat to steep slopes, inc. felling with machines
Timber size often meter plus in diameter,	Timber size around 30-50 cm diameter, low

high volumes per area, log length operations	volumes per area in thinning, partial cuts, tree length operations
Consolidated operating areas & year plus planning horizons	Widely scattered operations & uncertain planning horizons, eg, next unit ????
Well managed operations profitable	All operations marginally profitable, recession caused firms to fold
Machine replacement scheduled	Old machines, run to failure, new machines needed

### SAFETY

Table 4. shows trends relating to safety. Logging safety and training are linked but definitive studies to show cause and effect have not been prevalent. It is difficult to show the accident that did not happen was due to some preventive measures. Still progress has been made particularly in fatal logging accidents as shown in Figure 1. for Washington state which mirrors the progress in the other states as well. Figure 2. shows the Oregon claims over time with the recession year of 1980 evident where it took 6 years for the number of incidents to return to levels prior to the recession and 4,920 additional loggers were injured in next 4 years with direct cost of claims reaching \$63,960,000. If a similar trend were to occur for this recession, the new workers getting themselves injured would severely impact the existing experience workers and jeopardize the knowledge base in logging.

Finally, older workers have traditionally been safer workers; however, Figure 3. shows an increase in the share of accidents by older workers even as the total number of accidents decreases. From 2000 to 2009 half the logging fatalities occurred to workers over age 45, and the claims for workers over 45 have increased from 22% to 40% (2000 to 2011).

Table 4. Safety

LATE 1970'S	TODAY
High accident rates, high fatality rates	Improved accident rates, much lowered fatal rates
Logging seen as dangerous and difficult	Logging seen as difficult, dangerous, dirty and declining
High workers comp rates	Lower workers comp rates in mechanized class but high in motor manual class

Older workers safer workers	Older workers having accidents and health problems, musculoskeletal injuries
1980's recession had high accidents during recovery	Current recession may have high accidents during recovery
Search for relation between accidents and safety improvement measures	Cause and effect between safety improvements difficult to establish

## TRAINING

The previous discussion documenting changes in the forestry sector informs our understanding of the changes to training in logging over the past years. Table 5. again highlights the changes. Prior to the 1970's the on-the-job, work by me training was the dominant form of passing knowledge and skills to the new workers who were often related to other crew members. It is not true that there was no learning taking place with this approach but there was little technical training. From the late 1970's to the present, many training approaches were tried in the PNW and around the world but still today an objective comparison of logging to construction, for example, would conclude there is still a low level of training in logging. Even in developed European forestry countries and in the US, there is less training today than in the past although there are many different ways to provide the training.

The author's first article documented the obstacles to training for firms and found the following:

- 32% lacked time to conduct training*
- 17% felt the size of operation was unsuitable to conduct training*
- 17% felt training would be too expensive*
- 8% liked the informal on-the-job training model*
- 6% lacked personnel to do training*
- 5% saw risks and insurance problems associated with training*
- 5% saw union problems associated with training*
- 4% felt it would be difficult to interest workers in training*
- 3% felt workers would leave after being trained.*

Over the years some of these obstacles were addressed by research, eg, Garland (1990) found firms could recoup the costs of training within such a short time frame that workers would be unlikely to leave before the payback for the training. Some obstacles were made irrelevant by changes in the industry. Union problems with training is nonexistent as the workforce is almost non-unionized, plus unions supported training. Insurers are now supporting logging training efforts and what is the greater risk a worker in supervised training

or an untrained worker attempting the job without any skills or guidance? To be sure, small firms lack the time, resources, personnel, for potentially expensive training and because they were trained on-the-job, they prefer that method. Firms miss the point that designed on-the-job , field-based training can be effective.

With the highly competitive market among logging firms today, other obstacles have been stated by some leaders in the logging community. These include:

*No capacity for training—minimal crews and can't find workers for jobs at all*  
*If I train workers, I put a target on them for hiring away*  
*I am in competition and don't want to have to compete with those who train*  
*Can't send them off to school*  
*They don't pay me enough to train*

When leaders express such force for obstacles, it has the strength of a groundswell rather than cooperative efforts among firms to have the rising tides lift all boats in the logging sector.

The unsustainability of logging training is particularly evident for the institutions over time. There have been numerous attempts by educational institutions, non-profit organizations, and industry consortiums to conduct logging training. For example, in the late 1970's Oregon had about 25 forestry programs, most of which provided training so high school graduates might get a safe start in a logging job. Today there are 45 natural resources/forestry programs and only 5 have teachers with skills or interest in teaching logging skills. Community colleges often started logging training programs with local industry support but found them expensive and when the grants ran out, so did the training. Grant funded examples abound with the grantees getting the funds and the trainees getting the short stick (log?). Among the worst programs were the workforce redeployment schemes that would take the chronically unemployed, put them in a logging/conservation, pay-while-training course taught by pseudo-ecologists. Few trainees made it to a woods job and the author is chagrined at trying to help such programs. There was even a futile federal attempt to impose apprenticeship concepts on logging similar to those in plumbing or electrical work.

One significant improvement for logging training over time is the development of training approaches centered on the learner. Rather than have the trainee watch an experience worker and guess at the principles and techniques involved, training materials ranging from plastic cards to DVDs used in the field are available for training. Some materials are in the languages of the immigrant workers found in the workforce. Many good training materials are available with little or no charge although a central clearinghouse is still lacking. Equipment companies have made logging a priority and provide simulator training along with "You-Tube Videos" to help in training. In fact there is competition among the large logging equipment firms to provide the best simulator training.

After more than three decades of attempts by educational institutions and government funded logging training programs with their limited success, some new concepts of logging training are in order. It has come to the author's understanding that the locus of training needs to be the firm itself. One-size-fits-all classroom training of groups of trainees modeled after the schooling that many logging employees found unattractive is not the way to successful logging training. Each firm and individual needs skill development differently than that offered by group training. Certainly some group training events make sense but not entirely as a program for the logging industry. After years of limited successes and many failures, the author believes training within the firm by individuals called "Logging Masters" may be the only potentially successful approach. Logging Masters are competent loggers who have been coached on how to train the new workers in the firm. They would tailor the training to what the firm needs and the employees already committed to work at the firm. Logging Masters would receive initial training themselves and then they as a group would form a "Logging Masters Association" to provide mutual support within the sector to each other. There is precedent in the author's Extension work with the Master Woodland Manager program he helped create and continues to provide peer-to-peer informal education on managing woodland properties among landowners. Several proposals have been made for such a project but funding for start-up has been missing to date.

For decades, supporters of logging training have hoped to show that training can reduce accidents in logging. While some studies show changes in risk behaviors result from logger training, the research difficulties in showing cause and effect relationships are formidable. Bell and others have shown that mechanization which includes the necessary training to function can reduce accident rates in felling (Bell et al, various dates). Productivity gains can be demonstrated and when all benefits of training are considered, there are significant documented gains from training (Garland, various dates). What can be significant is that for safety codes for forest activities in Oregon, training and supervision requirements have replaced many of the unwieldy prescriptive "don't do that" codes. The neighboring states often base their logging safety codes on Oregon's codes. The larger forest industry mandates training for safety and environmental issues through the voluntary Sustainable Forestry Initiative (like other certification schemes) but that training does generally not include skill training for actual workers.

There is still limited capacity for training within the forestry sector of the PNW but there has never been greater need for training forest workers. What continues to be lacking is the commitment to cooperative efforts among firms and organizations to implement a firm-based training strategy like "Logging Master."

Table 5. Training

LATE 1970'S	TODAY
Low level of designed training: work by me training predominates	Low level of training but more different training modes used
Obstacles to training identified: most still remain	Obstacles to training remain and new obstacles emerge
Institutional training attempted	Institutional training not sustainable
Training medium limited to classroom & field: few simulators	Training medium offers many options: pubs to internet and age of simulators
Government and educational institutions seen as location of training	Training within firm may be only way to achieve with association support
Training seen as key to safety but linkage not established	Training to achieve safety, productivity, quality & environmental performance
Limited training capacity in trainers & institutions	Greater capacity for training with commitment of the firm & sector

## CONCLUSION

While nothing stays the same and changes have occurred, too many of the strategic obstacles to logging training remain. Greater needs and possibilities for logging training exist today than ever. Leadership to make logging training the force for the good of the sector it can become.

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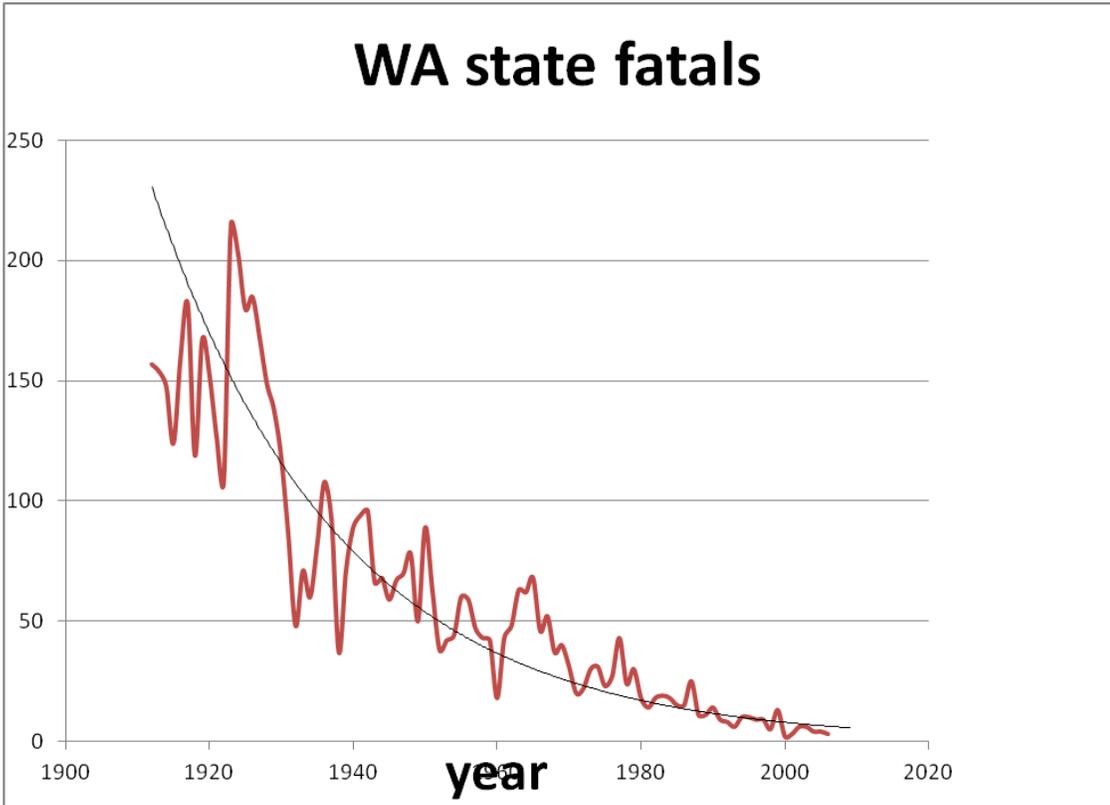


Figure 1. Logging fatalities in Washington State over time (WA Dept. of Labor & Industries)

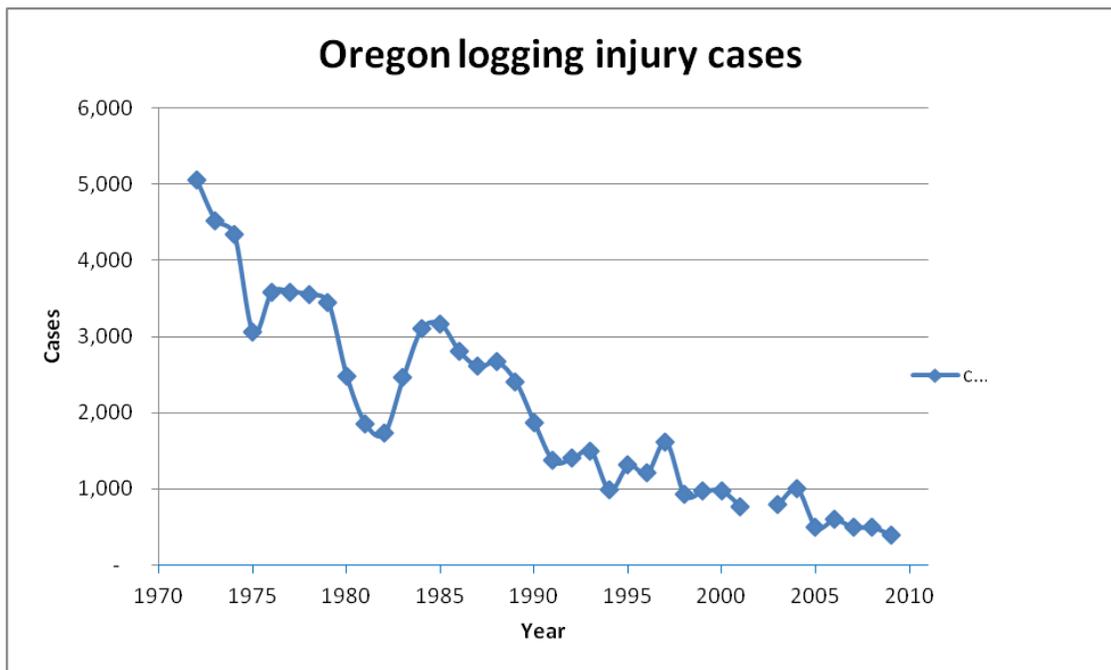


Figure 2. Logging claims over time with recession years of 1980-81 shown

Logging Claims by age and year

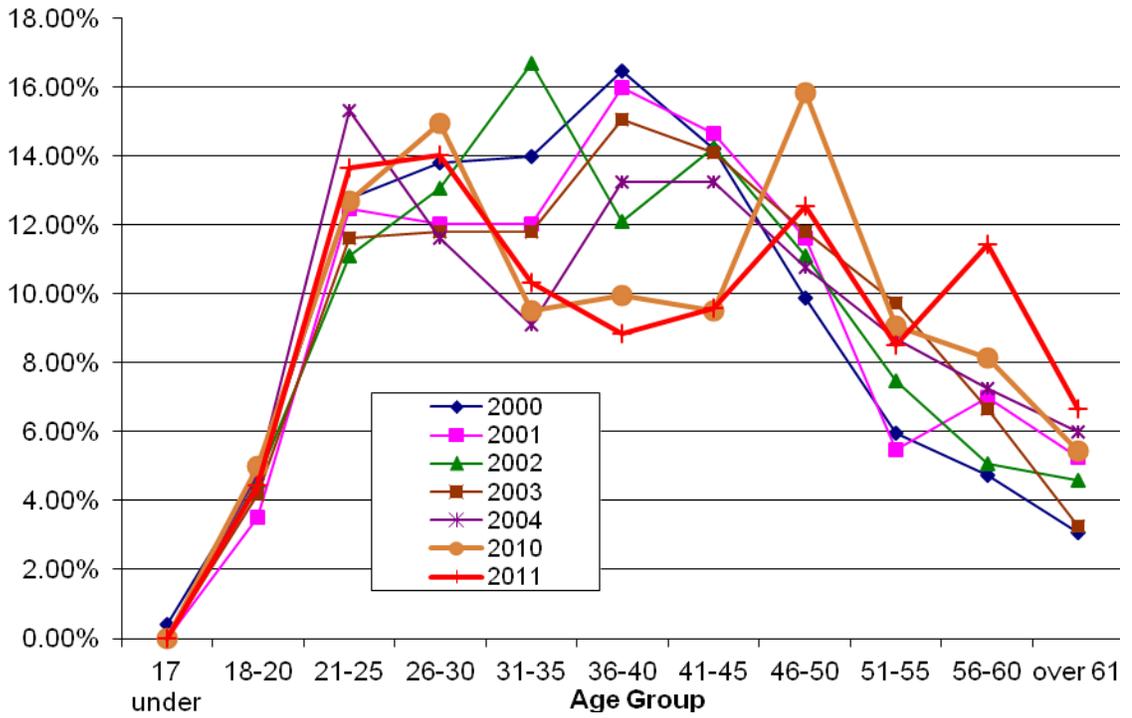


Figure 3. Oregon logging claims by age with older workers having increasing share of accidents.