



MECHANIZED FELLING REDUCES WEST VIRGINIA WCI CLAIMS

Workers' Compensation Insurance: safety

October 2005

www.forestresources.org/members/serpub/05-r-31.html

INTRODUCTION: Logging is often considered the most dangerous occupation in the United States [BLS 2003]. Despite the risks, logging is a very important component of the wood products industry in West Virginia, contributing approximately \$1.4 billion to the state's economy each year [U.S. Census Bureau 1997; Hodgetts and Freese 2000].



Fig. 1: An examination of West Virginia Workers' Comp claims shows strong reductions in claims on operations with mechanized felling.

Because of the high injury rate in logging, many state and federal agencies, as well as logger and industry groups, have been working on ways to make logging safer. A recent study [Bell 2002] conducted by the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health (NIOSH) examined the injury claim rate among West Virginia logging companies over a six-year period (1995–2000).

METHODS: The study looked at the injury claim rate in eleven companies that used mechanized felling. The overall injury claim rate for these companies was examined for about two and a half years before and about two years after they introduced mechanized felling. No decline in employment occurred after mechanization: the average number of workers per company was 5.2 before mechanical harvester use and 6.5 after.

FINDINGS: The injury claim rate dropped significantly with the introduction of mechanized felling. The injury claim rate was 19.4 per 100 workers before mechanized felling, compared with 5.2 per

100 workers after mechanized felling began. The injury claim rate for the rest of the West Virginia logging industry not using feller-bunchers was 16.6 per 100 workers.

The *struck by an object* injury claim rate also dropped, from 10.1 per 100 workers before mechanization to 1.9 per 100 workers after mechanization. The decline in *struck by* injuries is especially important, in that these injuries tend to be the most serious (most fatalities are the result of a *struck by* injury).

Mechanization and the "Loggers' Safety Initiative"

NIOSH was also able to compare workers' compensation injury claim rates for 20 fully or partially mechanized companies and 68 non-mechanized (fully manual) companies participating in the West Virginia Loggers' Safety Initiative

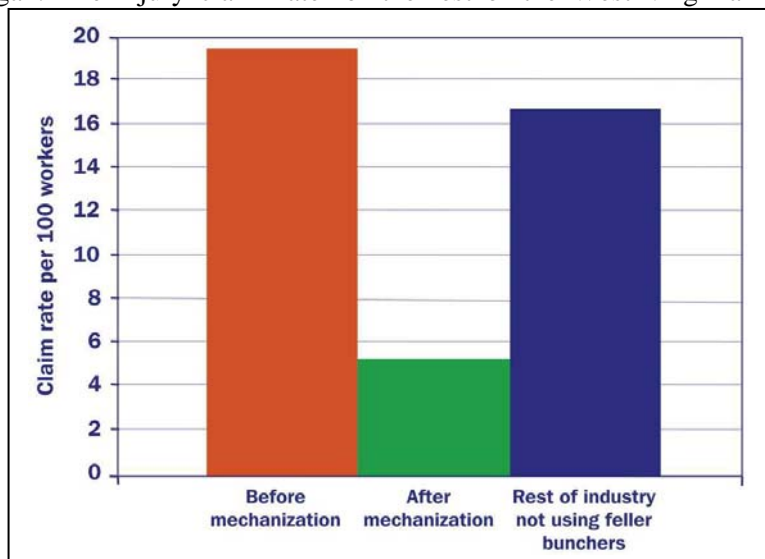


Fig. 2: Workers' Compensation claim rates before and after introduction of mechanized felling for the sampled group.

(LSI). This program provided training to enrolled logging companies to reduce the frequency and severity of logging injuries. A company was considered to be mechanized if it was recorded as using a feller-buncher during at least one LSI on-site inspection. The mechanized companies had an average injury claim rate that was less than half that of the non-mechanized companies during the time they were in the LSI. This result demonstrates that mechanization can produce large reductions in injury claims, even within a group of loggers pre-selected for safe practices.

Potential for Reducing Injury Claim Amounts

During this study period, the average amount of a Workers' Compensation injury claim in the West Virginia logging industry was \$10,400. Companies not using feller-bunchers during the study period had an injury rate of 16.6 per 100 workers, or 11.4 more injuries per 100 workers than the mechanized study group (5.2 per 100). Thus, assuming that the use of mechanized felling machines would be feasible for all companies not using feller-bunchers and that the amount of an injury claim remained constant before and after mechanization, injury claims could be reduced by \$118,560 per 100 workers.

The number of logging companies that could become mechanized is currently unknown. However, injury claim amounts could be reduced by about \$900,000 each year if 50% of the approximately 1,500 logging workers covered by the state Workers' Compensation system worked for a mechanized company. (This figure reflects only potential injury claim reduction for the state Workers' Compensation system and is not meant to be an in-depth cost analysis.)

CONCLUSIONS: Logging companies in West Virginia using mechanized harvesters had a significantly lower Workers' Compensation injury claim rate than did the rest of the West Virginia logging industry. Companies that were only partially mechanized (feller-buncher plus chain saw operators/fellers) still showed a significant reduction in the rate of injury claims. The use of mechanical fellers will be limited in some areas because of economic and other constraints, such as the cost of purchasing felling machines and the steepness of the terrain. However, the West Virginia logging industry as a whole may see substantial declines in injury claim rates if mechanized fellers are used whenever possible.

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