

ANALYSIS OF LOST TIME ACCIDENTS - 1992 LOGGING (Accident Reporting Scheme Statistics)

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INTRODUCTION

This is the eighth year of data collection by the Accident Reporting Scheme (ARS). A notable trend in the 1992 accident data was the reduction in chainsaw inflicted lacerations to the feet.

Table 1 - Accidents recorded by the Scheme for 1992

| | 1991 | 1992 |
|----------------------------|------|------|
| <i>Fatal Accidents</i> | 7 | 9 |
| <i>Lost time Accidents</i> | 218 | 197 |
| <i>Minor Accidents</i> | 45 | 36 |
| <i>Near Miss Accidents</i> | 47 | 32 |

Lost time accidents expressed as a proportion of the number of employees engaged in "logging and timber felling" has decreased from 87.2 lost time accidents/1000 employed in 1991 to 67.9 in 1992.

ANALYSIS OF 1992 LOST TIME ACCIDENTS

Lost Time Per Accident

Of the 197 lost time accidents, the average number of days lost per accident was 10.4 ± 2.1 which is not statistically different from the 12.5 ± 2.4 days lost per accident in 1991. The number of days lost ranged from 1 to 117 days. The number of days lost is frequently estimated so caution must be used when using "number of days lost" information.

The distribution of lost time per accident is similar to that of 1991. More than half the accidents resulted in between 1 to 5 days off work (52%). These accidents may not come to the attention of the Accident Compensation Corporation which typically records information on injuries resulting in more than 5 days off work. As in 1991, a large proportion of the accidents were very serious resulting in 21 or more days (more than 4 weeks) off work (20%). Distribution of lost time per accident is shown in Figure 1.

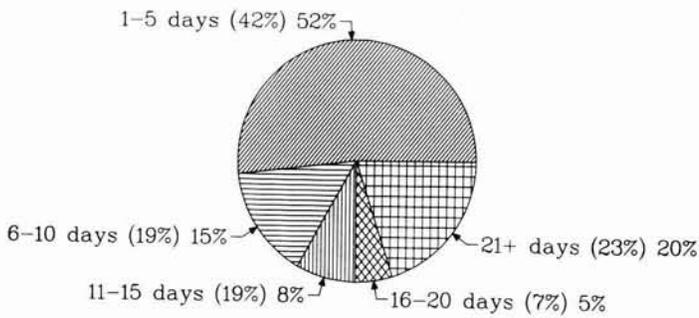


Figure 1 - Distribution of Lost Time per Accident (1991 equivalent in brackets)

A total of 2053 days were lost, which is 8.7 man years. The equivalent figure in 1991 was 2752 days or 11.7 man years.

Time of Day of Lost Time Accidents

As in previous years, the trend for more than one third of the accidents to occur in the first third of the day continues. However most accidents may occur before 10:01 am because this is the one period of the day when almost all loggers will be working. After that time crews will be having smokos (commonly at 10 am, 10:30 am or 11 am) so less loggers will be exposed to injury causing situations.

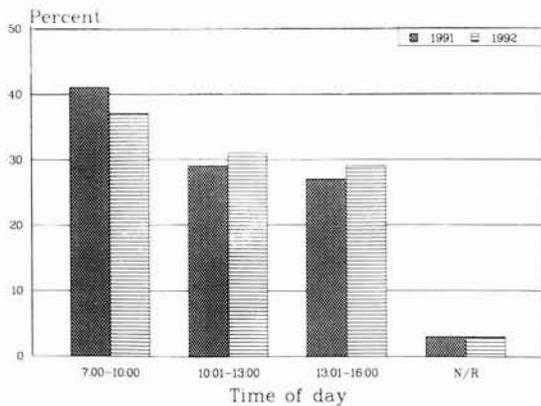


Figure 2 - Lost Time Accidents by Time of Day

Afternoon smokos may account for a similar proportion of lost time accidents occurred in the periods from 10:01am to 1:00pm (31%) and 1:01pm to 4:00pm (29%). In addition the rate of work

(trees/hour) will decrease later in the day, further reducing the exposure of loggers to hazardous situations. It is important that time of accident occurrence is recorded and it is to the industry's credit that only 3% of reports did not include this valuable information.

Type of Operation

The proportion of clearfell accidents increased by 7% and lost time accidents reported from thinning operations decreased by a similar amount. This reflects the increased clearfelling activity in comparison to thinning over the past year. Injuries inflicted in "other" operations were during trucking operations (eg. "hinged stanchion fell on hand") and travelling to/from work ("head-on collision on bridge").

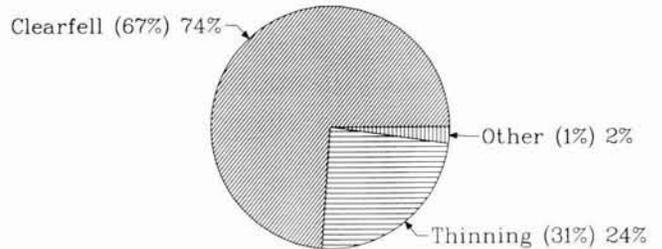


Figure 3 - Lost Time Accidents by Type of Operation (1991 equivalent in brackets)

As in previous years most lost time accidents, 57% (60%) occurred in skidder operations. However, the proportion of accidents reported from hauler operations has increased from 10% in 1987 to 18% (21%) of all lost time accidents in 1992. This increase is considered to be due to the greater number of hauler systems now operating. Accidents in tractor operations, 19% (16%) are up slightly on previous years although this increase is not statistically significant.

Lost Time Accidents and Logging Task

Felling and trimming were the most dangerous parts of the logging operation

Table 2 - Accident Severity - Clearfelling versus Thinning * (Days Lost)

| Type of operation | Number of injuries (1992)* | Severity (days lost per accident) | |
|-------------------------|----------------------------|-----------------------------------|------|
| | | 1991 | 1992 |
| Clearfell | 145 | 17 | 12 |
| Thinning | 48 | 12 | 7 |
| All Lost Time Accidents | 197 | 15 | 10 |

* The number of observations does not correspond with the data in Table 1 due to missing information about the amount of time lost. This follows in all analyses involving time lost.

accounting for 28% (29%) and 25% (26%) of lost time accidents respectively. Skid work and breaking out continue to be third and fourth ranked respectively.

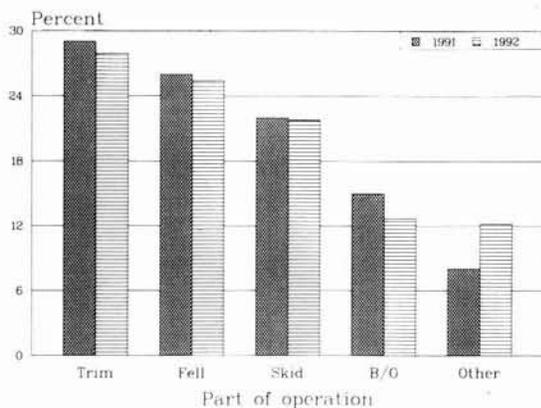


Figure 4 - Lost Time Accidents by Part of Operation

The proportion of accidents occurring on skid sites remained unchanged, 22% (22%) and the proportion of accidents during breaking out was similar to 1991, 13% (15%). Lost time accidents classified as "other" included "walking to smoko, slipped in slash on to saw" resulting in laceration to the left arm and 1 day lost time and "clutch came off saw while repairing, no cover" resulting in lacerations to the head and one week lost time. The remaining "other" accidents were vehicle related, often during travel in

the forest, to or from work or injuries to machine operators (e.g. "head injuries to skidder operator when he loses control of the machine on a steep slope") and loading trucks (hand injury to driver).

Lost Time Accidents and the Location of Injury

The feet and lower legs were again the most frequently injured parts of the body accounting for 16% (21%) and 24% (20%) of lost time injuries respectively.

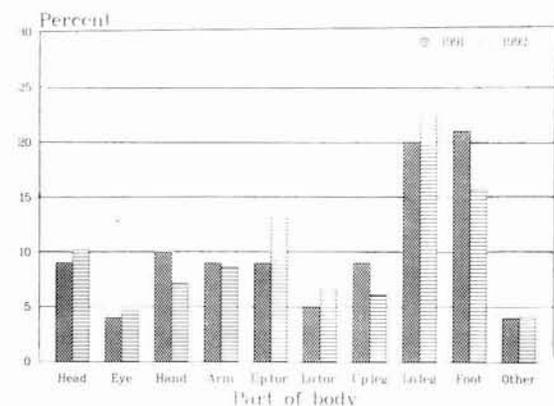


Figure 5 - Lost Time Accidents by Part of Body

The proportion of lost time injuries inflicted to the hands continued to decrease from 16% in 1990, to 10% in 1991 down to 7% in 1992. This decrease is due to a 53% reduction in chainsaw inflicted

Table 3 - Injuries to the Hands, Legs and Feet

| Part of Body | Number | Cause of Injury | | | |
|--------------|--------|-----------------|----|-------|----|
| | | Chainsaw | | Other | |
| | | No. | % | No. | % |
| Hands | 13 | 7 | 54 | 6 | 46 |
| Upper Leg | 12 | 7 | 58 | 5 | 42 |
| Lower Leg | 47 | 12 | 26 | 35 | 74 |
| Feet | 31 | 17 | 55 | 14 | 45 |

injuries to the hands compared with only a 14% reduction in hand injuries due to other factors such as crushing or lacerations from sprags. Improved chainbrakes, greater use of the mitt and greater training may be responsible for fewer chainsaw lacerations to the hands.

The lower leg was injured almost four times more frequently than the upper leg. Rolling logs causing fractures, bruising and crushing injuries accounted for 34% (12/35) of the "other cause" lower leg injuries.

The total number of foot injuries was 30% fewer than in 1991. Most of this reduction was due to a 40% reduction in chainsaw injuries compared with only an 18% reduction in injuries due to "other causes". The greater use of chainsaw cut resistant rubber boots may be a contributing factor to this decrease in chainsaw inflicted injuries to the feet.

CONCLUSION

Changes in workplace safety legislation and the potentially high penalty levies of ACC have made it essential that the logging industry makes **serious** efforts to improve its safety record. One focus of the Health and Safety in Employment Act is the **LEGAL REQUIREMENT** for all

employers and employees to report ALL accidents in order to gain an accurate measure of accident rates in terms of type, severity and cause of injury so efforts to improve safety are focused. Minor injuries and near miss incidents are also valuable information which help in the assessment of trends in accident type and severity and identify problems with protective clothing or equipment.

The number of lost time accidents reported in 1992 (197) is fewer than in 1991 (218). Hopefully this represents a true reduction in the frequency of injury rather than a reduction in the level of reporting.

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