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ANALYSIS OF LOST TIME ACCIDENTS - 1993

LOGGING

(Accident Reporting Scheme Statistics)

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INTRODUCTION

This is the ninth year of data collection by the Accident Reporting Scheme (ARS). Twenty five percent more lost time accidents were reported this year as a result of the Forest Owners' Association adopting the scheme as their official accident reporting system. Other differences from last year include a significant increase in the average number of days lost, more strain and sprain injuries reported, an increase in the proportion of accidents during the felling phase and a decrease in the proportion of trimming accidents.

Table 1 - Accidents Recorded by the Scheme

	1992	1993
Fatal Accidents	9	6
Lost Time Accidents	197	246
Minor Accidents	36	37
Near Miss Accidents	32	46

ANALYSIS OF 1993 LOST TIME ACCIDENTS

Lost Time Per Accident

The average number of days lost per accident was 13.1 ± 2.1 which is significantly greater than 10.4 ± 2.1 days lost per accident in 1992. The number of days lost ranged from one to 360 days. The number of days lost is frequently estimated so caution must be used when interpreting "number of days lost" information.

The distribution of lost time in 1993 is very similar to that of 1992. The majority (60%) of accidents resulted in one to five days off work. These accidents do not come to the attention of the Accident Rehabilitation and Compensation Insurance Corporation (ACC) Integrated Information System database which records information on injuries resulting in more than five days off work. Serious (six to 10 days lost) and very serious (more than 21 days lost) accidents were the second most common group making up 17% and 16% of all lost time accidents respectively (Figure 1).

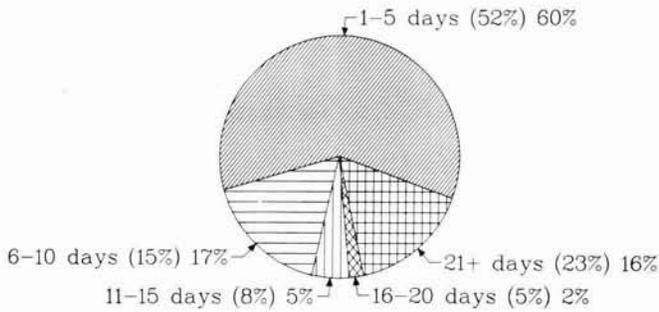


Figure 1 - Distribution of Lost Time per Accident (1992 equivalent in brackets)

A total of 2747 days were lost and at 236 working days per year equates to 11.6 years of lost time. This compares with 8.7 years and 11.7 years in 1992 and 1991 respectively. This greater number of days lost is considered to be due to an overall greater level of reporting and an increase in severity (Figure 1).

Time of Day of Lost Time Accidents

Almost half (43%) of all lost time accidents occurred in the first third of the day to 10:01 am. This trend has been seen in previous years and may be due to a number of factors. The first run of the day is the longest continuous work period (minimum three hours, 7:00 am to 10:00 am) and this is the one period of the day where almost all loggers will be working

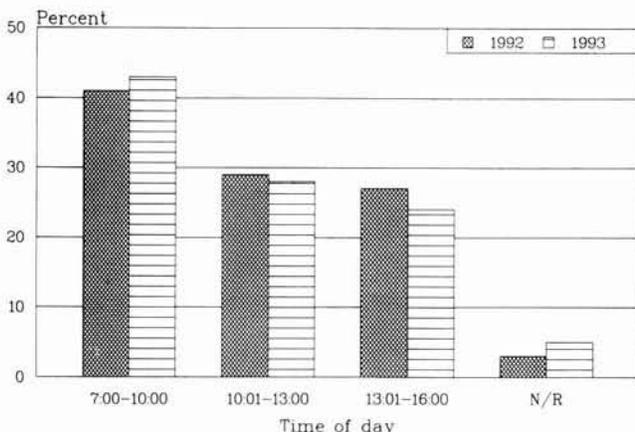


Figure 2 - Lost Time Accidents by Time of Day

and exposed to injury causing hazards. After that time logging crews will break for smoko; less loggers will be working so fewer will be exposed to injury causing situations.

The distribution of accidents across the day has not changed significantly since 1992. It is important however, that the time of accident occurrence is reported. In 1993 5% of reports did not have this valuable information compared with only 3% in 1992.

Type of Operation

The proportion of lost time accidents in clearfell and thinnings operations has changed little since 1992 (Figure 3). Clearfell operations account for the vast majority of lost time injuries; this is reflected in the greater level of clearfell activity in comparison to thinning.

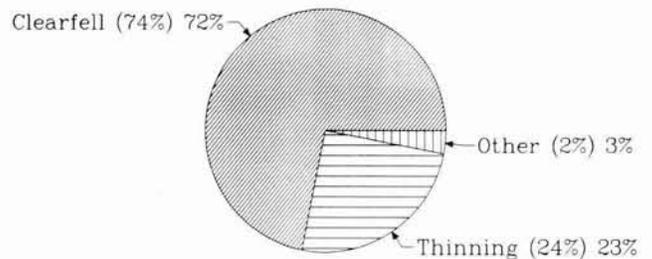


Figure 3 - Lost Time Accidents by Type of Operation (1992 equivalent in brackets)

Following the trend seen in previous years the greatest proportion of lost time accidents, 54% (57%) occurred in skidder operations. Hauler operations continued to account for the second greatest number of lost time accidents with 18% (18%). As a proportion of all lost time accidents, tractor operations are slightly down on last year, 15% (19%).

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

Type of operation	Number of injuries (1993)*	Severity (days lost per accident)	
		1992	1993
Clearfell	178	12	15
Thinning	57	7	5
All Lost Time Accidents	246	10	12

*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 lost time.

Lost Time Accidents and Logging Task

Felling and trimming are again the most dangerous parts of the logging operation accounting for 32% (25%) and 24% (28%) of lost time accidents respectively. For the first time since 1990 felling accounted for a greater proportion of lost time accidents than trimming. Greater use of mechanised delimiting and protective leg and footwear may have contributed to the decline in the proportion of trimming accidents.

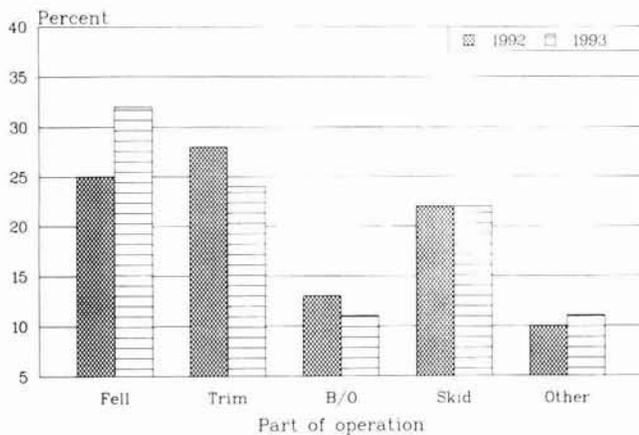


Figure 4 - Lost Time Accidents by Part of Operation

The proportion of accidents occurring during skid work has not changed in the last three years and remains at 22%. Breaking out accidents however, follow a decreasing trend, comprising 11% of lost time accidents (13% and 15% in 1992 and 1991 respectively). Lost time accidents classified as "other" included travel to

work (for example "hit fallen tree on road", "met truck on blind corner", "collision with truck in dust"), maintenance activities (for example "dropped petrol can and splashed in eye") and rigging ("hit by guy rope", "hit by tower").

Lost Time Accidents and the Location of Injury

As in previous years the lower legs and feet are the most frequently injured parts of the body accounting for 15% (24%) and 13% (16%) of lost time injuries respectively.

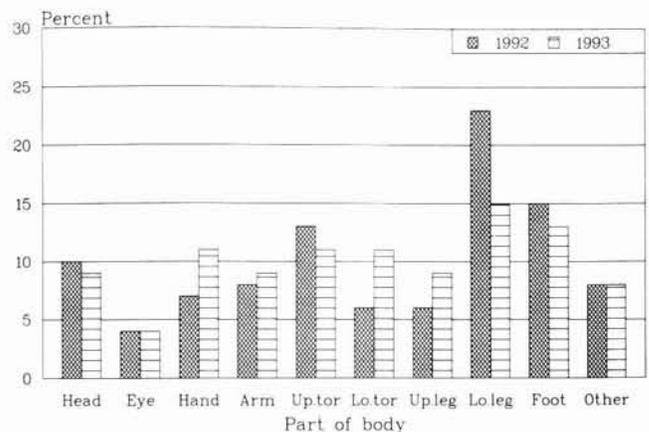


Figure 5 - Lost Time Accidents by Part of Body

Injuries to the hands, as a proportion of all lost time injuries, have increased from previous years 11% (7%). There were 28 injuries to the hands in 1993 compared with 13 in 1992. The greatest increase

was in "other" hand injuries which included two skidder operators suffering broken fingers when branches flicked into the cab, two truck drivers crushing hands under stanchions, (one resulting in amputation), two severe sprag injuries when unhooking drags and one faller suffering lacerations from the sharp edges of a wedge.

The lower torso is the part of the body with the biggest increase in reported lost time injuries. For the first time in nine years of data collection injuries to the lower torso have exceeded 11% of lost time accidents. In previous years they have accounted for 5 to 7% of lost time injuries. The number of bruising and fracture injuries to the lower torso are similar to previous years with nine and three respectively. The greatest increase is in the number of reported sprain and strain injuries to the lower back, 13 in 1993 compared with two in 1992.

There were twice as many injuries to the upper leg in 1993 compared with 1992, 23 and 12 injuries respectively. The most common injuries were chainsaw lacerations. Other injuries were bruising (five), sprains and strains (four) and fractures (three).

There were fewer injuries to the lower legs in 1993 (36) compared with the previous year (47). Chainsaw injuries made up a smaller proportion of lower leg injuries with 6 and 12 injuries for 1993

and 1992 respectively. Of the 30 "other" injuries to the lower legs six were bruising - three "hit by drag" in skidder operations and three "hit by logs" moved by machines. There were 11 fractures to the lower legs - three hit by drag, three hit by butt during felling, three hit by rolling logs, one fracture when run over by an excavator and a fracture resulting from dismounting a skidder. Ten sprains and strains to the lower legs resulted in 40 days lost time. Most (seven) resulted from slipping and tripping on stems and in slash. Spiked soled boots would reduce the frequency of these slipping injuries.

The total number of foot injuries in 1993 was unchanged from the previous year. Most foot injuries were chainsaw lacerations and of those 24 out of 27 were injuries to the left foot. A total of 171 work days were lost due to chainsaw injuries to the feet. There were three occasions where the loggers slipped on the stem and their (left) foot slid into the path of the bar. The wearing of spiked soled boots will reduce the chance of slipping while on the stem or while walking beside the stem. Poor trimming technique was identified in a number of foot injuries. Five foot injuries resulted from the saw running **forward** into the logger's foot and one when trimming on an unstable log. In addition to care when delimiting, loggers should wear chainsaw cut resistant boots if conditions allow.

Table 3 - Injuries to the Hands, Legs and Feet

Part of Body	Number	Cause of Injury			
		Chainsaw		Other	
		No.	%	No.	%
Hands	28	11	39	17	61
Upper Leg	23	10	43	13	57
Lower Leg	36	6	17	30	83
Feet	32	27	84	5	16

CONCLUSION

The level of reporting of lost time accidents has increased over the previous year but some reports still have missing data, particularly the time of day when the accident occurred. Minor injuries and near miss incidents are also valuable information as they help identify trends in accident type and problems with equipment.

The hands, lower legs and feet continue to be the most frequently injured parts of the body. Felling has overtaken trimming as the most dangerous part of the logging operation and there has been a large rise in reports of strain to the lower back compared with previous years.

The industry must continue to report accident and near miss reports so the Scheme can continue to guide research and training efforts in logging safety.

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