

MAINE LOGGER HEALTH STUDY

THE NORTHEAST CENTER FOR OCCUPATIONAL HEALTH & SAFETY

In summer 2019, the Maine Logger Health and Safety Study published an article in this magazine about the initial findings from our research. A little over a year later, we have some more results to share.

Mechanized versus Conventional Loggers

In our initial survey, we asked loggers whether they were logging in mechanized, conventional, or both operations. Of the 359 respondents, 246 (69%) were mechanized only, 79 (22%) were conventional only, and 34 (9%) were both. As we sifted through the data, we found some differences between mechanized and conventional operations.

Operation Size Matters

Conventional operations tended to be smaller than mechanized operations, (Figure 1) with 84% working as solo operators or in small operations (2-10 employees: 27%). In contrast, only 8% of mechanized operations were solo operators, with 77% working in either small (2-10 employees: 42%) or medium companies (11-50 employees: 35%).

Long Days

Loggers in mechanized operations have an average workday of 11.8 hours, compared to conventional loggers with 10 hours (Figure 2). On top of that, the commute time for mechanized loggers averaged 70 minutes, compared to 41 for conventional loggers. Moreover, 88% of mechanized loggers started their workday before 6 am, compared to 40% for conventional loggers (Figure 2). These numbers make sense given the more physically demanding nature of conventional logging and the greater need for daylight when using a chainsaw.

Safety in Numbers

When asked if they had received safety training in the last quarter, 65% of mechanized loggers responded yes, in contrast to 37% of conventional loggers (Figure 3). For both conventional and mechanized logging operations, the small and medium sized operations were more likely to have had safety training in the last quarter than the sole operators (Figure 4). PPE use was high regardless of the type of operation, usually over 80% (Figure 5). The only significant differences in PPE use between mechanized and conventional operations was the use of high-visibility vests (89% mechanized versus 43% conventional) and chaps (46% mechanized versus 89% conventional). In the case of the high-visibility vest, the lower use by conventional loggers makes sense given the high proportion of sole operators; and the higher use of chaps by conventional loggers can be linked directly to their more frequent use of chainsaws.



RESULTS



FIGURE 1: OPERATION SIZE

Small = 2-10 Medium = 11-50 Large = 50+

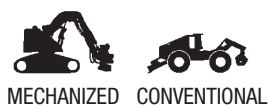
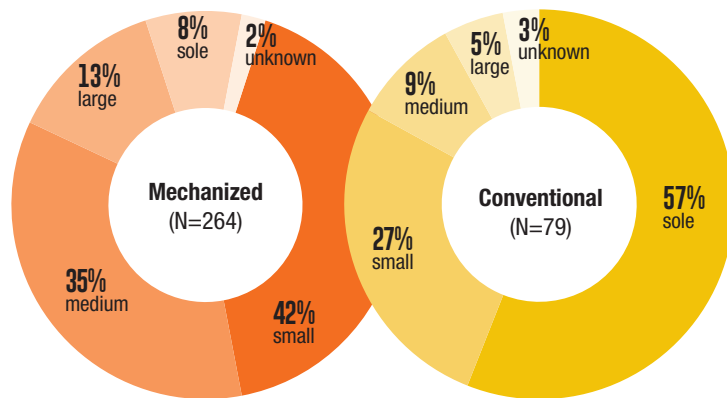


FIGURE 2: LONG DAYS

	MECHANIZED	CONVENTIONAL
Average Logging Career (yrs)	24	29
Average Workday (hrs)	12	10
Average Commute Time (min)	70	41
Starts Work Before 6am	88%	40%

FIGURE 3: SAFETY IN NUMBERS

	MECHANIZED	CONVENTIONAL
Safety Training Last Quarter	65%	37%

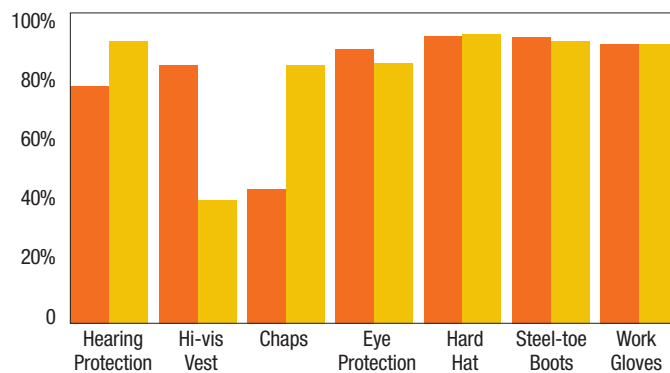
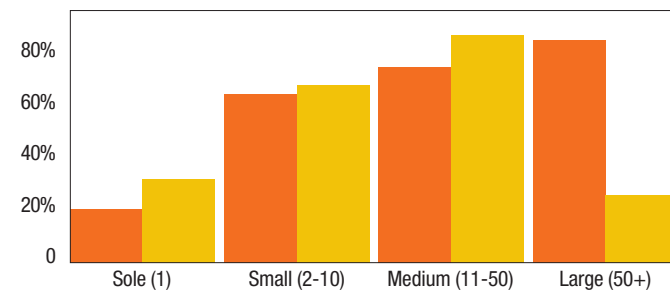


FIGURE 4: SAFETY TRAINING



Injury Undercount

We asked loggers if they had a work-related injury or illness in the past year and compared that to the latest numbers available from the Bureau of Labor Statistics Survey of Occupational Injury and Illness (SOII). Our survey responses showed a rate of 6.8 injuries/illnesses per 100 workers, compared with SOII's 2018 rates of 3.5 for logging workers in the US and 1.8 for logging workers in Maine (Figure 6). Keep in mind that the loggers in our study were recruited primarily through organizations like CLP and PLC that

offer logger safety training, which means that we may have a more safety-conscious pool than is the norm; as a result, we may be undercounting the injury/illness rate for Maine loggers as well.

Health Screenings

We completed 91 health screenings with loggers in 2019 and had hoped to return in 2020 to screen another 100-150 loggers. Unfortunately, the COVID-19 pandemic put an end to those plans. Nevertheless, the data from the 91 health screenings is quite rich, and we have some preliminary results.

FIGURE 7: HEALTH SCREENINGS

	MEAN	SD
Height	70.5"	3.1
Weight	216.5 LBS	39.4
Waist circumference	41.7"	5.4
Hip circumference	43.8	3.8
Waist/hip ratio	0.95	0.07
Body Mass Index	30.6	4.9
Average Peak Flow (L/min)	505.5	105.2
Heart rate (bpm)	72.2	12.3
Glucose (g/dL)	106.6	26.1
Total cholesterol (mg/dL)	157.8	33.2
Cholesterol ratio (Total/HDL)	3.8	0.94

We've Got Good News and Bad News

The good news is that the average waist-hip ratio, peak flow (lung capacity), heart rate, blood sugar, and cholesterol of loggers is within normal range (Figure 7). On the other hand, the average body mass index (BMI) is just over the obese line, the average blood pressure is in the stage 1 hypertensive range (Figure 8), and some loggers have indications of sleep obstruction (Figure 9). All these point to loggers having an increased risk for heart problems, something we're looking at closely.

FIGURE 8: HYPERTENSIVE RANGE

Average Blood Pressure (St. Dev.) 138/83 (15.2/10.7) N=74

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 - 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 - 139	or	80 - 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

What's Next

Data and More Data

The Maine Logger Health and Safety Team was very disappointed to have canceled our plans to come to Maine last spring to do more health screenings and meet with loggers at the PLC annual meeting. Instead, we've kept busy with the existing and incoming data at hand. We just completed entering the last of the six follow-up surveys and will be working with our statisticians to analyze the results. Expect to hear more about types of injuries and seasonal differences, exposures to outdoor hazards such as tickborne diseases and skin cancer, financial stresses, and much more.

How Are You Doing?

We know the combination of the COVID-19 pandemic and the Androscoggin mill explosion in spring 2020 had a major impact on the Maine logging industry. We hope you'll be willing to share your story. If you get a COVID impact survey from us, please consider filling it out and sending it back. We'll be sending a similar survey to loggers in other Northeast states to get their stories as well.

See You in Spring?!

Depending on the state of the pandemic, we hope to visit Maine in spring 2021 to talk with loggers and the community about some ideas for solutions to the health and safety issues we've identified. And if we can't visit in person, we'll arrange another way to say hello.

Thank You

The Maine Logger Health and Safety team remains incredibly grateful to the logging community for your support and participation. If you have any questions or comments, please contact us at nec.logging@bassett.org or 800-343-7527. And find us on Facebook @Mainelloggerhealthsafetystudy or at www.necenter.org. NL

FIGURE 9: SLEEP OBSTRUCTION (Mallampati Scores)

