LOGGING INJURIES AND FATALITIES

Rational for Using Statistics

- The Industry’s experience is much broader than any one contractor
- What accomplishments have been made?
  - Avoid squandering the progress
- How is logging changing?
  - The hazards will change too
- What are the biggest challenges to reducing injuries and fatalities?
  - Are they related to:
    - People, jobs, machines, harvest system, production pressures, etc?
Logging Safety

Fatalities in Logging

- Logging is typically among the industries/occupations with the highest fatality rates
  - Number of Fatalities / Number of Workers
  - Logging Rate >100/100,000
  - All industry <5/100,000
- Fatalities causes are representative of serious hazards

Logging Fatalities (92-08)

Logging workers (45-402X & 4960)
Fatality Event or Exposure

Is Logging Less Fatal Now?

- Fatal injury reduction is following decline in employment
- Exposure to the most severe hazards (struck by) have not changed very much
  - The reasons are not apparent
- Mechanization and productivity have reduced the number of people needed, exposed
  - Harvest moved from the Pacific Northwest to the South
OSHA Injury and Illness Data

- Survey of OSHA Injury and Illness logs
  - Required of firms >10 employees
  - 80% of firms are missed
- Records include
  - Recordable injuries and illnesses
    - Death, loss of consciousness, days away from work, restricted activity, medical treatment beyond FA, work related conditions with doctors diagnosis, recorded hearing loss
    - "" with job transfer or restriction
    - "" away from work
    - Days away from job

Injury and Illness rates

![Graph showing injury and illness rates from 1970 to 2015](image.png)
Reducing Injury Rates

- **Reduced exposure**
  - Less time spent on hazardous jobs tasks
    - Chainsaw work
  - Increased productivity: less labor hours needed for the same amount of production
  - Improved working conditions: less manual labor, reduced fatigue
  - Engineering controls: better, safer tools and machines

- **Personnel**
  - More experienced workforce
  - Better training

- **Change in harvest locations**
  - Flatter terrain, smaller trees
Injuries and Illness Severity

- Injury (away from work): 57%
- Injury (job restriction): 9%
- Injury (other): 30%
- Illness: 4%

Injury Severity: Median Lost Time

- Log time per case (days)
  - 0
  - 5
  - 10
  - 15
  - 20
  - 25


Graphs show the percentage distribution of injuries and illness severity, along with the median lost time per case over various years for logging and all industries.
Root Causes of Injuries

A. Don’t recognize hazards
B. Not enough training/Don’t understand the job
C. Fatigue from strenuous work/long hours
D. Fatigue from health issues
E. Risk taking for personal reasons
F. Risk taking for production/cost
G. Lack of PPE or incorrect use
H. Equipment failure
I. External pressure/decisions (scheduling, harvest plan, etc)

Age and Experience

- Job knowledge
- Physical skills and abilities
- Mental acuity
- Health issues
Fatigue

- Physical and mental fatigue
- Long hours
  - Physically demanding labor
  - Monotonous activities
- Machine vibration and noise
- Health conditions and medication
  - Hydration

Injury Timing: Day of Week
Logging Injury: Time of Day

Timing of Injuries
Risk Taking

- Skill in hazard recognition can be remedied through training
- Loggers engage in risk taking behavior even though they recognize the hazards
- Why?
  - Is there a reward?
  - Is it the expectation?
    - Cultural
    - Personal
- Altering risk taking behavior
  - Change the culture
  - Change the rewards
  - Change the people

Injury Characteristics

- Who
  - Workers that work with chainsaws
  - Workers not in a machine
- What kinds of injuries
  - Strains and sprains are most common
  - Fractures & lacerations are more common among loggers than others
  - Trunk & lower extremity injuries are the most common
  - Lower extremity injuries are more common among loggers than others
Logging Safety

Injury Characteristic: Activity (%)

- Operating Chainsaw, 30%
- Maintenance, 18%
- Driving Truck, 12%
- Operating Machine, 11%
- Machine Entry/Exit, 8%
- Walking, 5%
- Other, 16%

Injury Characteristic: Event or Exposure (%)

- Struck by, 46%
- Fall, 19%
- Vehicle, 10%
- Overexertion, 8%
- Caught in, 3%
- Other, 14%
Injury Impacts

**Injury frequency**
- A crew of 6
  - @ 2/100 workers (mechanized) the crew could have 1 lost time injury every 8 years
  - @ 14/100 (non-mechanized) the crew could have 1 per year
- Crews can “escape” injury for some time in spite of conditions.
- If a logger worked 30 years about 4 of 100 loggers that worked at the same time would have suffered a fatal injury

**Claims Cost Logging WV 2001**

- Rubbed/abraded
- Falls
- Over exertion
- Struck by/against

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**Total Injury Cost - 1993**

- Median days lost per case – 17, (7 for all industries)
- Average injury cost per worker (1993)
  - May be $17000 (2010)
- Total industry cost
  - $568,454,338 (1993)
Logging Safety

Importance of Monitoring Safety Performance

- Safety costs are high in logging
  - Injuries are often serious/traumatic
  - Logging is a difficult job to come back to after injury
- Non-injury incidents are indicators of what could happen
- Understanding all the potential hazards requires looking beyond your own experience
  - Injury statistics
  - OSHA inspections
  - Safety alerts
  - Discussions with other loggers