



Webinar: New Health and Safety Research on Ontario Silviculture Industry

Root Cause Analysis Workshop Results and Next Steps

February 21, 2024

1 888 730 7821 (Toll free Ontario)
workplacesafetynorth.ca



Welcome to the webinar: New Health and Safety Research on Ontario Silviculture Industry

- Thank you for joining us!
- We will be getting started at 1:30 pm ET
- Please use the Q&A at the bottom of your screen for speaker questions and we will answer them at the end of the webinar.
- Please use the chatbox for commentary or technical questions.
- A link to the webinar recording, a copy of the presentation slides, and reference material will be emailed to registrants within a few days.

Webinar Host

Sabrina Missere

Health and Safety Specialist

Workplace Safety North

sabrinamissere@workplacesafetynorth.ca

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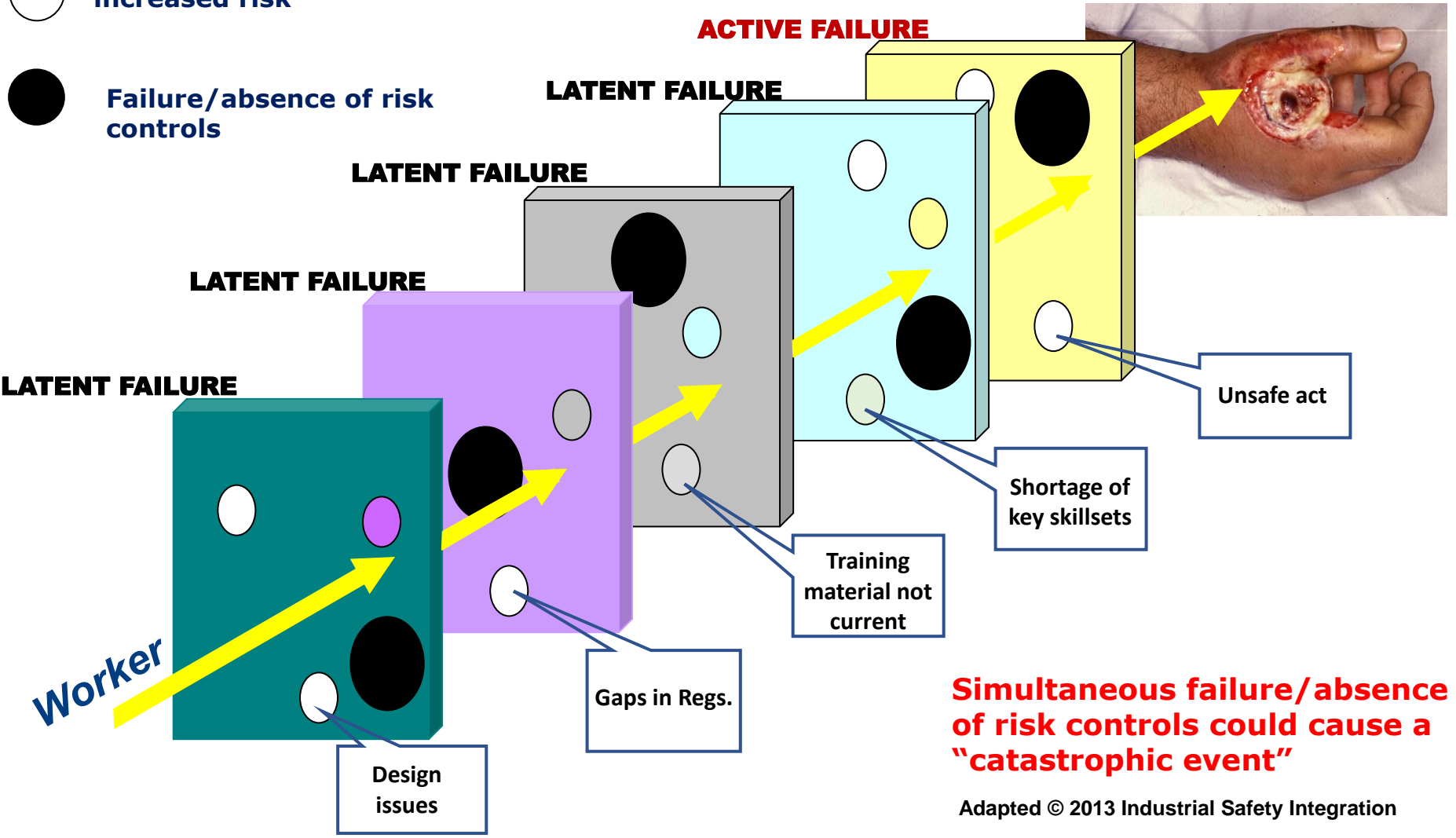
Risk Assessment Project



Examples that could lead to increased risk



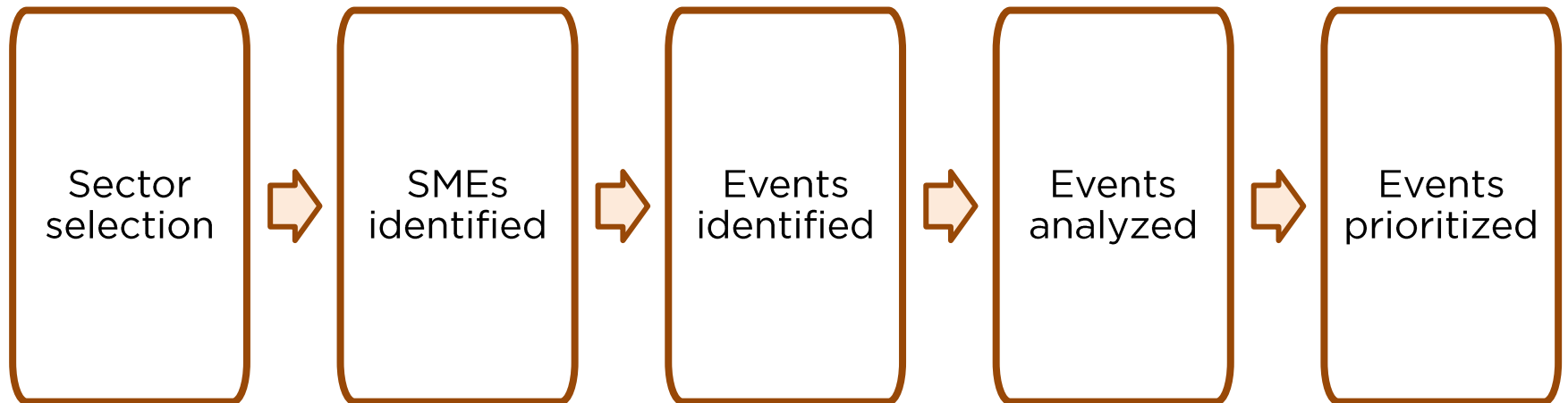
Failure/absence of risk controls



Simultaneous failure/absence of risk controls could cause a "catastrophic event"

Adapted © 2013 Industrial Safety Integration

Workshop: A tripartite and collective process



Workshop: A Tripartite and Collective Process

Workshop process was open, transparent, and collaborative:

- Ensured perspectives/viewpoints were heard
- Responses were respected, not freely edited
- Final list shared with participants before workshop
- Workshop results reviewed/validated by participants

Finding acceptable solutions that all members can support:

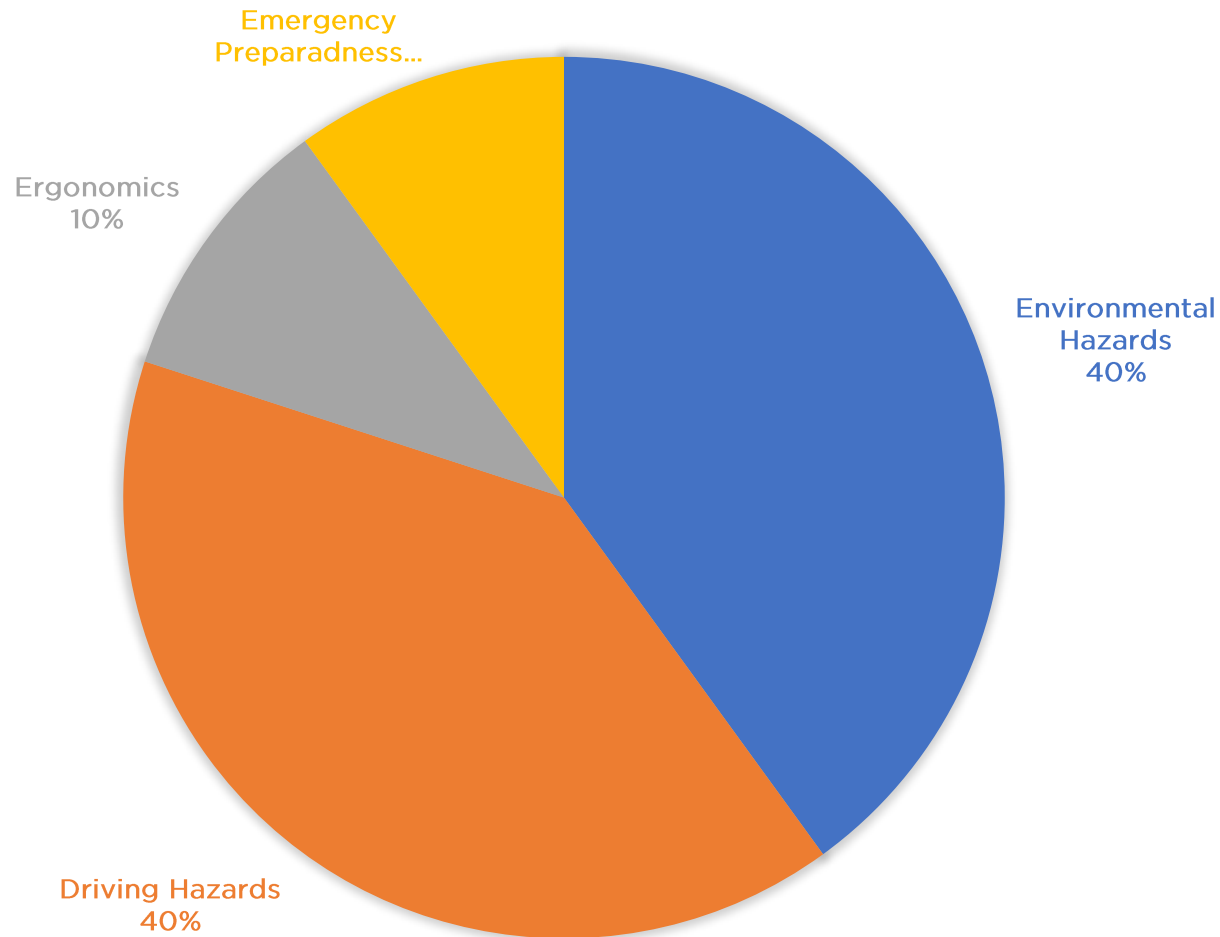
- Only industry experts ranked the risks
- Process was NOT about consensus (although results demonstrate a significant degree of convergence)

Risk Assessment Workshop Results:

Top 10 risk categories based on highest risk within that category

Rank	Category	Event (Situation/Condition) that could result in Injury or Illness OR What could keep you up at night?	Risk
1	Environmental Hazards	Dead snag trees or branches, chicots, hang ups, spring poles in cutover falling on workers	15.50
2	Driving hazards	Highway traffic incidents especially those involving transport trucks	15.23
3	Driving hazards	Unsafe driving on forestry roads	13.59
4	Driving hazards	Motor vehicle incidents, general	12.72
5	Environmental Hazards	Wind event: Standing trees falling on workers in the block with strong winds	12.72
6	Environmental Hazards	Heat stress leading to dehydration while working in hotter environments	12.69
7	Driving hazards	ATV/wheel/track machine incidents (incl. rollover; loss of control; speed; leaving the roadway; collision)	12.25
8	Environmental Hazards	Wildlife encounters or attacks resulting in workplace incident	12.19
9	Emergency Preparedness	Lack of/absent emergency planning during an incident	12.03
10	Ergonomics	Musculoskeletal injuries/repetitive strain injuries	11.88

Top Silviculture Sector Risk Categories



Analysis of Top 10 Risk Events

Contributing factors and undesired outcomes identified in the following overall ranking/categories

Category	Contributing factor		Result
Environmental Hazards	<ul style="list-style-type: none"> Lack of information, instruction, supervision Forest Management Plan requirements re: snag retention trees Ontario practice re: leaving trees (wildlife emulation) Partially cut trees 	<ul style="list-style-type: none"> Danger trees left unidentified Production quotas Working alone, in remote locations Increased animal activity 	<ul style="list-style-type: none"> Fatality Occupational Injury High Potential Near Miss
Driving Hazards	<ul style="list-style-type: none"> Distracted driving Inexperienced drivers Wildlife Lack of quality control for professional drivers Extreme weather Speeding Condition of equipment 	<ul style="list-style-type: none"> Lack of or no radio use Wildlife Production quotas Lack of or no signage Other vehicles, pedestrians Lack of adherence to CVOR Hours of work 	<ul style="list-style-type: none"> Fatality Occupational Injury Property Damage Environmental Damage High Potential Near Miss
Emergency Preparedness	<ul style="list-style-type: none"> Remote worksites, limited access Dangerous weather Wildlife run-ins Inadequate communication tools No means of summoning immediate response 	<ul style="list-style-type: none"> Physical exertions Lack of emergency evacuation plan Transition to planting job, lack of understanding of procedures Rushed training, orientation Walk-ins to planting site 	<ul style="list-style-type: none"> Fatality Occupational Injury Property Damage Environmental Damage High Potential Near Miss
Ergonomics	<ul style="list-style-type: none"> Long hours Repetitive work Poor working positions and postures Physically demanding Improper lifting Inadequate hazard recognition and training 	<ul style="list-style-type: none"> Inadequate work hardening Inadequate/inappropriate equipment, poor equipment selection Damaged equipment Poor physical conditioning Worker inexperience Production pressures Inadequate injury management 	<ul style="list-style-type: none"> Occupational Injury or Illness (MSDs or repetitive strain injuries)

Top 10 Health and Safety Risks in Silviculture Sector

Falling dead trees are top health and safety risk

As identified by workers, supervisors, and employers in the Ontario silviculture industry (development and care of forests including tree planting, hand tending, soil scarification) through a risk assessment workshop facilitated by Workplace Safety North.



1. Dead snag trees or branches, chicots, hang ups, spring poles in cutover falling on workers



6. Heat stress leading to dehydration



2. Highway traffic incidents (especially those involving transport trucks)



7. ATV, wheel, track machine incidents (rollover, loss of control, speed, collision, leaving roadway)



3. Unsafe driving on forestry roads



8. Wildlife encounters or attacks



4. Motor vehicle incidents



9. Lack of emergency planning



5. Strong winds: Standing trees falling on workers in the block



10. Musculoskeletal injuries and repetitive strain injuries

For more information, please contact your WSN Health and Safety Specialist or visit workplacesafetynorth.ca

Root Cause Analysis Workshop: Participants

SUBJECT MATTER EXPERTS		
#	Name	Company/Representative
1	Josh Knight	Resolute
2	Scarlett Keller	Outland
3	Sandie Kulchar	Outland
4	Justin Postuma	Haveman Brothers
5	Kevin Hakojarvi	First Resource Management

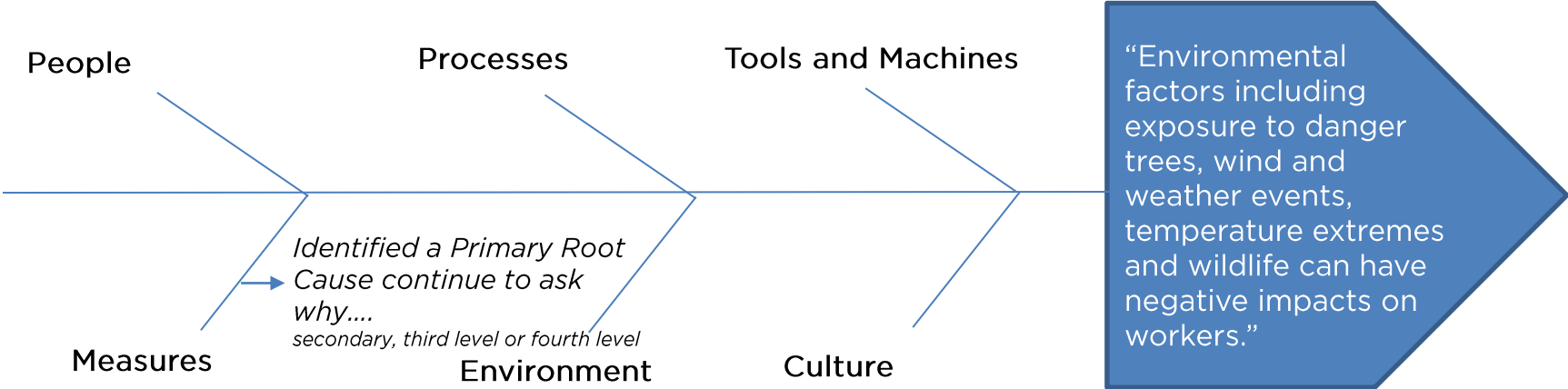
WORKSHOP PARTICIPANTS		
#	Name	Company/Representative
6	Sabrina Missere	Workplace Safety North: Facilitator
7	Doug Cettina	Ministry of Labour, Immigration, Training & Skills Development
8	Chris Serratore	Workplace Safety North: Director
9	Tom Welton	Workplace Safety North: Director
10	Tiana Larocque	Workplace Safety North: Tech Support
11	Brandi Cramer	Workplace Safety North: Tech Support
12	Tricia Valentim	Workplace Safety North: Tech Support

Root Cause Analysis: Risk Statement

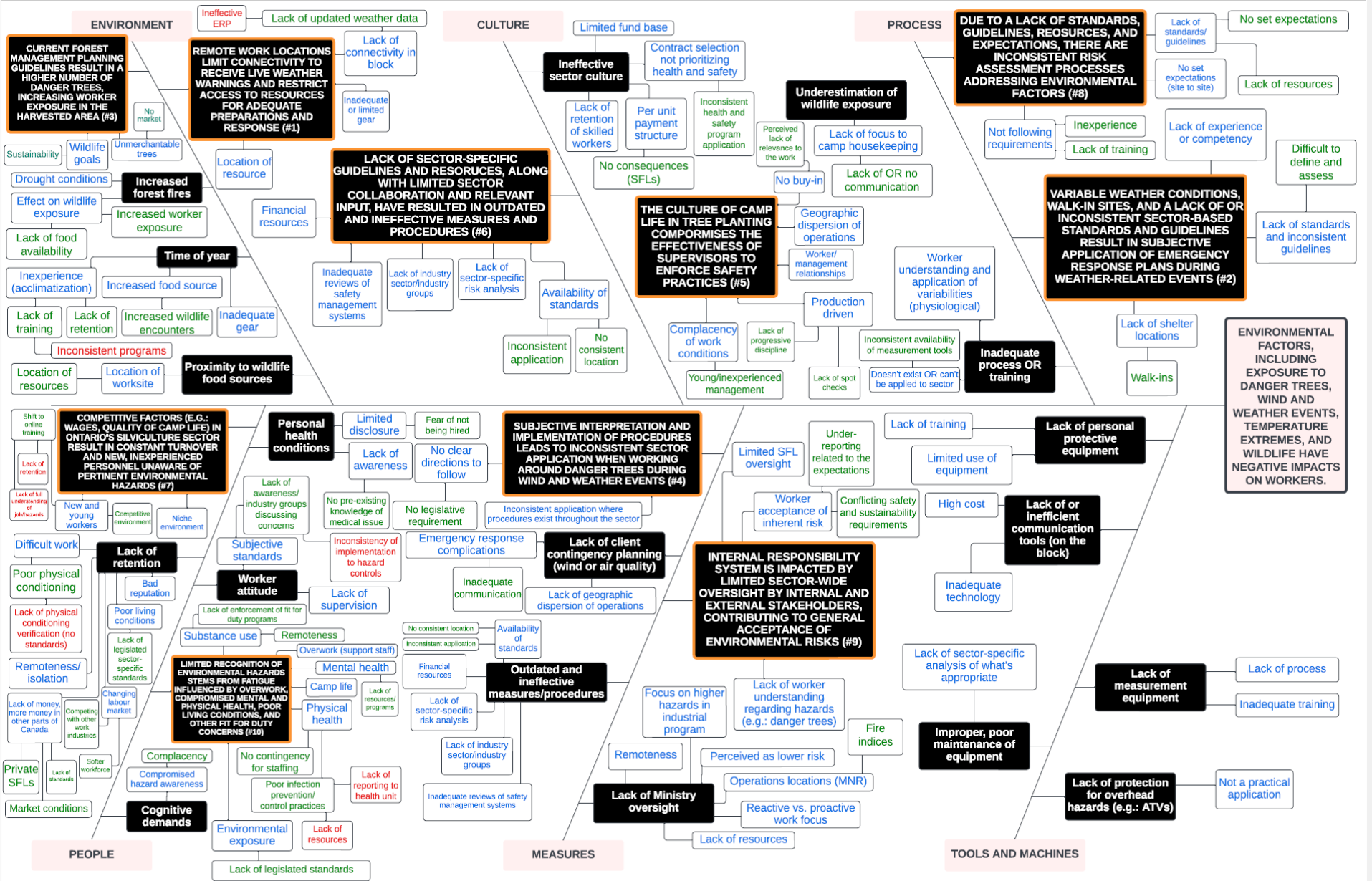
Based on risk assessment results and further analysis, the Root Cause Analysis working group confirmed and developed the following risk statement using the “Fishbone” approach addressing:

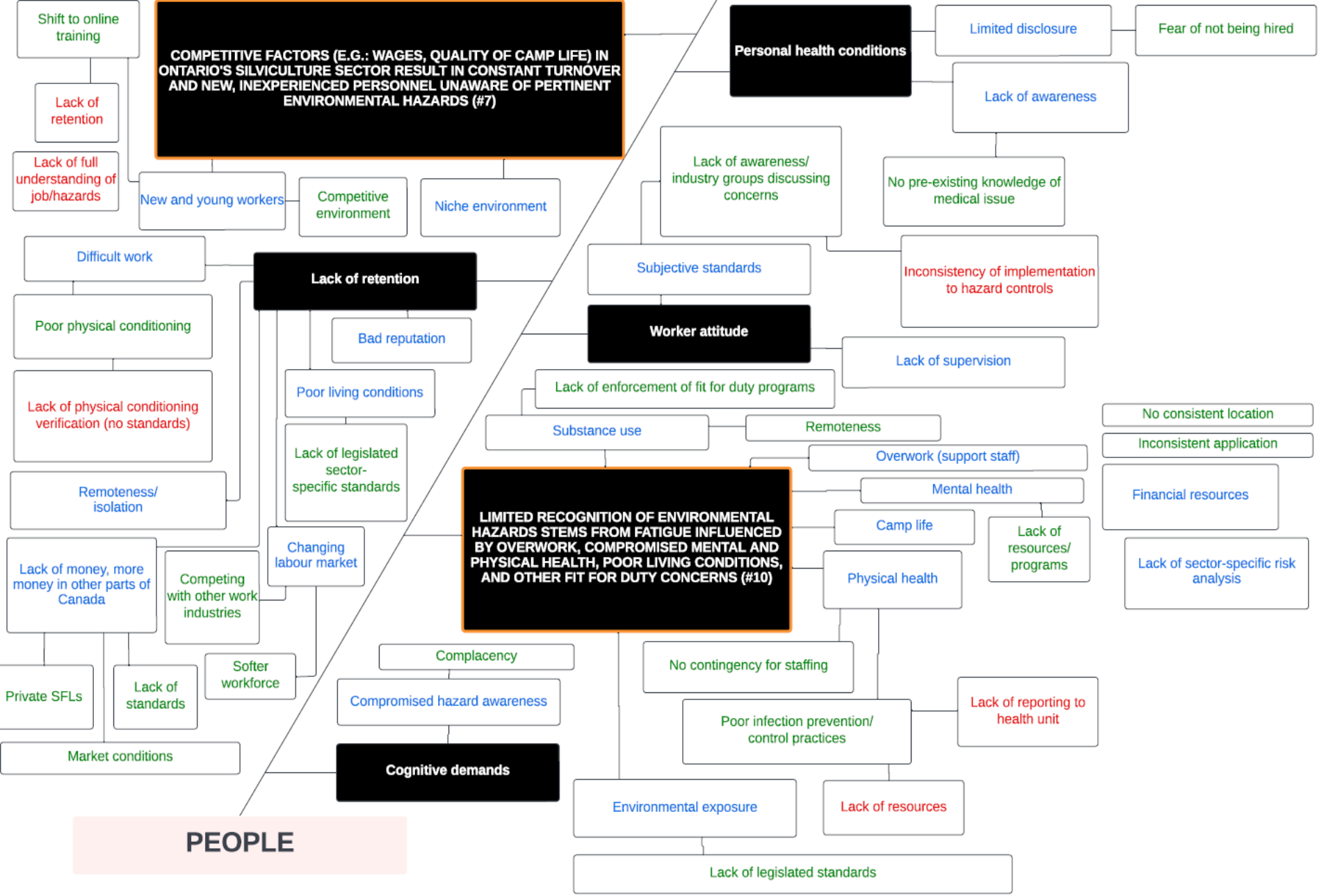
“Environmental factors including exposure to danger trees, wind and weather events, temperature extremes and wildlife can have negative impacts on workers.”

Fishbone Diagram



Primary Causal Factors





ENVIRONMENT

CURRENT FOREST MANAGEMENT PLANNING GUIDELINES RESULT IN A HIGHER NUMBER OF DANGER TREES, INCREASING WORKER EXPOSURE IN THE HARVESTED AREA (#3)

REMOTE WORK LOCATIONS LIMIT CONNECTIVITY TO RECEIVE LIVE WEATHER WARNINGS AND RESTRICT ACCESS TO RESOURCES FOR ADEQUATE PREPARATIONS AND RESPONSE (#1)

Lack of connectivity in block

Lack of updated weather data

Ineffective ERP

Location of resource

Inadequate or limited gear

No market

Unmerchantable trees

Sustainability

Wildlife goals

Drought conditions

Increased forest fires

Effect on wildlife exposure

Increased worker exposure

Lack of food availability

Proximity to wildlife food sources

Location of worksite

Location of resources

Time of year

Inexperience (acclimatization)

Increased food source

Inadequate gear

Lack of training

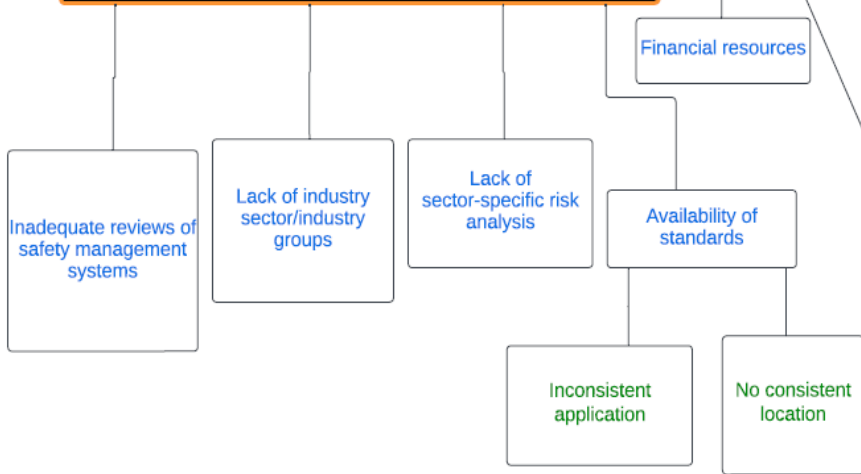
Lack of retention

Increased wildlife encounters

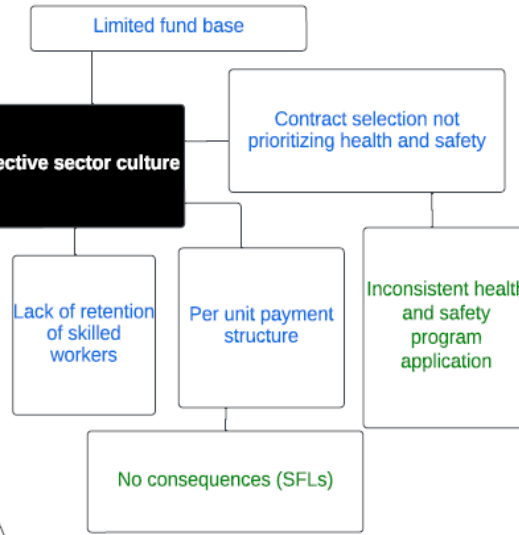
Inconsistent programs

CULTURE

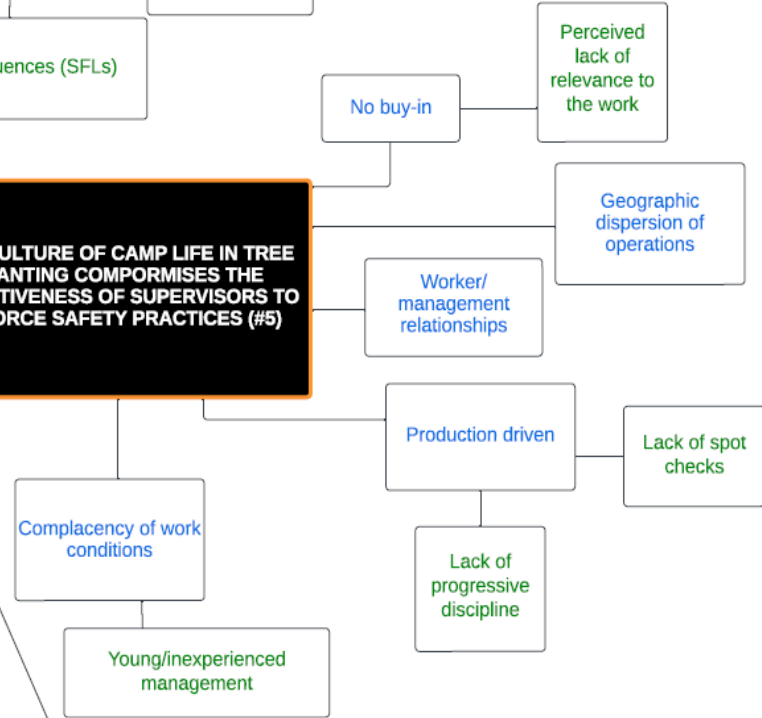
LACK OF SECTOR-SPECIFIC GUIDELINES AND RESOURCES, ALONG WITH LIMITED SECTOR COLLABORATION AND RELEVANT INPUT, HAVE RESULTED IN OUTDATED AND INEFFECTIVE MEASURES AND PROCEDURES (#6)

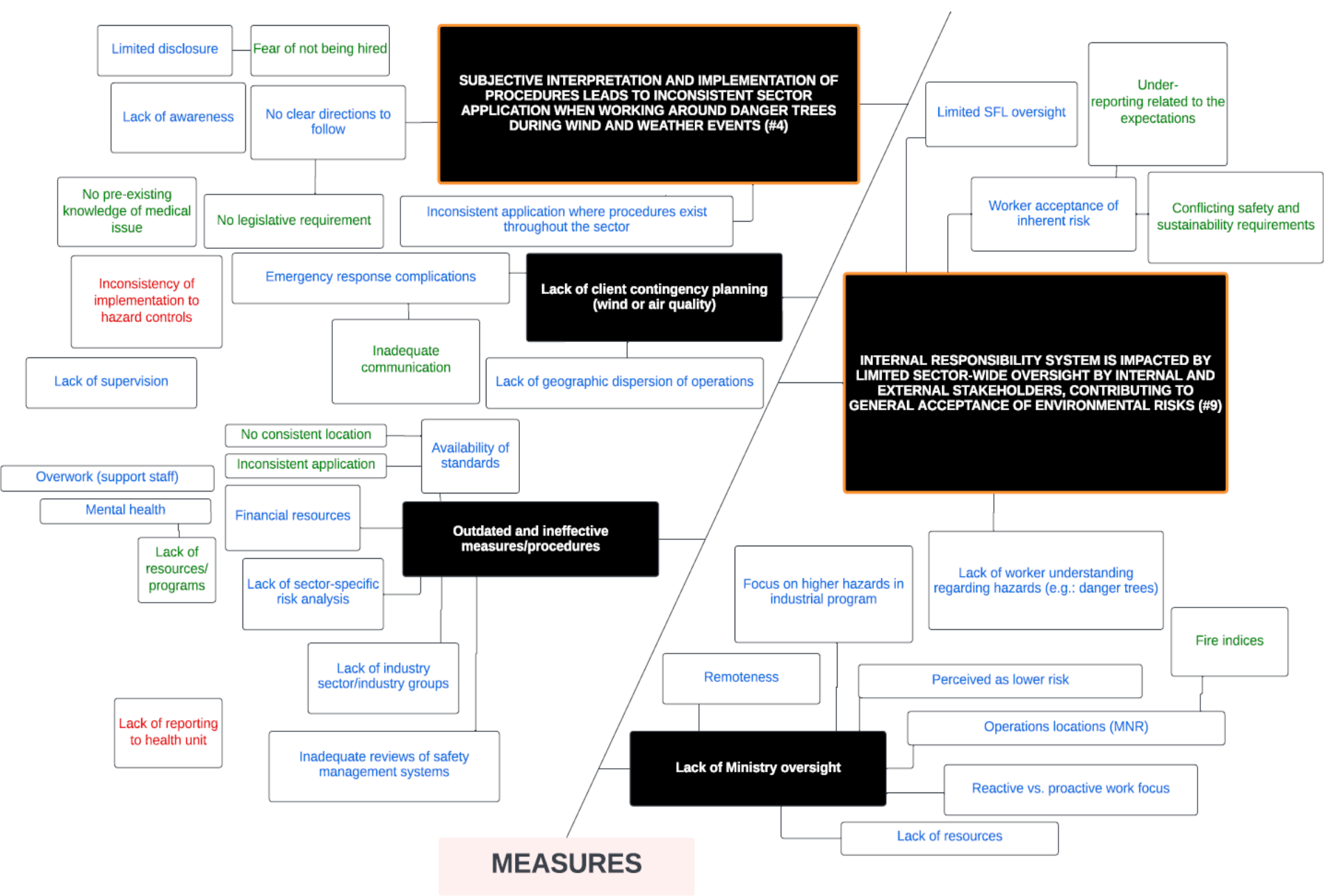


Ineffective sector culture

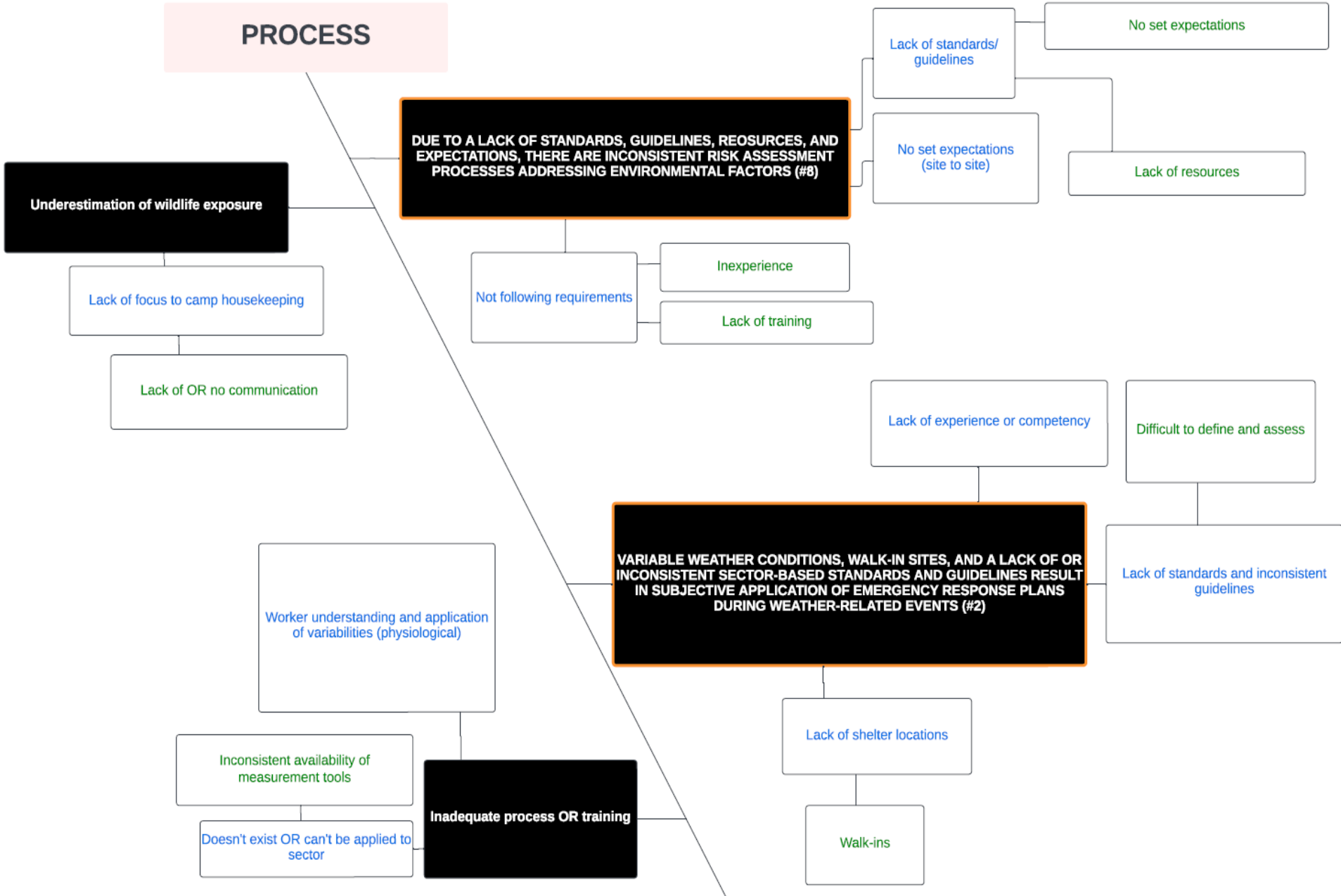


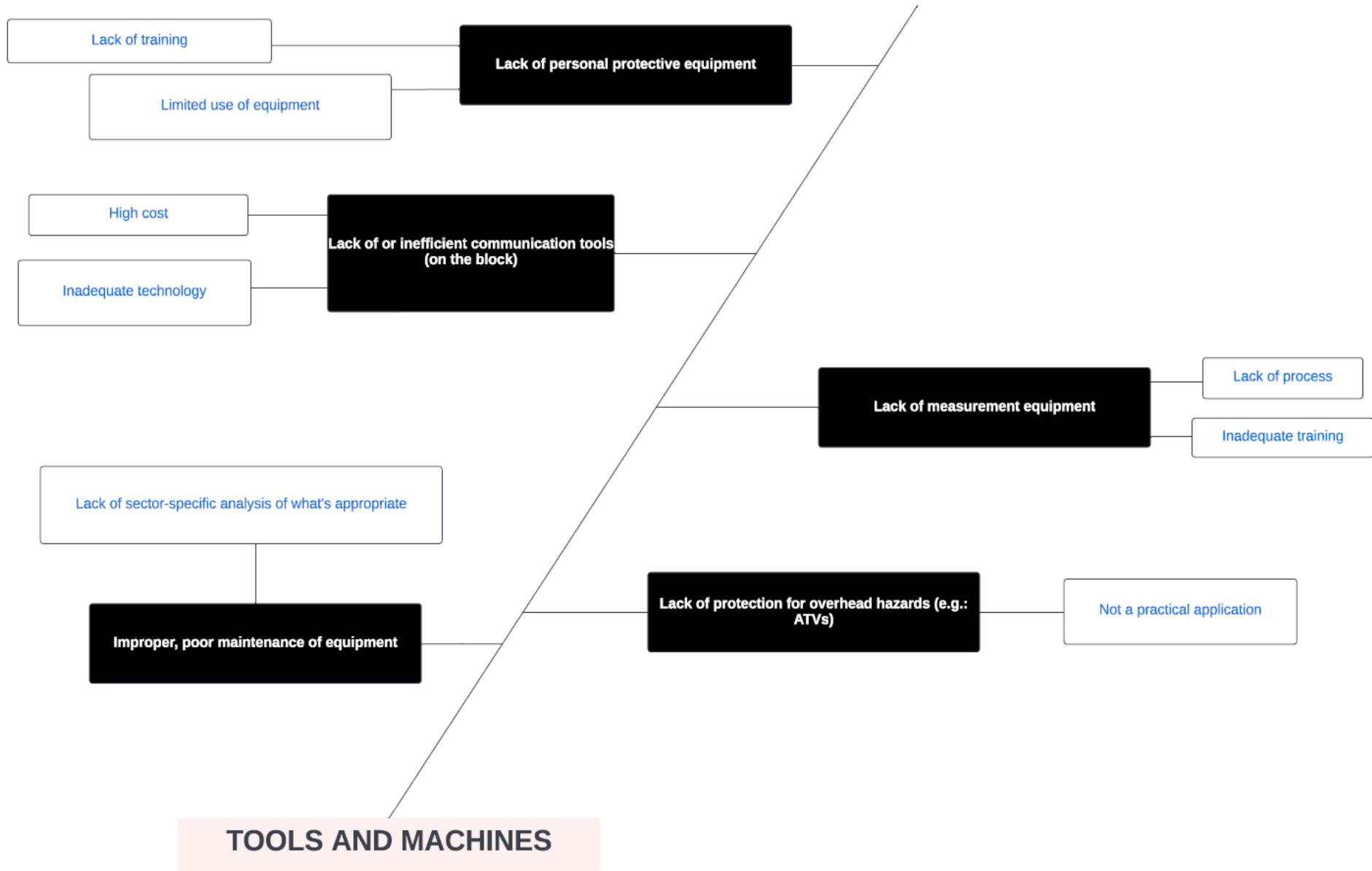
THE CULTURE OF CAMP LIFE IN TREE PLANTING COMPROMISES THE EFFECTIVENESS OF SUPERVISORS TO ENFORCE SAFETY PRACTICES (#5)





PROCESS





Top Primary Causal Factors

#	Category	Primary Root-Cause
1	Environment	Remote work
2	Process	Emergency response plan - No/lack of considerations of wind, weather, etc.
3	Environment	Forest management plan requirement (chicots)
4	Measures	No consistent procedures (danger trees, wind/weather)
5	Culture	Poor enforcement of measures and procedures
6	Culture	Outdated and ineffective measures/procedures
7	People	Inexperience
8	Process	Inconsistent risk assessment processes
9	Measures	Lack of IRS (management presence)
10	People	Fatigue

Top 10 Root Causes of Environmental Hazards in Silviculture Sector

Falling dead trees is top health and safety risk

Root causes of combined environmental risks — dead trees, strong winds, heat stress, and wildlife — were identified by workers, supervisors, and employers in the Ontario silviculture industry through a root cause analysis workshop facilitated by Workplace Safety North.



1. Remote work locations limits connectivity



6. Lack of consistent sector-specific safety guidelines and resources



2. Severe weather conditions (wind, lightning) can affect emergency response



7. Worker turnover results in a high level of new and inexperienced personnel



3. Forest management practices increase exposure to danger trees



8. Inconsistent risk assessment of environmental hazards



4. Inconsistent application of work procedures during wind and weather events



9. Lack of safety program oversight results in higher level acceptance of risks



5. Inconsistent enforcement of safety practices due to tree planting camp culture



10. Fatigue, illness, and living conditions compromise ability to recognize hazards

For more information, please contact your WSN Health and Safety Specialist or visit workplacesafetynorth.ca

List of Solutions and Controls for the Top Primary Root Causes

Note:

- Scope of this exercise does not include assessment of listed controls.
- List provides information on specific controls and/or activities that support a control.
- Control performance should be **specific, measurable, observable, and auditable.**

Top 10 Root Causes of Passenger Vehicle Driving Hazards in Silviculture Sector

Transporting workers is a top health and safety risk

Root causes of unsafe conditions and practices while transporting workers were identified by workers, supervisors, and employers in the Ontario silviculture industry through a root cause analysis workshop facilitated by Workplace Safety North.



1. Lack of training on vehicle operation and maintenance



6. Lack of recognition of driving risks due to inexperience



2. Distracted driving, leading to unsafe vehicle operation



7. Lack of training and experience for driving on forest roads



3. Unfit for driving due to fatigue, sickness, or substance use



8. Inadequate maintenance of vehicles and tools



4. Lack of enforcement of safety standards by supervisors



9. Lack of driver assessments during work season



5. Production-driven culture encourages unsafe driving practices



10. Different levels of road conditions, maintenance, and radio communication

For more information, please contact your WSN Health and Safety Specialist or visit workplacesafetynorth.ca

Next Steps:

WSN will work with industry to establish a Silviculture Advisory Committee to engage with and provide sector-specific support in advancing:

- Industry leading practices
- Knowledge of leading practices and standards

Thank you for attending today's webinar and helping make workplaces safer

Questions?

For additional information, please contact:

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Health and Safety Specialist

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