

**A REPORT AND ACTION PLAN TO  
ELIMINATE DEATHS AND SERIOUS  
INJURIES IN BRITISH COLUMBIA'S  
FORESTS**

**Final Report of the Forest Safety Task Force**

**January 19, 2004**

## **ACKNOWLEDGEMENTS**

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Finally, the Task Force wishes to thank all those who have provided input and participated in the process.

This report is dedicated to all the forestry workers who have died or been seriously injured on the job in British Columbia and to their families, friends and colleagues

## FOREST SAFETY TASK FORCE

*A Task Force of Forest Industry Leaders appointed to develop an action plan to eliminate deaths and serious injuries in the BC Forest Industry*

January 19, 2004

The Honourable Graham Bruce  
Minister of Skills Development and Labour  
Province of British Columbia  
Room 310 Parliament Buildings  
Victoria, British Columbia V8V 1X4

Minister:

It is my sincere pleasure to provide you with the final report of the Forest Safety Task Force entitled "*A Report and Action Plan to Eliminate Deaths and Serious Injuries in British Columbia's Forests.*"

The Task Force was established in July 2003 to develop an action plan to reduce the number of deaths and serious injuries in the forest industry in British Columbia by 50 percent within three years. After its initial deliberations, the Task Force agreed that in order to be successful, a more aggressive target was required. The attached report covers all of the issues raised in the Terms of Reference and provides an action plan for eliminating deaths and serious injuries in the sector.

Thank you for creating the opportunity for the industry to come together to address the important issue of safety in the woods.

Yours truly,



Douglas J. Enns, FCA  
Forest Safety Task Force Chair

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## EXECUTIVE SUMMARY

### Introduction

This Report sets out the recommendations of the Forest Safety Task Force (the “Task Force”) and an Action Plan that, if effectively implemented, will fundamentally change how health and safety is treated by the forest industry in British Columbia (BC). In its deliberations, the Task Force considered the many reasons why forest workers continue to die and be seriously injured at a staggering rate in BC. The Task Force also considered why, on average, 25 workers continue to die each year despite many previous efforts to reduce the number of fatalities and serious injuries in the sector.

The Task Force has concluded that focus cannot simply be placed on reducing the number of deaths and serious injuries in the sector. To succeed, fundamental attitudes and behaviours about safety must change. The industry must agree that all deaths and serious injuries are preventable and that unsafe conditions and behaviours are unacceptable.

Success also requires a dedicated and focused safety infrastructure to ensure that the forest industry has the means to promote skill, experience and competence through the certification of workers, the pre-qualification of firms, the timely gathering and dissemination of safety information, on-going research on best practices and the impact of emerging technologies and other trends on the health and safety of workers.

Success requires that the forest industry treat the health and safety of workers and worksites as both a shared and individual responsibility and as an over-riding priority.

Finally, the success of the recommended Action Plan requires rigorous and effective implementation. In the past, recommendations have been made, put into reports, set to stakeholders and the relevant agencies and ministries, without thought as to how to manage the complex change of attitudes, procedures, programs and infrastructure. For this reason, the Task Force is recommending that there be a dedicated implementation team to ensure that there be a continuous focus on the important changes that are required. This team will be critical if the cultural change that is needed is to emerge.

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Therefore, the Action Plan is based on the following four key pillars:

1. **Cultural Change – Action #1** - The Development of a Sector-Wide Health and Safety Accord
2. **Assured Capacity – Action #2** - The Development of a Sector-Wide Health and Safety Infrastructure
3. **Shared Responsibility – Action #3** - Promotion and Implementation of Cascading Responsibilities
4. **Rigorous Implementation – Action #4** – Creation of an Implementation Team

The solutions being recommended by the Task Force are not new nor are they groundbreaking. The solutions were gleaned from best practices within the industry itself, from other sectors, such as oil and gas and mining and from other jurisdictions, such as the United States, New Zealand and Finland. In this way, the Task Force believes that its recommendations and Action Plan are achievable with support and commitment from within the sector.

## Background

The Forest Safety Task Force was established by the Honourable Graham Bruce, Minister of Skills Development and Labour (“Minister”) in July 2003 “to target the unacceptably high rates of deaths and serious injuries in British Columbia’s forest industry.” The impetus for the Task Force was clear – on average, 25 workers die every year in BC forests. Over the last 10 years, BC has lost 250 forest workers. Many more have sustained serious, often career ending injuries. Between August 1 and December 11, 2003 (the duration of time when the Task Force met) there were three reported deaths in the BC forest sector.

The impact of deaths and serious injuries in the forest sector is devastating on families, friends and co-workers. This impact, however, is generally not felt beyond the worker’s family or community. This is in stark contrast to the impact that is felt throughout the Province when a police officer or firefighter dies in the line of duty or a window cleaner falls

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to their death in downtown Vancouver. Deaths and serious injuries in the forest sector have become socially acceptable; this must change.

The mandate of the Task Force was to develop an Action Plan to reduce the number of deaths and serious injuries in the industry by half over the next three years, with further reductions in later years, and to report back to the Minister. The Task Force was asked to use the 2002 Industrial Wood and Allied Workers of Canada (IWA) report “*Coastal Logging Occupational Health and Safety*” as a starting point for its work. The IWA report made 29 recommendations for improving health and safety in the coastal logging sector.

In its initial deliberations, the Task Force decided that in order to be successful it would need to set an aggressive target. The Task Force thereby agreed to develop an Action Plan to *eliminate* deaths and serious injuries in the industry and do so *as soon as possible*. The Task Force also determined early on that a successful Action Plan would require the commitment and engagement of all key forest industry stakeholders in all regions of the Province including fallers, truck drivers, regional forest industry associations, forest companies, First Nations groups, and Government. The Task Force established that this would require more than requests for views and opinions and held on-going and open consultations throughout its term. The Task Force also drew from the considerable experience and expertise of a number of advisors who made invaluable contributions throughout the term of the Task Force.

The work of the Task Force focused on identifying the key drivers of serious deaths and fatalities, identifying gaps, challenges and opportunities, examining best practices, developing recommendations and an Action Plan and establishing a vehicle to sustain the implementation of the Action Plan. While the Task Force was to develop an Action Plan to reduce the number of serious injuries and deaths in the forest sector, focus was placed on logging operations, which is where the majority of deaths and seriously injuries are occurring.

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From the outset, the Task Force recognized five factors that would assist its deliberations:

- First, the level of concern over safety in the industry is shared equally by all members of the Task Force. The IWA, workers, industry associations, and large and small employers came together despite very busy schedules, the soft wood lumber dispute, collective bargaining, and the devastating wild fires in the Province's Interior to tackle the issue of safety in an open and collaborative manner.
- Second, there was unequivocal agreement of why the death and serious injury rates in the industry continue to be unacceptably high. These reasons are discussed below and form the background chapters in this Report.
- Third, the need for a fundamental cultural shift in how the industry perceives safety was raised repeatedly as a primary area of concern. Nothing will be accomplished if the industry does not treat safety as its over-riding priority.
- Fourth, all agreed that the industry itself must own and regulate safety at all levels; the responsibility for safety cannot be delegated.
- Fifth and finally, while the majority of deaths and serious injuries are occurring in small operations on the Coast, it was agreed that the elimination of deaths and serious injuries of forest workers will require the support and backing of the entire sector.

## Key Drivers of Injuries and Deaths

The Task Force identified and examined the key drivers of death and serious injury in the industry according to five factors: cultural and social, human, structural and technological, regulatory and economic. The Task Force agreed that each of the five factors is critical to understanding why serious injuries and deaths have been resistant to change. The factors, however, are not discrete and were examined collectively in developing recommendations.

***Cultural and Social Factors*** – The culture of the forest industry is one where risk taking is still considered part of the job, actions are only “unsafe” if you get injured and serious injuries and fatalities, while unfortunate, are an acceptable price of doing business. This must change. The sector must, as a whole, take the position that safety is an over-riding

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priority, that every serious injury and every fatality is preventable and all unsafe acts and conditions are unacceptable.

To make a real and lasting difference, the sector must not only introduce new safety initiatives and procedures, it must provide an environment where a safety culture can succeed. These changes are significant and will take leadership, commitment and time.

***Human Factors-*** There are many causes of human error and misjudgment that can and have caused serious injuries and deaths in the woods. Fatigue, de-hydration, inadequate mental and physical conditioning, stress and the use of drugs and alcohol are to name only a few. Eliminating deaths and serious injuries will mean that all workers report to work mentally and physically prepared and that employers provide environments to enable workers, supervisors and employer to identify and effectively address issues that lead to human error and misjudgment before they impact safety.

***Structural and Technological Factors-*** The forest sector is going through profound changes, driven by technology, the changing characteristics of the resource and competitive pressures. The response has been consolidation into larger, stronger companies, and greater use of contractors and sub-contractors. These changes have an impact on safety.

Small operations - those that employ 20 or fewer workers - perform some of the most dangerous work in the industry and the rate of fatalities and serious injuries is much higher for the 50 per cent of forestry workers who work in these small operations (67 per cent of serious injuries and 70 per cent of the deaths in the forest sector occur in small operations).

The growing use of contractors and sub-contractors and the entrance of more one and two person operations into the sector are reinforcing these trends. There is less capacity in the small firms to provide in-service training and the quality of employee supervision and training programs routinely available in the larger companies.

The Task Force recognizes that a significant number of fatalities and serious injuries could have been prevented had the individual been better prepared, trained and supervised. While there are several excellent training programs in the sector, these are not uniformly available and are frequently delivered without the benefit of sector wide standards. Sector-wide training, professional development and certification programs are required that recognize the

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differing needs and challenges of small versus large operations, regional differences, the impact of emerging technologies, and new workers versus industry veterans.

***Regulatory Factors-*** The move to market-based provincial forestry policy was identified by some industry stakeholders as a contributor to the industry's poor safety record. The Task Force acknowledges that while the regulatory environment may create pressures and incentives for employers to realign operations to increase competitiveness, firms must not be excused from ensuring that safety remains an over-riding priority.

Changing the safety record of the logging sector must emanate from a change in the culture of the sector itself. There is no single set of actions that will ensure such a change takes place. There are opportunities, however, to reinforce an over-riding safety culture for the industry through legislation. Integrating such things as health and safety pre-qualification standards, certification and mandatory training into the timber bidding process, smoothing stumpage rates, addressing overlapping and underlapping authorities of regulatory agencies, and implementing a renewed WCB compliance regime that focuses on the full forestry operation from the individual worker to the tenure holder are some of the steps that can assist the industry to improve its safety record.

***Economic Factors-*** Finally, the Task Force identified the uncertain economic environment as a possible contributor to the sector's poor safety record. Pressures to become more competitive, improve productivity and lower costs opens the possibility that safety can take a back seat to costs. The Task Force rejects any suggestion that the current economic stress on the forest sector means that it cannot afford to support a major initiative to improve safety. To the contrary, if the current situation is left unaddressed, the cost to the industry will continue to grow and will not be sustainable in the future. The workers' compensation pool for the Forestry Rate Group is being depleted and will, if no change occurs, require significant increases in employer assessment rates. The Task Force believes that safety must be treated as a line item in business operations and that developments in safety contribute to the long-term viability, not only of individual firms, but of the sector as a whole.

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## Structure of Report

The Report is divided into three parts. Part 1 contains a List of Actions and Recommendations and a proposed Implementation Plan. Part 2 contains the Background Chapters, including an overview of the mandate of the Task Force and its work, a brief description of the forest sector in BC and a discussion of each of five factors identified by the Task Force as drivers of deaths and serious injuries in the forest industry. Part 3 contains the Report Appendices, including the summary of consultations.

## Concluding Remarks

The following Report and Action Plan were developed by leaders from all facets and regions of the logging sector in BC— fallers, truck drivers, union leaders, CEO's of large and small forest companies, and independent operators. In this way, the Report represents the efforts and coming together of the forest sector. The Task Force firmly believes that if its Action Plan is fully implemented, an average of 25 lives will be saved and 92 serious injuries prevented in the BC forest sector each year.

This Report, however, will do nothing in itself to eliminate serious injuries and deaths in BC forests. It's what is done with this Report that matters. The industry must work together to drive the recommendations of the Task Force and take ownership for implementing the Action Plan.

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## THE ACTION PLAN

The following is a comprehensive list of actions and recommendations of the Task Force. The list is organized according to four actions where the Task Force believes it can effect culture change and eliminate deaths and serious injuries in BC's forests:

- 1) Developing a sector-wide health and safety accord,
- 2) Developing an infrastructure to sustain implementation,
- 3) Promoting and implementing cascading responsibility for safety, and
- 4) Following-up with rigorous implementation.

Each of the major recommendations or groups of recommendations is followed by a proposed implementation plan.

The Task Force acknowledges that a structured and phased-in approach that includes on-going discussions and negotiations with key industry players, such as the IWA, industry associations, government, large and small employers and workers will be required to successfully implement its recommendations and actions.

### **ACTION #1 – DEVELOP A SECTOR-WIDE HEALTH AND SAFETY ACCORD**

A key conclusion of the Task Force is that safety will not significantly improve until there is a significant shift in attitudes about safety. Without this shift, the long-term changes that have been targeted by the Task Force will not occur.

To make this shift, the entire industry must acknowledge that there is a deeply entrenched bias to discount the importance of working safely and that it will take time and resources to change this. As a first step, the industry must make a significant gesture to signal its commitment to cultural change and to make the health and safety of workers an over-riding priority.

A Health and Safety Accord that captures the industry's principles and beliefs in this area will become a "Safety Constitution" that can then be used to guide the sector in many

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different areas. It will provide the impetus for companies, organizations, governments and individuals to make changes in current attitudes and practices.

Such an Accord will only be as effective as the forest industry makes it. Unless it becomes a catalyst for change, it will be reduced to “a few nice words” that everyone accepts on their own terms and does not result in positive change.

To be effective, the Accord must be widely endorsed by the Forest Industry. There should be real and positive benefits for those organizations, governments and individuals that adopt the Accord. Accordingly, the first recommendation of the Task Force is as follows:

## ***Recommendation #1 – Adopt a Health and Safety Accord***

*The Task Force recommends that the Forest Industry adopt and endorse a Health and Safety Accord to signal its commitment to health and safety as an over-riding priority and to guide changes to attitudes, procedures and operations needed to create a safety culture throughout the industry. To ensure that the Accord is effective, it should be endorsed by key organizations and companies within the sector. The adoption of the Accord is to become part of the development of criteria for the pre-qualification and certification of forest companies, contractors and independent operators and considered a prerequisite for bidding on timber contracts.*

The Task Force proposes the following Accord as a starting point:

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## **THE HEALTH AND SAFETY ACCORD OF THE BRITISH COLUMBIA FOREST INDUSTRY**

### ***Our Key Beliefs:***

- We believe that all fatalities and injuries are preventable.
- We believe in a culture where the health and safety of all workers is an over-riding priority.
- We believe that excellence in health and safety is important to our long-term success.

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## ***Shared Responsibility:***

- We are collectively and individually responsible for the safety of all workers and all worksites.
- Individuals must assume responsibility for their own safety and the safety of co-workers by following all safety rules, procedures and practices; by refusing to perform unsafe work; and by taking collective responsibility for the unsafe conduct of others.
- Tenure holders, licencees and prime contractors must take a leadership role in ensuring worker health and safety and assuring accountability for safety on the worksite.

## ***Recognition of Safety Performance and Practices:***

- The commitment to health and safety is to all workers, not just direct employees. When engaging contractors, sub-contractors and others to provide services, the selection process and administration of contracts will include recognition and support of good safety performance and practices.
- Employers will recognize and support the safety performance of their employees.
- All owners of forested lands, tenure holders and licencees will give weight to the safety record and current practices of companies in the awarding of contracts and in the determination of fees and levies.

## ***Commitment to Training and Supervision:***

- We understand the importance of workers being fully prepared for the work they do and the provision of competent supervisors who will insist on and enforce safe work practices. All workers on the worksite must be competent and fully trained and certified for the work they are performing.

## ***Legislation:***

- It is understood that the regulatory environment of the Forest Industry can have profound impacts on safety. Accordingly, government ministries and agencies must take into account the importance of health and safety when developing, reviewing and drafting applicable areas of law and regulation.

## ***Continual Improvement:***

- We are committed to the on-going improvement of our practices and support efforts to develop and implement new methods, procedures and technologies that have the potential to improve safety.

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Consistent with principles set out in the above Accord, a second priority is to ensure that the industry takes specific and concrete measures to make safety an over-riding priority. This will require significant effort and commitment throughout the industry.

### ***Recommendation #2– Make Safety an Over-Riding Responsibility***

*The Task Force recommends that tenure holders, licencees and industry employers integrate safety as an over-riding priority and, in particular, into those measures that promote competition and economic efficiencies. Such measures could be recognized through an industry-wide rate incentive program.*

#### **Implementation**

A Forest Sector Implementation Team (“Implementation Team”) is to be established to consider the language and content of the Health and Safety Accord and the manner in which it is to be endorsed and adopted as a sector-wide constitution on safety. (See Recommendation #20 for more detail on Implementation Team).

The Implementation Team will work with industry to identify concrete measures that can be taken to ensure that safety becomes the priority set out in the Accord and specifically into measures that promote competition and economic efficiencies.

#### **Timeline**

- |              |  |
|--------------|--|
| April 2004   | Implementation Team to finalize Accord and detailed implementation strategy.   |
| April 2004   | WCB to consider adoption of Accord and integration of safety as over-riding priority as part of rate incentive program.                                  |
| July 2004    | Target for adoption and endorsement of forestry organizations and associations, IWA, WCB and Government.   |
| January 2005 | Adoption and endorsement of Accord as part of criteria for obtaining pre-qualification certification and a prerequisite for bidding on timber contracts. |

#### **Funding:**

WCB should be requested to fund the work of the Implementation Team (the costs of which are not expected to be material) and to provide in-kind support in the form of a Secretariat.

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## **ACTION #2 – A SECTOR-WIDE INFRASTRUCTURE**

Many of the important conclusions and recommendations of the Task Force will be of little effect if there are no means to ensure that they are acted on throughout the sector on an on-going basis. This requires a dedicated and focused safety infrastructure.

The term “infrastructure” rather than agency is used to underline that the Task Force does not necessarily believe there should be one organization or approach adopted. There needs to be a careful review of what services and programs currently exist, and the objectives that we are trying to meet through this infrastructure.

The Task Force is convinced, however, that if the need for certification of individuals is to be addressed, an organizational framework is required that will ensure standards are set, training requirements are established, certification is issued, and data is tracked and maintained.

The same applies to setting qualifications for firms, gathering and disseminating information and dealing with the many developments that must be considered on a sector wide basis.

This requires the development of an effective sector-wide safety infrastructure.

Effectiveness requires that the infrastructure is owned and controlled by the sector, and that issues related to mandate, governance, priorities and workplan are addressed.

### ***Recommendation #3 – Create a dedicated Health and Safety Infrastructure***

*Tender holders and prime contractors must acknowledge that while the majority of injuries and deaths are occurring in small firms, reducing the numbers will require a sector-wide solution and financial backing from all industry classification units. The Task Force recommends the establishment of a sector-wide Forest Safety Infrastructure that is funded by the entire sector. This Infrastructure must be owned and operated by the industry and become the primary driver to ensure that the significant and long-term changes recommended by the Task Force are acted upon and sustained over time. This will include the implementation and management of Recommendations 4-11. The over-riding mandate of the infrastructure would be to work with the industry, governments and other stakeholders to eliminate serious injuries and fatalities in the BC forest sector.*

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## **Implementation**

Implementation Team is to recommend the development of an appropriate infrastructure that is designed based on the needs of what is required by the implementation of all other Task Force recommendations. The Implementation Team is to provide direction on the nature of the infrastructure in terms of mandate, governance, funding, etc. Regional variations and the unique needs of the industry are to be taken into account when developing the infrastructure.

## **Timeline**

|                |   |
|----------------|---|
| March 2004     | Completion of inventory, gap analysis and needs assessment of safety programs and infrastructures   |
| June 2004      | Completion of detailed design of the infrastructure (including specific Terms of Reference) and presentation to WCB Board and key stakeholders on implementation and funding. |
| September 2004 | Key personnel engaged, infrastructure put into place and relationships with sector stakeholders and existing organizations established.                                       |
| December 2004  | New structure in place and functional.  |

## **Funding**

Resources should come from three sources:

- Reallocation and redirection of funds that are currently in place and targeted toward supporting safety initiatives.
- Direct funding through contributions, tuition and other sources, by individuals, companies and organizations.
- Funding from the entire Forest Sector Insurance Pool against the prospect of future savings and cost reductions. This requires approval by the WCB and would be administered through the WCB.

## ***Recommendation #4 - Develop Pre-Qualification Standards***

*The Task Force recommends the implementation of an occupational health and safety pre-qualification standard that must be met by all firms working in BC forests. This pre-qualification standard will have a number of potential applications, including being considered as an important element in the awarding of harvesting rights through timber sales while being sensitive to the need to uphold open competition among large and small operations.*

*Occupational health and safety standards will be developed setting out specific requirements that each employer, contractor, sub-contractor, and independent operator must meet in order to obtain pre-qualification to bid on contracts or timber permits. The standards will be adapted to respond to the risks associated with new and emerging technologies.*

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*Pre-qualification standards will help to ensure that those companies or contractors who carry out the work for tenure holders, large employers, or prime contractors meet a minimum level of safety. Those who met certification standards will be pre-qualified to bid on contracts and timber licenses.*

*The differences in risk associated with terrain, climate, tree type and use of mechanization of each region will be considered in developing standards and in awarding certification (by Type or Class).*

### **Implementation**

Implementation Team is to develop a detailed implementation strategy including the provision and management of pre-qualification certification process as part of the mandate of the Sector-wide Safety Infrastructure. The WCB is to work with industry to develop standards and a process for assessing and approving in-house programs (equivalency certification).

### **Timeframe**

Jan-April 2004 WCB to work with industry to develop pre-qualification standards and process for approving in-house programs.

June 2004 Implementation Team to develop process for implementing and managing pre-qualification standards as specific mandate of Sector-Wide Safety Infrastructure.

January 2005 New infrastructure to provide certification to those who show that they meet standards and offer training to employers who do not meet standards. Database of certification to be maintained and made publicly available.

### **Funding**

- Reallocation and redirection of funds currently in place and targeted toward supporting safety initiatives.
- Direct funding through contributions and fees by companies and organizations.
- Funding from the Forest Sector Insurance Pool against the prospect of future savings and cost reductions. (This requires approval by the WCB and would be administered through the WCB).

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## ***Recommendation #5 – Encourage Open and Safe Workplaces***

*Workers must take ownership over their safety and the safety of their co-workers. Workers' commitment to safety should be encouraged and recognized, enabling them to raise concerns with co-workers and employers without reprimand, to feel comfortable reporting dangerous practices, conditions and near misses and to be knowledgeable of and supported in their statutory right to refuse unsafe work. The Task Force recommends employers encourage workplaces that support these principles.*

## ***Recommendation #6 – Develop Uniform Training and Certification Standards***

*All forestry workers must be skilled and competent professionals. Therefore, the Task Force recommends that uniform training and certification standards be developed that are recognized by all employers across the sector and include measures to support ongoing competence. It is also recommended that Faller and Bucker Certification be implemented as soon as possible and be followed by the certification of other appropriate forestry industry occupations. The Task Force recommends this process begin with the certification of supervisors and that all supervisors be recognized by the industry as skilled and experienced professionals.*

## ***Recommendation #7 – Build on Existing Expertise***

*The Task Force recommends that on-going training, supervision and knowledge of emerging safety practices and technologies be included in a sector-wide training and certification model.*

## ***Recommendation #8 – Introduce New Technologies***

*The Task Force recommends that the industry adapt training programs to address risks that new equipment or practices may create and work together to identify technologies that create excessive risk to workers and develop comprehensive safety procedures for these technologies or deem them unsafe.*

## ***Recommendation #9 – Implement First Nations Training***

*First Nations are becoming increasingly involved in the forest industry and the number of First Nation forestry companies is expected to increase. As such, the Task Force recommends that the development of training programs acknowledge the particular requirements of First Nations to ensure an awareness of safety issues and the availability of training programs.*

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## ***Recommendation #10 - Recognize Safety as Key to Business Success***

*The Task Force recommends that industry employers support ongoing safety and training programs and recognize that the development of safety is an investment in the long-term viability of one's business and the overall industry. It is recommended that such measures be considered in the establishment of a sector-wide rate incentive program.*

### **Implementation**

A process is to be developed for certifying workers and supervisors in the forest sector that requires workers to show they meet standards for key elements of the job, focusing on knowledge of health and safety requirements and safety procedures, knowledge of the right to refuse unsafe work, skill and ability in conducting risk assessments, and knowledge of the risks associated with new and emerging technologies. Revocable certification “tickets” are to be issued for renewable terms by class and type. Certification standards are to include requirements for ongoing professional development.

The WCB is to finalize the standards for faller and buckler certification and forest sector is to implement (recognizing that one agency cannot provide and enforce certification at the same time). The WCB is to also work with industry to identify the order of certification of other workers (where certification makes sense) and to develop certification standards for each. New workers are to be trained to meet certification standards prior to beginning work. Existing workers who do not meet standards are to be grandfathered.

The Implementation Team is to include the development and on-going management of certification process as part of mandate of Sector-Wide Safety Infrastructure, including registration, assessment and training, issuance of certification “tickets”, on-going professional development, and maintenance of worker certification database.

### **Timeline**

February 2004 WCB to launch Faller & Bucker certification standard and develop timeline for certification of other occupations (where it makes sense), starting with supervisors

June 2004 Implementation Team to develop process for implementing and managing certification standards as specific mandate of Sector-Wide Safety Infrastructure.

Sept 2004 Standards for certification of supervisors completed.

January 2005 Process for implementing and managing certification standards up and running.

### **Funding**

Certification to be funded by individual workers or their employer as may be decided.

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## ***Recommendation #11 - Make Health and Wellness Programs Available***

*The Task Force recommends that on-going health and wellness and support programs be more broadly available and recognized within the sector and not just within the larger companies.*

*Such programs must effectively address current and emerging physical and mental conditioning issues (including fatigue, de-hydration etc) that adversely affect health and safety. Support programs must be available to assist workers to deal with personal issues that can affect safety. Additionally, substance abuse must be recognized as an issue and mechanisms put in place to prevent substance abuse on the job.*

*Employers and supervisors must have the tools to effectively address substance abuse issues when they are revealed.*

### **Implementation**

To be referred to the Implementation Team (to include health and wellness programs as part of mandate of Sector-Wide Safety Infrastructure).

### **Timeline**

June 2004 Implementation Team to conduct assessment of current wellness programs and how these can be more generally available within the sector along with a needs assessment and gap analysis. Implementation Team to include the provision of health and wellness programs as part of mandate of Sector-Wide Safety Infrastructure.

January 2005 Health and Wellness programs to be made available sector-wide.

### **Funding**

Employers to fund program as part of Sector-Wide Safety Infrastructure.

## ***Recommendation #12 - Enhance Information Dissemination***

*The Task Force supports the recommendation of the IWA Task Force on BC Coastal Logging Occupational Health and Safety that “when a fatality occurs in the forest industry, public awareness be heightened by putting forward relevant, meaningful, constructive and considerate information to the media in a timely manner.”*

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## ***Recommendation #13 – Provide Better Information***

*The Task Force recommends that industry and government agencies collaborate to ensure more timely distribution of information on investigations, deaths and serious injuries in the forest sector (without compromising their legal mandates)*

### **Implementation**

WCB to initiate bi-annual meetings with relevant agencies to develop strategy to enhance information dissemination.

Implementation Team to include process for identifying information needs in mandate of Sector-Wide Safety Infrastructure.

### **Timeline**

March 2003 WCB holds first meeting with relevant agencies

June 2004 Implementation Team develops proposal for infrastructure that includes process for identifying areas where more information or more timely information on forest safety is required.

January 2005 New approaches and systems for information dissemination implemented.

### **Funding**

Initiative to be funded by agencies involved through in-kind support.

## **ACTION #3 - PROMOTE AND IMPLEMENT CASCADING RESPONSIBILITY FOR HEALTH AND SAFETY**

Responsibility for safety is both a shared and an individual responsibility. Safety is not something that can be delegated. It must be owned and driven by the industry as a whole. This principle must translate to the industry in three ways: 1) through the implementation of a compliance model that recognizes the responsibilities of each party in ensuring that workers and workplaces remain safe, 2) in the inclusion of worker health and safety as an underlying consideration of the regulatory-making process, and 3) in the formulation of a rate incentive program that recognizes those who endorse and support a sector-wide health and safety programs.

## ***Recommendation #14 – Renew WCB Compliance Strategy***

*Tenure holders and prime contractors cannot delegate responsibility for safety. Toward this end, the Task Force recommends the WCB adapt its compliance strategy in a way that recognizes the health and safety responsibilities of all workplace parties— from individual worker to tenure holder to the owner of forested*

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*land. As part of this strategy, the WCB must adopt specific standards that each party is expected to meet in order to comply with health and safety regulations. Guidelines for determining when to move the focus of enforcement and investigative activities beyond ground operations and up to the prime contractor and/or tenure holder must also be developed and clearly communicated to the sector.*

### **Implementation**

WCB to consult with industry in the development of compliance model. The Model is to include clear and specific guidelines for each industry group for meeting health and safety responsibilities. The Model is to also include guidelines for determining when WCB officers move focus of enforcement and investigation beyond ground-level operations.

### **Timeline**

|               |   |
|---------------|---|
| January 2004  | WCB to develop proposed compliance model.                       |
| February 2004 | WCB to consult with industry on proposed model.                 |
| March 2004    | Implementation of renewed model to be communicated to industry. |
| May 2004      | Renewed Compliance Model implemented and enforced.              |

### **Funding**

Costs associated with implementing renewed compliance strategy (e.g., consultation, communication and officer training) to be funded by WCB.

### ***Recommendation #15 – Eliminate Regulatory Overlap and Underlap***

*The Task Force recommends the forest sector work with the WCB and other agencies to identify and address overlap and underlap in safety regulations and enforcement in the forest sector and maintain cooperative and complementary regulatory approaches by all agencies that includes notifying one another of areas of potential risk or concern.*

### ***Recommendation #16 – Secure Government Support***

*The Task Force recommends that Government show its support for worker safety by recognizing the impact on worker health and safety as part of Government's regulatory criteria checklist used in the development or modification of regulations.*

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### ***Recommendation #17 – Review Safety Impact of Tenure Management***

*The Task Force recommends that consideration be given to identifying a process to smooth stumpage rates to remove the incentive to concentrate production during periods when prices are low thereby creating potential risks such as congested logging roads and overcrowded cutting areas (often referred to as “stumpage bingo”).*

### ***Recommendation #18 – Better Coordination of Road Use and Planning***

*It is recommended that tenure holders work together to develop a system to share information on road use planning to prevent overcrowding on logging roads and logging road collisions.*

#### **Implementation**

The provincial government will be asked to consider including “the impact of worker health and safety” as an additional criteria in the BC Government’s Regulatory Criteria Checklist (part of Regulatory Reform Policy) so that worker safety is not inadvertently jeopardized in the development of legislation. The government will also be asked to consider smoothing stumpage rates and considering the role of the Crown as a licensee in the timber bidding process (in light of the health and safety of workers).

WCB is to conduct a review and inventory of overlap and underlap in jurisdiction affecting safety in consultation with relevant agencies.

#### **Timeline**

April 2004      Implementation Team to follow up with Government on its response to recommendations.

June 2004      Comprehensive review of overlap and underlap to be conducted.

#### **Funding**

Cost of reviews to be covered by relevant agencies.

### ***Recommendation #19 – Provide Financial Incentives***

*The Task Force recommends that the WCB Board of Directors consider the adoption of a comprehensive rate incentive funding model for firms that endorse and operate according to a sector-wide safety model (to include the endorsement of the Health and Safety Accord, obtaining pre-qualification certification, investment in on-going safety programs etc.)*

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### **Implementation**

The WCB experience rating system currently recognizes firms with good safety records and penalizes those with poor safety records by applying surcharges and discounts on assessment rates. Rate incentive programs that provide additional discounts for firms that adopt safety programs currently exist in other industries and have proven to be successful in reducing injury rates (e.g. the Certificate of Recognition program in construction industry). Such programs may serve as a useful starting point for the establishment of a similar program in the forest sector.

Criteria would be developed to apply additional rate discounts. Criteria to include: endorsing and operating in accordance with Forest Safety Accord, obtaining pre-qualification certification, and maintaining a good safety record.

### **Timeline**

Feb-April 04 – WCB to develop specific proposal in consultation with industry.

May 04- WCB to seek approval from its Board of Directors.

July -04 – WCB to implement program.

### **Funding**

WCB to manage credits and surcharges through Forest Sector insurance pool – funded by forest companies.

## **ACTION #4 – ENSURE EFFECTIVE FOLLOW-UP**

The extent of the changes being recommended by the Task Force requires continuity and systematic follow-up. It will not be enough to simply recommend follow-up by all of the companies, organizations, agencies and ministries involved, and expect that it will happen without coordination and focus. What is required is a change agent; a group of knowledgeable individuals drawn from the sector with the mandate and resources to ensure that the Action Plan is implemented.

For this reason, the Task Force proposes a second phase to its work. An Implementation Team is necessary to ensure the completion and implementation of the Health and Safety Accord, the development of a dedicated and sector-wide health and safety infrastructure and to generally, start the process of achieving a fundamental cultural shift. As such, the Task Force recommends the following:

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### ***Recommendation #20 – Create an Implementation Team***

*The Task Force recommends that a Forest Sector Implementation Team representing key players in the industry be established as Phase 2 of the Task Force. The mandate will be to implement the Action Plan.*

*The Team is to be appointed in January 2004, in consultation with the Minister of Skills Development and Labour, and is to develop and carry-out detailed strategies for implementing the recommended actions of the Task Force that require industry-wide follow-up.*

#### **Implementation:**

An Implementation Team is to be established by the Chair of the Task Force in consultation with the Minister.

#### **Timeline**

January 2004 Implementation Team appointed.

#### **Funding:**

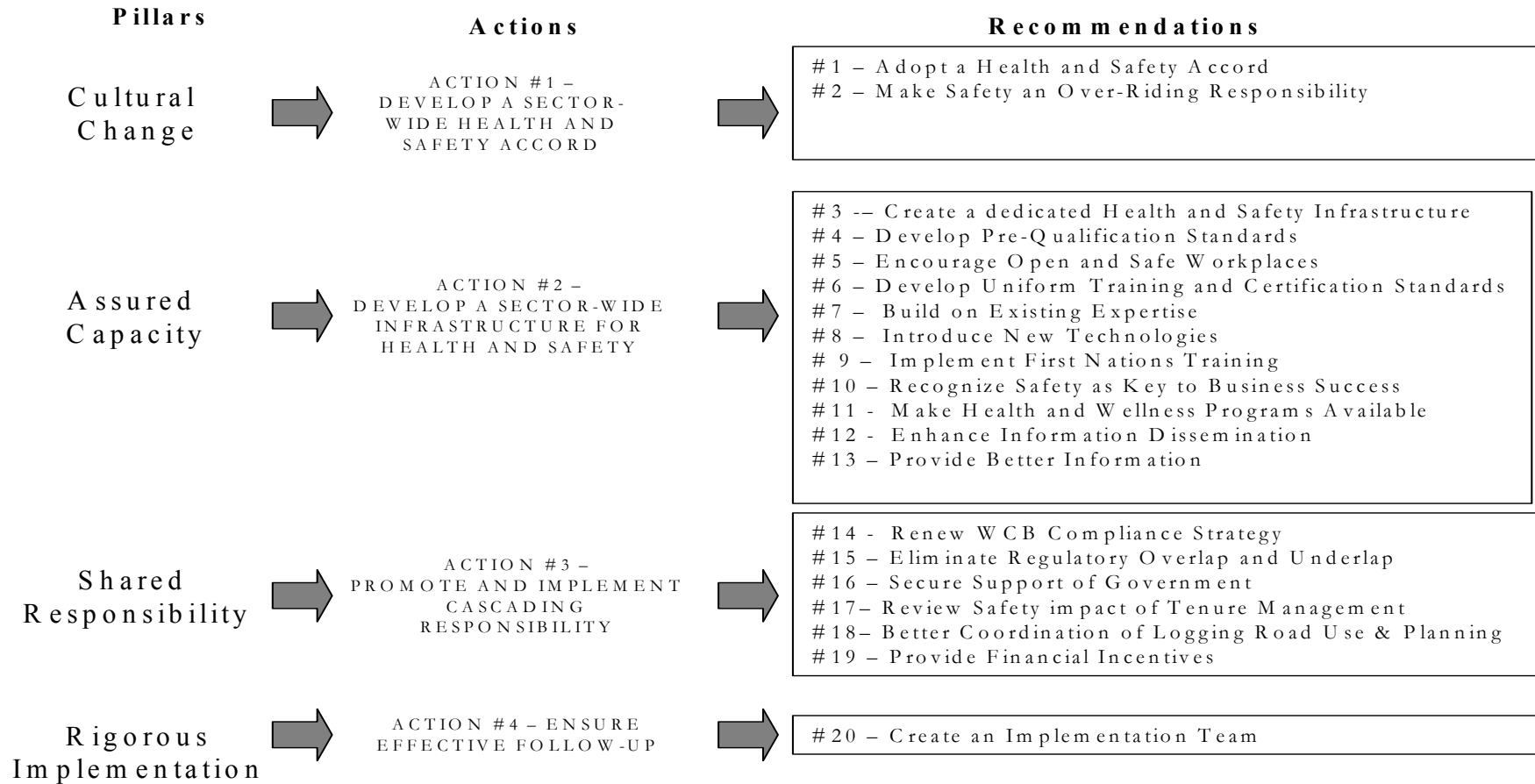
WCB should be requested to fund the work of the Implementation Team (the costs of which are not expected to be material) and to provide in-kind support in the form of a Secretariat.

The Diagram on the following page sets out the relationship between the pillars, key actions and recommendations.

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## Forest Safety Action Plan



# FOREST SAFETY TASK FORCE

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## CHAPTER 1.0- STATEMENT OF PURPOSE

### Purpose

The purpose of this chapter is to introduce the work of the Forest Safety Task Force by discussing:

- why the Task Force was created,
- what was accomplished, and
- how the Task Force carried out its work.

### Why the Task Force was Established

The Minister of Skills Development and Labour established the Forest Safety Task Force in July 2003 to address the unacceptably high number of serious injuries and deaths occurring in the British Columbia (BC) forest sector each year. The Task Force was asked to use the 2002 report of the Industrial Wood and Allied Workers Union of Canada (IWA Canada) entitled “*Coastal Logging Occupational Health and Safety*” as a starting point for its work and to report back to the Minister by the end of 2003. The impetus for the Task Force was clear – too many workers are dying or being seriously injured in BC forests despite efforts by industry leaders to improve safety records.

The Task Force agreed early on that in order to be successful it would need to reach for an aggressive target. As such, instead of reducing deaths and serious injuries, the Task Force agreed to develop an action plan to eliminate deaths and serious injuries in the industry and do so as soon as possible.

### Importance of the Forest Sector

The forest sector is vital to the Province of BC. It is a significant contributor to the province’s overall economic health and to the social and economic well being of many of its communities.

Some important facts about the industry:

- Of the province’s 63 regional economic areas, 41% rely on forestry as their principal source of income.<sup>1</sup>
- There are over 7000 forest employers registered with the BC Workers’ Compensation Board (WCB) who directly employ approximately 90,000 workers, including more than 28,000 who work in the woods.
- The sector has as a payroll of \$1.2 billion, and contributes 4.6% to the provincial tax revenues (excluding direct employee income tax payments and other taxes) and 3.5% of the provincial Gross Domestic Product.<sup>2</sup>
- In 2001, BC forest product exports accounted for 46% of all provincial exports.<sup>3</sup>

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<sup>1</sup> Source: British Columbia Local Area Economic Dependencies and Impact Ratios — 1996. BC Stats. Ministry of Finance and Corporate Relations. May 1999.

<sup>2</sup> Sources: Workers’ Compensation Board Prevention Division, BC Government Budget and Fiscal Plan 2003/04 to 2005/06 and BC Government 2002 Financial and Economic Review - July 2002.

<sup>3</sup> Ipsos Reid Report – “BC’s Forest Industry: Turning Over a New Leaf or Continued Decline?” March 2003.

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## Unacceptable Rate of Serious Injuries and Deaths

Despite efforts to improve safety, workplace incidents that result in serious injury or death continue in the forest sector at an alarming rate.

The forest sector has the highest death rate of all industries in BC. Between 1993 and 2002, there were 250 forestry-related deaths. The sector's serious injury rate is about six times higher than all other high risk industries in BC at 3 serious injuries per 1,000 workers each year.

These incidents have significant costs associated with them. First and foremost, the cost is in broken backs and limbs, and is paid most tragically by workers who lose their lives, leaving behind families, friends, co-workers and employers.

There are also significant financial and productivity costs associated with work-related injuries and deaths. To put this into some perspective, in 2002 there were nearly 2000 claims from the forest sector accepted by the WCB. Of these claims, 94 were serious injuries and 24 were fatalities. In 2002, this added up to \$61.6 million in claims costs and almost 140,000 productive days lost to BC's economy. The average cost of a claim was \$32,000. Taking into account replacement costs of recruitment and training, possible property or equipment damage, overtime costs and productivity and production losses, a conservative multiplier of four gives a more accurate picture of the financial cost of injury and death in the workplace.

As the Manager of one forest company acknowledged when commenting on the cost of a traumatic fatality in a company

operation, "between closing down the facility for two days, ordering search and recovery, and the payment of a pension to the widow, I doubt there was any change left from \$1 million."

## Leaders and Followers

To continue to thrive and improve productivity and competitiveness, industry leaders have upgraded infrastructure, invested in innovation, technology and training, aggressively marketed BC's world class timber and timber products, restructured and continued to restructure. There has also been investment by many progressive employers, by unions and workers, and by the WCB in health and safety in the forest sector. This investment has demonstrated returns in reductions in the overall injury rate and served as an effective "springboard" for the Task Force.

The September 25, 2002 report of the IWA Canada Task Force on BC Coastal Logging Occupational Health and Safety is a recent example of the leadership that has been shown to identify and address the high incidence of injuries and deaths in BC forests. In its report, the IWA made 29 recommendations for improving health and safety in BC forests. The recommendations are directed at the IWA itself, WCB, government, and employers and relate to such things as awareness, education and training, the need for an effective occupational health and safety agency, and increased enforcement of occupational and safety requirements.

Leadership has also been demonstrated by employers and through industry partnerships. Weyerhaeuser, the WCB and IWA-Canada recently partnered to improve worker safety in the falling of

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timber on the BC Coast by commissioning a Falling Technology and Innovation Research Team. The establishment and expansion of the Forest Industry Safety Association (FISA) is a further example of leadership through industry partnerships. Representation on FISA is derived from employers and workers of the forest industry, and while FISA was initially focused on interior operations, it has recently expanded its sphere to include BC Coastal operations.

Despite the significant work that is being done by the industry to address safety in the forest sector, there continue to be those who treat safety in a casual manner and the unacceptably high rate of deaths and serious injuries in BC forests has endured.

## What is to be Accomplished?

The Terms of Reference of the Task Force are to develop an action plan to eliminate the unacceptably high rates of death and serious injury in the forest industry as soon as possible.<sup>4</sup> The work and outcome of the Task Force is expected to be supported by all parts of the industry including forest workers themselves. The Task Force has been asked to reach broad agreement on what needs to be done and how best to develop solutions that will be quickly implemented and will achieve the targeted reductions.

To this end, the Task Force has developed an Action Plan that, if fully implemented, will see the following accomplished:

- The death and serious injury rates in the BC forest sector will be eliminated. This means that an average

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<sup>4</sup> The Task Force Terms of Reference are attached at Appendix A.

of 24 lives will be saved and 92 serious injuries will be avoided in the forest industry each year.

- The industry and the public as a whole will have a heightened awareness of the importance of safety in the forest sector and a sense of urgency will have been brought to the need to improve safety records. Deaths and serious injuries will be seen as extraordinary, but preventable events, not as unfortunate, but inevitable consequences of the dangerous nature of the industry.
- The Forest Sector, Government and the WCB will support and implement renewed mandates for the ongoing improvement of health and safety in BC forests.

## How Did the Task Force Approach its Task?

### Scope

The work of the Task Force focused on:

- identifying key drivers of serious injuries and deaths,
- identifying key opportunities and challenges,
- examining best work practices,
- developing recommendations and a proposed Action Plan, and
- establishing a vehicle to sustain the implementation.

### Approach

In conducting its work, the Task Force acknowledged that while it is made up of a broad representation of leaders in the forest sector, the expertise and input of independent fallers, unions, associations, contractors, tenure holders and other small, medium and large employers was

## FOREST SAFETY TASK FORCE

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critical to meeting its mandate. The Task Force also acknowledged the importance of obtaining support from all corners of the industry in identifying what needs to be done and developing an effective and achievable Action Plan. As such, a comprehensive consultation strategy was implemented that included:

- Informal consultation by Task Force Members with their organizations and colleagues.

- Face-to-face and telephone interviews with industry stakeholders.
- Ongoing advice from key industry advisors.
- Focus group sessions with key industry groups.<sup>5</sup>

In terms of research, the Task Force relied on reports already undertaken on the issue of safety on the forest sector. In addition, the Task Force examined best practices of other jurisdictions and of other high-risk sectors

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<sup>5</sup> See Appendix B for the details of the Task Force consultations.

## CHAPTER 2.0 - OVERVIEW OF THE BC FOREST SECTOR

### Purpose

Chapter 2.0 provides an overview of the forest sector in BC in terms of:

- what the forest sector looks like,
- regional differences,
- injury and fatality rates and other relevant statistics,
- the human cost of serious injury and disease.

### What Does the Forest Sector Look Like?

#### Employers

According to the most recent WCB statistics, there are just over 7000 registered firms in the forest industry in BC. Of these, 97 per cent are small business operations, meaning they employ fewer than 20 workers. Only 3 per cent of firms are medium to large businesses, meaning that they employ 20 workers or more.

Employment in the industry splits equally between the medium to large size businesses and the small and sole proprietorships. The interior has traditionally seen much higher numbers of sole proprietorships and small businesses.

The WCB organizes the forest sector into eighteen Classification Units as follows:

- (1) Chemical Brushing, Weeding, Tree Thinning or Spacing
- (2) Brushing, Weeding, Tree Thinning or Spacing (not elsewhere specified)
- (3) Cable or Hi-Lead Logging
- (4) Dry Land Sort
- (5) Forest Fire Fighting
- (6) Ground Skidding, Horse Logging, or Log Loading
- (7) Integrated Forest Management
- (8) Log Booming
- (9) Log Processing
- (10) Mechanized Tree Falling
- (11) Manual Tree Falling and Bucking
- (12) Logging Road Construction or Maintenance
- (13) Shake Block Cutting
- (14) Tree Planting or Cone Picking
- (15) Log Towing
- (16) Helicopter Logging
- (17) Log Hauling
- (18) Forest Management Services

Manual Tree Falling and Bucking, Integrated Forest Management and Log Hauling are the Classification Units where most workers are seriously injured or killed.

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## Workers

The forest industry directly employs about 90,000 workers, 28,000 of who work in the woods. Occupations in the sector include: truck drivers, fallers, buckers, chasers, hook tenders, chokermen, mechanics, tree planters, supervisors, and chainsaw, skidder and machinery operators.

The typical claimant profile for workers who are seriously injured in the sector is a male faller who is about forty years old and is employed in a forest products or

logging company. Most often the cause of the injury is being struck by a falling or moving tree, log or branch.

The table below shows that the profile for serious injuries and less serious injuries is almost identical. This is significant in that the environment that can cause a minor strain can also cause a major amputation or even a death. The margin of difference between strains and sprains and serious injuries and death is very small and can be due to chance. As such, the conditions that cause less serious injuries need to be targeted in the reduction of serious injuries and deaths.



### *Typical Claimant Profile: 1998-2002*

|                              | General Claim                                     | Serious Injury Claim                        |
|------------------------------|---|---|
| <b>Occupation</b>            | Faller &/or Forestry Worker                       | Faller &/or Forestry Worker                 |
| <b>Gender</b>                | Male  | Male  |
| <b>Age</b>                   | 25-44 years (40 yrs average)                      | 25-44 years (40 yrs average)                |
| <b>Incident &amp; Injury</b> | Struck by Object:<br><i>Strains &amp; Sprains</i> | Struck by Object:<br><i>Major Fractures</i> |
| <b>Injury Source</b>         | Trees, Logs, Branches, etc.                       | Trees, Logs, Branches etc.                  |
| <b>Claim Cost</b>            | <i>\$24,800</i>                                   | <i>\$75,955</i>                             |
| <b>Days Lost</b>             | <i>24</i>   | <i>186</i>                                  |
| <b>Employed</b>              | Forest Products or Logging Companies              | Forest Products or Logging Companies        |

Source: WCB Statistics

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## Regions

BC is about 64 per cent forested with 149 million acres of forestland. The forest industry is divided geographically into three regions: Coastal, Southern Interior and Northern Interior.



Source: [www.cofi.org](http://www.cofi.org)

The **Coastal** region spans the western most portion of the province. The terrain is mountainous and the climate is generally mild, but wet. The region comprises an area of about 20 million hectares and represents about 21 per cent of BC from Victoria in the south to beyond Stewart in the north. It includes Vancouver Island, the Queen Charlotte Islands and a myriad of smaller islands and inlets. The region is home to Canada's largest trees: Western Red Cedar, Douglas Fir, Sitka Spruce and Coastal Western Hemlock, and some of the most productive forests in the world. The region relies heavily on the water system for transportation.

Coastal logging methods include hand falling and cable and helicopter yarding. In recent years other methods, like single stem harvesting, where trees are selectively logged by helicopter, have

gained acceptance and wider utilization. There is also a greater interest in and use of mechanical harvesters for coastal second growth timber where terrain and tree size make this feasible and there has been experimentation with flying harvesting machines in by pieces (by helicopter) and re-assembling them on site.

The mountainous terrain and wet climate make the Coast generally the most hazardous of the three areas to harvest timber.

The **Northern Interior** is the largest of the three regions, with an area of about 50 million hectares, or slightly more than 50 per cent of the province. The region stretches from south of Prince George north to the BC and Yukon border and from the BC and Alberta border in the east almost to Terrace in the west. The Northern Interior is the largest lumber-producing region in Canada; the most important commercial tree species are Spruce, Pine and Fir. With some exceptions, the terrain is reasonably flat.

Logging methods in the Northern Interior are predominantly mechanized. Feller bunchers are used for falling, with skidders and forwarders delivering the felled trees to the landing. At the landing, the trees are cut into lengths by a landing buckler using a chainsaw; however mechanized log processors are increasingly replacing the landing buckler.

The **Southern Interior** is highly diverse in its geography. From high mountains to fertile valleys and broad plateaus, it comprises an area of approximately 24 million hectares. Tree species of the greatest importance are Spruce, Pine, Fir, Western Red Cedar and Aspen.

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Logging methods in the Southern Interior vary with the terrain. In steep areas, logging methods are similar to those on the Coast, with a mix of hand falling and cable or helicopter yarding. In flatter areas, mechanized logging methods are widely used where timber size permits.

While climate and other factors can significantly impact the working conditions of the sector – the topography and terrain have remained the same over time.

### Relevant Statistics<sup>6</sup>

#### Overall Injury Rate

The injury rate in the forest sector has declined by 50 per cent in the last 10 years. In 1993, the injury rate was 14.4 workers injured per 100 person-years of employment. By 2002, this rate had

decreased to 7.2; however, this was still nearly 2.5 times higher than the average overall injury rate for all sectors.

Despite the decline in the overall injury rate, the sector's serious injury and death rates have been significantly higher than other high-risk sectors such as construction or manufacturing, and serious injuries and fatalities are increasing, not declining.

WCB data indicates that Integrated Forest Management companies represent the majority of overall WCB claims and claim costs. Manual Tree Falling and Bucking comprises 3% of the sector employment, representing 11% of claims, and 16% of claims costs. An increasing number of owner/operator, independent contractors, and micro operations are engaged in Manual Tree Falling and Bucking. It is estimated that approximately two-thirds of injuries and deaths in the forest sector occur in small business operations (i.e., those with 20 workers or less).

### *1998-2002 – Top Five Operations by Contribution*

| CU     | CU Description and Relative Size (person years)    | % of Total Claims | Claims Costs |
|--------|--|-------------------|--------------|
| 703008 | Integrated Forest Management (60%)                 | 39%               | 48%          |
| 703016 | Tree Planting or Cone Picking (7%)                 | 12%               | 2%           |
| 703013 | Manual Tree Falling and Bucking (3%)               | 11%               | 16%          |
| 732044 | Log Hauling (11%)                                  | 8%                | 9%           |
| 703002 | Brushing & Weeding or Tree Thinning & Spacing (3%) | 8%                | 2%           |
|        | All other units in industry                        | 22%               | 22%          |

<sup>6</sup> Statistics were compiled by the WCB Prevention Division and are from WCB statistical sources.

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## Serious Injuries

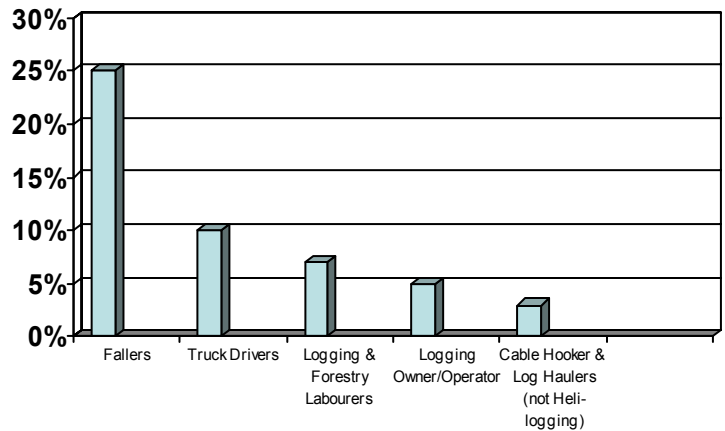
From 1992 – 2002, the serious injury rate in the forest sector was twice as high as the rate for other high-risk industries.<sup>7</sup> Every year in the industry there are 3 serious injuries per 1,000 workers. Looking back further over the decade, there were 918 serious injuries in the sector – more than 80 serious injuries annually over the last 10 years.

In the five-year period 1998 to 2002, the serious injury rate increased from 3.0 to 3.7 injured workers per 1,000 person-years of employment.

The most common cause of injury among forest workers is being struck by a tree or log. Three types of operations - Manual Tree Falling and Bucking, Integrated Forest Management, and Log Hauling - are where the most serious injuries are sustained.

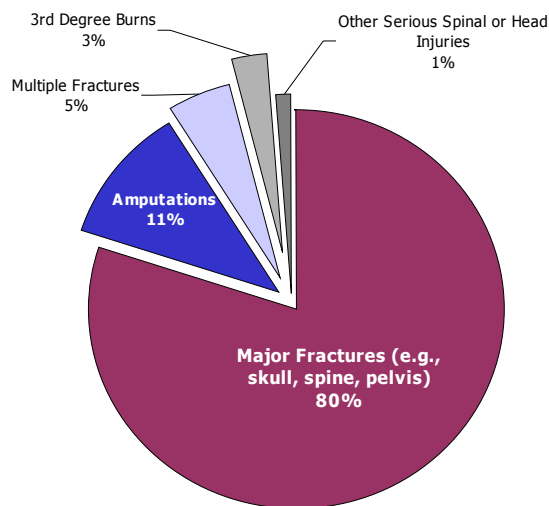
WCB claims profile data show that male fallers between the ages of 25 and 44 are the most likely to be seriously injured on the job. Fallers and truck drivers are the jobs with the highest number of serious injuries.

***Serious Injuries by Occupation 1998-2002***



Source: WCB Statistics

## ***Serious Injury Breakdown: 1993 – 2002***




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<sup>7</sup> Other high-risk industries include: Construction, Wood & Paper Manufacturing and Heavy Manufacturing.

# FOREST SAFETY TASK FORCE

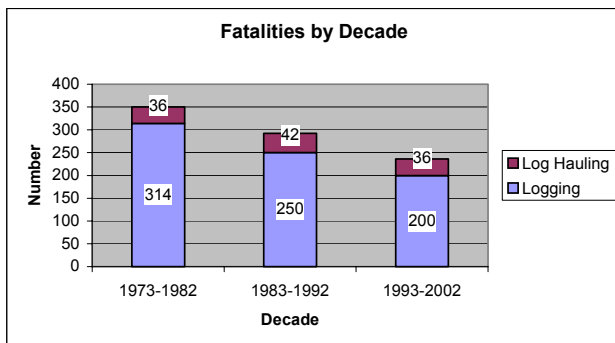
## Fatalities

Work related fatalities have been decreasing overall in BC over the years. In the forest sector, however, the picture remains quite bleak. In 8 out of the last 10 years, there have been over 20 fatalities each year. In 1993, 1996, and 1997, there were over 30 accepted fatal claims. The majority of these were traumatic fatalities.

Between 1998 and 2002, the fatality rate per year averaged close to 9 per 10,000 person years. This rate is 3 times higher than the rate of work-related fatalities for other high-risk sectors and 10 times higher than the work-related fatal rate for all BC industries.

### *Trends in Number of Deaths (1973-2002)*

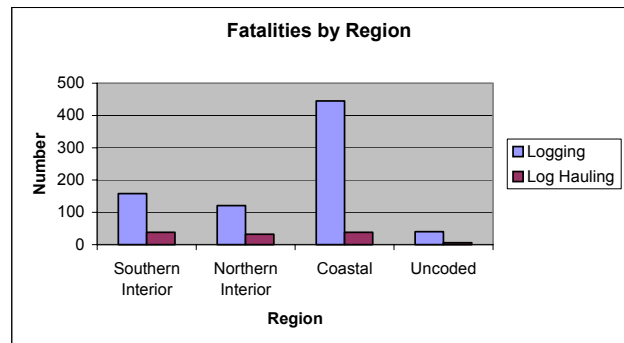
Logging and related activities account for the majority of deaths in the forest sector. The overall number of logging-related fatalities has declined since 1973. However, the number of log hauling fatalities in each decade has remained relatively constant.



Source: WCB Statistics

### *Regional Variation*

There are distinct regional differences in the number of logging deaths since 1973. Significantly more deaths occurred in the Coastal region than in the Northern and Southern Interior combined (445 vs. 121 and 158, respectively). This may be due to the adverse terrain, weather conditions and the number of small operations on BC's coast that have less capacity for safety and training programs.



Source: WCB Statistics

Such dramatic regional differences are not seen in log hauling fatalities, however. The number of fatalities since 1973 does not vary significantly by region (38 in each of the Coastal and Southern Interior regions and 32 in the Northern Interior).

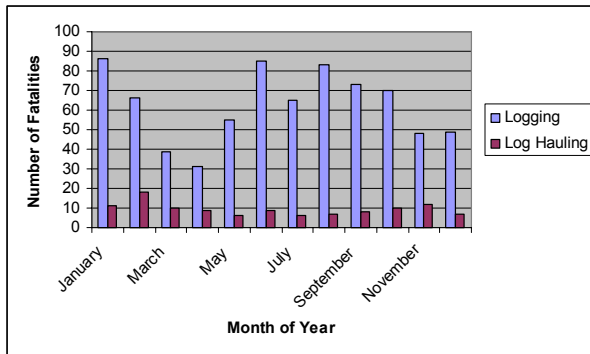
# FOREST SAFETY TASK FORCE

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## *Seasonal Variation*

In addition to regional differences, seasonal differences are observed in both logging and log hauling fatalities. As shown below, most logging-related deaths occur in January, June and August. The highest number of deaths for log hauling is in February (nearly double what is seen in other months).

### *Fatalities by Month*

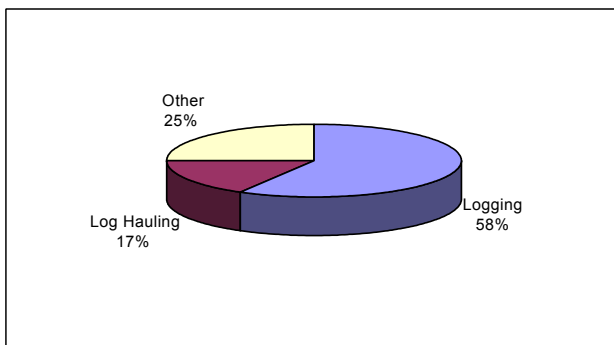


Source: WCB Statistics

## *Type of Operation*

A detailed review of 36 deaths investigated in 2000 and 2001 revealed that more than half of the deaths occurred in logging, while log hauling accounted for less than one fifth.<sup>8</sup>

### *Fatalities by Type of Operation*



Source: WCB Statistics

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<sup>8</sup> Additional statistics on deaths by occupation, age, time of day, and experience are included at Appendix C

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## Interjurisdictional Comparison

While it is difficult to compare injuries across jurisdictions due to differences in number of workers covered, as well as differences in how industries are organized and registered, it is possible to provide some comparisons relative to fatalities.

The following table demonstrates that BC has more fatalities compared to forestry sectors in other jurisdictions in Canada.

### *Logging and Forestry Fatalities – Selected Provinces*

|           | '98       | '99       | '00       | '01       |
|-----------|-----------|-----------|-----------|-----------|
| <b>BC</b> | <b>19</b> | <b>19</b> | <b>22</b> | <b>28</b> |
| Alberta   | 1         | 0         | 1         | 5         |
| Sask.     | 0         | 0         | 2         | 1         |
| Ontario   | 3         | 6         | 5         | 6         |
| Quebec    | 2         | 7         | 9         | 5         |

Source: AWCBC, Work Injuries and Diseases in Canada 1998 – 2000, and 1999-2001, Fatalities, Logging and Forestry.

Given similarities in terrain and timber, the data in Oregon and Washington State have been reviewed. Similarly, BC has a significantly higher number of fatalities than either of these two jurisdictions.

### *Logging and Forestry Fatalities – Selected States*

|           | '98       | '99       | '00       | '01       |
|-----------|-----------|-----------|-----------|-----------|
| <b>BC</b> | <b>19</b> | <b>19</b> | <b>22</b> | <b>28</b> |
| Wash.     | 4         | 7         | 2         | 4         |
| Oregon    | 7         | 2         | 9         | 5         |

Source: Washington: Department of Labour and Industries, Fatality assessment and Control Evaluation (FACE).

Oregon: Department of Consumer & Business Services, Information Management Division  
 Figures include fatalities from 3 additional CU's (Log Towing, Helicopter Logging, Log Hauling)

## WCB Claims Costs and Days Lost

Claims costs relative to serious injuries and fatalities have increased significantly in the last five years. From 1998 to 2002, serious injury claim costs increased by 24 per cent and fatality claim costs increased by 26 per cent.<sup>9</sup> A general claim typically costs nearly \$25,000 and results in 24 days lost, while a serious injury claim costs just over \$75,000 and results in 186 days lost.

Looking at the period 1998-2002, 13% of serious injuries accounted for 82% of claims costs in the industry. Put another way, over the past five years, 406 serious injury claims from this sector amounted to \$30.8 million. The cost of fatalities in the same period was approximately \$34.0 million.

## The Human Face of Serious Injury and Death

Understanding environmental conditions, technological changes, challenges from terrain, and injury and fatality statistics is key to identifying what can and must be done to effect change in the forest sector. In doing so, however, we cannot lose sight of the human costs, which are the most compelling reason for eliminating death and injuries in BC forests.

The following are examples of WCB Notifications of Accidents in the BC forest sector from the past year:

- A 29-year-old faller was fatally injured when he was struck by a tree being wedged by another faller. Both were

<sup>9</sup> Based on an average cost per claim of \$75,955 and \$300,000 respectively.

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working within one tree length of the tree.

- A 37-year-old logging truck driver was fatally injured when his loaded logging truck collided head on with another loaded truck at the corner of a narrow logging road.
- A 29 old young worker – a chokerman – suffered crushing injuries to his leg from a runaway log.
- A 50-year-old manual tree faller was struck by a nine-foot limb when a fir tree was brushed by a hundred foot tall hemlock. Injuries were sustained to the face neck head and shoulder.
- A 50-year-old manual faller was fatally injured following a severe concussion and broken neck. He was struck on the head by a dry fir.
- A 33-year-old faller was struck by a falling tree that was hung up in another down slope tree. The worker sustained a fractured neck and partial paralysis.

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Serious injuries and deaths have a devastating effect on families, friends and communities. The following excerpts are from spouses of workers who died in logging-related incidents:<sup>10</sup>

***“At the time, the pain was so consuming and unrelenting, every second of the day. I would talk to people to get it out. The kids dealt with it differently...One of the saddest things is that their dad won’t be there for them. He had so much to offer, and they’ll never know...I lost my best friend that day. There was so much we had to do together.”***

Barb Haines, wife of Scott Haines, a 41-year old logger who died in a logging accident in July 1996.

***“In that split second when there’s a knock on your door, your whole world changes...The hard part is you don’t even get a chance to say good-bye.”***

Sharon Brew, wife of Rob Anker, a 51-year old supervisor who died in a logging accident in September 1999.

***“We have a very tight circle of friends and neighbours who have given us so much support. But the hardest thing is when everyone else’s husband comes home and yours doesn’t.”***

Francine Joly, fiancé of Len Vosburgh, a heli-logging pilot who died in a work-related accident in October 1997.

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<sup>10</sup>From *Lost Lives: Work-Related Deaths in British Columbia*. Workers’ Compensation Board of BC, 1999 (p. 9); and *Remembering Lost Lives – Work Related Deaths in British Columbia in 2000*. Workers’ Compensation Board of BC, 2001 (pp.3 & 9)

## CHAPTER 3.0 - WHAT DRIVES THE SERIOUS INJURY AND DEATH RATES IN BC'S FORESTS?

### Purpose

In its earliest deliberations and consultation with industry stakeholders, the Task Force identified a number of key drivers of the serious injury and death rate in BC forests. These drivers have been organized according to the following five factors:

- Cultural and Social
- Human
- Structural and Technological
- Regulatory
- Economic.

Each of the factors is critical to understanding why serious injury and death rates have been resistant to change in the industry, but the factors are not discrete. Overlaps exist between and among them and a combination of strategies and interventions are necessary to effect dramatic and durable change.

This Chapter provides a brief overview of each of these factors. The factors are discussed in greater detail in Chapters 4-8.

### Cultural and Social Factors

Cultural and social norms inform group behaviors, and a major industry concern is that the BC forest sector, as a whole, lacks a “culture of safety”.

Addressing this will require a major shift in perspective so that unsafe behaviours and conditions are not accepted and

injuries and deaths in the sector are considered extraordinary events that are preventable. This change must occur from the executive suite to the logging camp and will take leadership, commitment and time.

Some barriers to cultural change include:

- The risk-taking behaviors of many in the industry and the attitude that “stuff happens” and “it’s only a matter of time before you are injured or killed.”
- A disconnect and lack of communication about safety between workplace parties.
- A lack of ownership by some employers, managers and workers over safety.
- A lack of public attention to and awareness of the high level of occupational injuries and deaths in the sector.
- The general public’s lack of knowledge about logging operations and forestry occupations that expose workers to high risk.

### Human Factors

Beyond cultural and social influences, individual workers and their actions form the basic building blocks for safety. While not the only cause of deaths and serious injuries, human error must be considered. There are a number of factors that can contribute to human error. These include:

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- Certain human characteristics and personality traits of forest workers (e.g., risk-taking personalities, fear of judgment by others).
- Failure to recognize significant hazards and failing to realize the consequences of not following safe work procedures.
- Experience and age.
- Competence.
- Physical condition, fatigue and dehydration.
- The impact of stress.
- Individual knowledge about what constitutes an unsafe act and ownership over personal safety.
- Complacency and unsafe habits that can evolve partly from a loss of pride in work.
- The human environment (e.g., camp living conditions, working away from home, substance abuse).

Ways must be found to lessen the influence of these factors and their contribution to the misjudgments that can lead to serious injuries and deaths.

## Structural and Technological Factors

Structural and technological changes can also have an impact on safety.

The recent and continuing restructuring within the forest sector and increasingly fragmented employer/employee relationships which have resulted have made it difficult for an integrated safety culture to form. A major change has been the growing reliance of large companies on contractors and sub-contractors, leading to a proliferation of smaller firms and independent owner-operators. Often lacking the resources or in-house expertise of larger companies, small firms tend to

account for more injuries and fatalities than the industry generally.

Lack of training and qualified supervision has also been identified as structural challenges to safety in the industry. Little or no training is available in some areas. Although excellent programs do exist, sector-wide standards may not so there is a lack of uniformity of approach. In addition, there is a disparity of resources for safety programs between large tenure holders and small forestry operations.

In terms of technological change, forestry operations are becoming increasingly mechanized, particularly in the interior regions where terrain and tree type allow it. While mechanization has generally improved safety by removing workers from high-risk situations (typically close to the tree), new practices and new equipment have brought new challenges to the industry, some of which put workers at risk.

## Regulatory Factors

In addition to structural and technological factors, the regulatory environment within which the forest sector operates can have an impact on safety.

Forest policy in BC has undergone significant change in recent years; changes that require the industry to realign its operations to remain competitive. While employers and senior managers must recognize safety as an over-riding priority despite pressures to increase efficiencies and cut costs, there are a number of things that both WCB and the Provincial Government could do to assist, such as realigning compliance efforts to focus on the full forestry operation (including tenure holders) so that responsibility for safety is shared by workers, sub-

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contractors, contracts and tenure holders and addressing overlaps, underlaps and/or conflicts in forestry legislation and policy.

### **Economic Factors**

The economic environment within which the forest sector operates also has an impact, albeit indirect, on the safety of forestry workers. Some of the economic factors impacting the sector include: the softwood lumber dispute, the ravaging mountain pine beetle infestations, the changing international market for BC wood products, and a strong Canadian dollar's impact on export markets.

These factors can affect safety at a number of levels. Economic forces tend to dominate the focus of the industry and create pressures for greater productivity and efficiency as companies compete to survive. This may color how employers and senior managers approach questions with safety implications. Economic pressures can also create distractions for workers who worry about making ends meet and keeping their jobs. Such

distractions can lead to unsafe conditions and behaviours.

The presence or absence of economic or environmental pressure does not change the health and safety obligations of employers and workers; however, the extent that such pressures can affect the health and safety of workplaces has been considered.

While economic factors may have an indirect impact on safety in the forest sector, the same cannot be said about the impact of serious injuries and deaths on the economic state of the industry. The injury rate is one of the largest and most leverageable components of WCB employer assessment rates. While the overall injury rate of the sector is declining, the cost of claims remains high. Without reductions in the serious injury and death rates in the industry, employer rates will continue to climb to unsustainable levels.

## CHAPTER 4.0 - IT'S TIME TO CHANGE ATTITUDES AND BEHAVIOURS

### Purpose

The roots of British Columbia's forest industry go back more than a hundred years and since that time attitudes and behaviours have remained largely unchanged. From the beginning, loggers and others worked in harsh, isolated environments. The prototypical forest worker had independence and courage and was not afraid to take risks in order to "get the job done."

While methods, machinery, new technologies, and personal protective equipment have changed the face of forestry, the act of manually felling a tree has not itself substantially changed. Members of the Task Force advised that one outcome of this is the undue value that is placed on risk-taking personalities that are often attracted to the work. While this characteristic is present among other occupations, the mindset is especially common among hand fallers whose serious injury and death rates are disproportionately higher than that of their own industry, and much greater when compared to other high-risk sectors.

From executive suite to remote bush camp, these attitudes still influence behaviour affecting on-the-job safety.

### A Fragmented Safety Culture

Working in the woods involves inherent risks that cannot be completely eliminated. This, however, does not justify the acceptance of unsafe behaviours and practices and the inevitability of thousands of injuries and

deaths. While there are examples of effective safety programs in individual organizations, the sector as a whole lacks an integrated safety culture. Many in the industry still hold onto the following notion of earning a living in the woods:

*"This is dangerous work, and accidents will happen. It's just a matter of time."*

Consider heli-logging, where heavy chokers are hooked manually to helicopter droplines for each turn, or load, of logs. The workers are up to their necks in debris, and on steep and slippery side-hills with slopes reaching grades of 100 per cent. A common phrase among them is, "we're going to run to clear the turn." Other industries forbid running in much less hazardous situations. But in many workplaces in the forest industry it's expected.

### A Safety Disconnect

There have been challenges to promoting a safety culture in the forest industry. One challenge is the disconnect that can exist between frontline workers, management and employers about on-the-ground safety.

Most frontline supervisors are responsible for the production and the quality of harvested logs. Middle managers tend to focus on production schedules, adequate resources to get the job done and the product shipped to market. Senior management adjusts directions, operations and resources in the midst of issues like the softwood lumber dispute a new forest tenure regime and the need to comply

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with changing environmental and other regulations.

Given the on-going focus on production schedules and resources, there is a sentiment by some workers that when managers direct their attention to safety they are really trying to cut costs. As one Task Force Member acknowledged “management tends to run a different company than frontline staff operate.” This expression certainly rings true in the safety realm.

There can also be an “us” versus “them” mentality between frontline workers, supervisors and employers in many workplaces. This mentality can create uncertainty about who is responsible for safety and prevents open communication about incidents that involve serious injuries and deaths and how they can be prevented.

Some workers have admitted that they fail to report near misses, not only because of fear of judgment by co-workers, but for fear of reprimand by employers.

Open discussion and problem-solving — by individuals and among companies and other organizations — would be an important first step to changing safety perspectives.

## Ownership and Responsibility

Nothing works in isolation. Any culture of safety is a sub-set of attitudes and behaviours common across the total organization or industry. A poor or deteriorating safety record can be a warning of other pervasive problems affecting a company’s general health — even when the direct relationship to safety may be not be immediately obvious.

Promoting a safety culture will not succeed unless each party takes ownership for safety. An environment must be created whereby workers take responsibility for their own safety and are comfortable raising safety concerns with their co-workers and supervisors. Employers, both large and small, and senior managers must also take ownership for safety on their worksites regardless of whether they employ their own workers or use contractors and sub-contractors. Safety cannot just be driven from top down or from bottom up, it must permeate the workplace from all levels.

## Societal Change

There appears to be a lack of urgency and priority regarding the high number of deaths and serious injuries occurring in BC’s forests at the societal level. A recent report by Ipsos Reid surveyed perceptions of the state of the BC forest industry.<sup>11</sup> The survey found that of the five most critical issues facing BC’s forest industry, the softwood lumber dispute topped the list. Sustainability, developing international markets, ensuring long-term economic viability for forest communities and developing job protection and labour force transition programs for forest workers were the other issues identified and ranked. While the focus of the report was on the economic state of the industry, it is telling that the high number and cost of deaths and serious injuries in the sector was not considered as a critical issue. This, however, is the norm in the majority of reports on the state of the industry. The lack of dialogue on the human, social and financial costs of deaths in the industry is certainly a concern.

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<sup>11</sup> Ipsos Reid, BC’s Forest Industry: Turning Over a New Leaf or Continued Decline? March 2003, p. 15.

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While the death of a forest worker impacts many family members, friends, co-workers and employers, the impact is generally not felt beyond the industry or the community in which the worker resides. Comparing this to the death of workers in other occupations or settings—a police officer killed in the line of duty, a firefighter who succumbed to lung cancer or a window cleaner who fell to their death from a high-rise building in urban Vancouver - incidences in the forest sector do not receive the level of attention and concern that they could or should.

If the culture is to change in the industry, societal perceptions about what is acceptable must also change. Deaths and serious injuries in BC's forests are preventable and they must be seen as extraordinary and unacceptable events.

### Learning from Others

The goal of changing perspectives and creating an environment where unsafe behaviours and conditions are unacceptable has been achieved elsewhere.

Examples with direct implications for the forest industry can be found in Oregon and Washington State which record fewer fatalities in their forests. In both jurisdictions, forest companies generally take a more prescriptive approach than in BC, exerting greater control over local work practices to keep them from impinging on safety.

Pan Pac Forest Products Limited, a New Zealand forest company, has implemented a proactive initiative directed at all staff, contractors and contractor employees. The goal of the "Safety First, Zero Tolerance" initiative is to eliminate work-related injuries and illnesses in their

operations and to provide a clear and documented set of guidelines<sup>12</sup> to enhance efficiency in all their operations. These guidelines, in conjunction with New Zealand's "Approved Code of Practice for Safety and Health in Forest Operations" and "Best Practice Guidelines"<sup>13</sup>, form the minimum standard to be met in Pan Pac's operations. Contractors are required to have a working "Safety and Health Plan", which incorporates, at a minimum, active management commitment, hazard identification and control, information/training and supervision, incident reporting, investigation and recording, and emergency procedures.

Another model lies in Western Canada's oilfields, known until relatively recently as "the killing fields." They now operate under a safety system developed in the late 1980s by the Alberta-based industry. It recognizes that safety is a responsibility shared by workers and others — operating companies, contractors, sub-contractors and suppliers of goods and services — and assigns a leadership role to the individual operating company.

Finally, anecdotally it has been reported that when a worker dies in the forest sector in Finland, the entire industry has been shut down for a number of days until the death and its cause have been communicated to all forestry workers and employers.

Comparisons like these aren't meant to suggest that BC's forest industry doesn't care about safety. But its concern is fragmented. Many in the industry tend to ignore how safety, or the lack of it, can be

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<sup>12</sup> Forest Operations Handbook – Safety First, Zero Tolerance. Published by Pan Pac Forest Products Limited, last updated September 2003.

<sup>13</sup> New Zealand's "Best Practice Guidelines" are available for purchase on the Internet at [www.training.org.nz](http://www.training.org.nz)

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an accurate indicator of overall operational performance.

## Conclusions

BC's forest industry desperately needs to dismantle its culture of unsafe attitudes and to discard dangerous and destructive behaviours and conditions that are driven by generally-accepted and archaic beliefs. The industry needs an integrated safety culture, one built on this definition extended to the forest industry as a whole:

*"The safety culture of an organization is the product of individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organization's health and safety programs."*

Advisory Committee on the Safety of Nuclear Installations, Institution of Electrical Engineers

Creating a true safety culture means changing perspectives and instilling attitudes that safety in the woods is integral to working in the woods — not a frill or supplementary task. This will take leadership, commitment and time and will require achieving four vital goals:

- Overriding recognition that serious injuries and deaths in the woods are unacceptable and extraordinary events.
- Widespread determination, ownership and responsibility to control risks and eliminate hazards.
- Corresponding shifts to safer on-the-job behaviours and the creation of an environment where workers are comfortable raising safety concerns with their co-workers.
- Open communication among and between all industry and workplace parties.
- A better focus on safety and injury prevention on an on-going basis.

## CHAPTER 5.0 – THE HUMAN DYNAMIC

### Purpose

Approximately 28,000 British Columbians earn a living in the woods, and their efforts are critical to the province's forest industry. Besides cultural and social factors affecting them as a group, these workers are subject to a separate series of human factors that influence their individual actions and behaviours.

These human factors cover a broad spectrum. They include issues of experience and competence, physical and mental conditioning, age and stress. Operating separately or in combination, human factors can impact workers' on-the-job judgment and performance directly and adversely.

### Human Characteristics

How and what workers think have been identified as significant contributors to on-the-job injuries.

Anecdotally, veteran observers of the industry report a widespread mind-set that "getting the job done" despite safety concerns is the mark of a true forest worker. Underlying much of that bravado is often a combination of peer pressure to meet production quotas and fear of job loss.

Such attitudes validate unsafe conditions and behaviors and can cause serious injuries and deaths.

### Changing Demographics

Mainly skilled and dedicated, workers in BC's forests have an average age just past

40 years, with a significant number nearing retirement. While the pool of workers is diminishing (as older workers retire) an influx of young replacements is expected to change the face of the industry, and to present somewhat different health and safety challenges.

Established forest workers have valuable knowledge, but require recurrent training and programs to address complacency and to prevent unsafe habits from forming. Onset of fatigue and general conditioning in an environment that requires hard, physical labour may also be factors for some older workers. In contrast, industry newcomers require extensive training and tend to carry a different generation's attitudes, including a youthful sense of invincibility that fosters risk-taking. Young workers in particular require adequate supervision and training to ensure that they do not knowingly or unknowingly put themselves at undue risk.

### Conditioning and Competence

No one sets out to make mistakes, especially when the outcome can be injury or death, but human errors are often a contributing factor in many deaths and injuries. Often, they can be traced to misjudgments caused by an individual workers' lack of knowledge and/or their physical or mental state.

### Inadequate Food and Water Intake

Proper nutrition and adequate hydration are vitally important for jobs involving intense physical exertion, such as manual falling of trees. During intense physical activity, the body expends high amounts

of energy. The amount of energy expended depends on a number of factors, including body size, age, fitness level, work pace, tools<sup>14</sup> and working techniques. To sustain heavy exertion, the amount of energy required can be more than 5,000 calories per day.

When heavy physical work is combined with high temperatures and/or inadequate intake of fluids, a worker may become dehydrated. Studies have shown that dehydration can drastically decrease a person's ability to concentrate, thereby increasing the risk of accidents. In hot weather, a worker might need to drink a litre of water per hour to replace body fluids lost through sweating<sup>15</sup>.

Studies in the United States<sup>16</sup> and New Zealand<sup>17</sup> have reported that the highest number of fatalities amongst loggers occurred in the late morning. Researchers in New Zealand subsequently reported that many loggers skip breakfast and consume large quantities of coffee, which causes them to become dehydrated<sup>18</sup> and run low on energy, thereby increasing their risk of injury.

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<sup>14</sup> Dull tools require higher energy expenditures than sharp tools.

<sup>15</sup> It has been reported that sweating the equivalent of one percent of body weight measurably impairs a person's ability to function. See Nielsen B.

"*Effects of Heat Stress and Work in Heat*" in "*Heat and Cold*" in Encyclopedia of Occupational Health and Safety, Volume III, 4<sup>th</sup> Edition. Jeanne M Stellman, editor. ILO - Geneva. 1998.

<sup>16</sup> A Review of Logging Fatalities Investigated by the Occupational Safety and Health Administration in FY 1996 and FY 1997, Parts 1 and 2". OSHA Office of Statistics, October 2000

<sup>17</sup> Felling Injuries - An Exploratory Analysis of Logging Tasks and Safety. Centre for Human Factors and Ergonomics. Report ISSN 1174 - 1234. Volume 3, No. 3, 2002.

<sup>18</sup> Caffeine is a diuretic.

### Fatigue

Prime production times in the forest industry often demand long, hard workdays. Especially in the last two years, but going back to the late 1990s, many forest workers have worked 100 days a year. These shifts can be compressed into a three-month window, which means weeks of working 12 hours a day often without breaks. This is often in addition to daily, two-hour commutes to job sites where residential camps are not available.

Research has shown that fatigue – due to long workdays, insufficient sleep and inadequate rest periods – reduces alertness which, in turn, results in deteriorating job performance<sup>19</sup>. The time at which a worker starts work in the morning has also been shown to have an impact on fatigue. For example, a study of train drivers found that the earlier their shift started, the shorter the preceding night's sleep and the more fatigued the workers became during their shift<sup>20</sup>.

In a 2002 report on logging tasks and safety, the Centre for Human Factors and Ergonomics noted that the greatest prevalence of logging injuries in New Zealand was observed in the hottest summer months and the late morning period of the working day<sup>21</sup>. Fatigue, dehydration and working in hot

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<sup>19</sup> Kogi K. "Sleep Deprivation" in Encyclopedia of Occupational Health and Safety, Chapter 29 ("Ergonomics"), Volume II, 4<sup>th</sup> Edition. Jeanne M Stellman, editor. ILO - Geneva. 1998.

<sup>20</sup> Knauth P. "Hours of Work" in Encyclopedia of Occupational Health and Safety, Chapter 43 ("Hours of Work"), Volume III, 4<sup>th</sup> Edition. Jeanne M Stellman, editor. ILO - Geneva. 1998. The train driver study was conducted in the early 1980's. Similar findings were observed in studies published in the 1990's.

<sup>21</sup> "Felling Injuries. An Exploratory Analysis of Logging Tasks and Safety." Centre for Human Factors and Ergonomics. 2002.

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temperatures were identified as primary risk factors. For jobs requiring heavy physical labour, many rest periods may reduce – possibly even prevent – fatigue.

### Stress

Stress is defined as the psychological pressure that an individual experiences as a result of a perceived mismatch between the individual's capacity and the perceived demands of the job<sup>22</sup>. Stressors identified in the forest industry include: high work pace and productivity demands, repetitive and boring work, poor staffing ratios (i.e., crews have either too much or too little work), workforce demographics (i.e., young workers, aging workers), conflicts with environmental groups, and living long periods away from home in camps. In a study examining causes of accidents amongst German forestry workers, about 11% of the accidents were attributed to stress, while another 30% were attributed to fatigue, routine, risk taking and lack of experience<sup>23</sup>.

### Competence

Forest workers who don't know the job can't do it safely. Inadequate or improper training is often identified as a cause of injury or death in the forest sector. For example, in a recently published review of US forestry fatalities, half of the fatalities investigated by OSHA identified some aspect of training as a major causal factor<sup>24</sup>. In the fatality reports, the most

frequently cited violation of Federal OSHA standards was the requirement for employers to train their employees in safe logging practices.

In the United States, several states with large logging industries have introduced certification and training programs that have helped to dramatically reduce injury rates<sup>25</sup>. Founded by loggers, land-owners, environmental specialists, and safety consultants, Maine's voluntary logger certification program resulted in an 86% decrease in injuries and illnesses between 1988 and 1999. The North Carolina Department of Labor (Occupational Safety and Health Division) partnered with the North Carolina Forestry Association to develop the Pro Logger Program, aimed at training loggers and logging industry representatives in safe logging techniques and practices. The partnership led to a dramatic decrease in logging fatalities, from 13 in 1993 to a low of 1 in both 1997 and 1998.

The New Zealand forest industry has committed to ensuring that all forest workers are either trained or are under training to national standards, so that they can safely perform their work. They recognize that with the challenges and changes occurring within their industry, there is value in having adaptable, multi-skilled workers who can make the most of new technology and systems. To that end, the industry has partnered with government to fund "Forest Industries Training" and to provide a national

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<sup>22</sup> Encyclopedia of Occupational Health and Safety, Chapter 68 ("Forestry"), Volume III, 4<sup>th</sup> Edition. Jeanne M Stellman, editor. ILO - Geneva. 1998.

<sup>23</sup> Poschen P and Juntunen M-L. "Psychological Factors" in Encyclopedia of Occupational Health and Safety, Chapter 68 ("Forestry"), Volume III, 4<sup>th</sup> Edition. Jeanne M Stellman, editor. ILO - Geneva. 1998..

<sup>24</sup> A Review of Logging Fatalities Investigated by the Occupational Safety and Health

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Administration in FY 1996 and FY 1997, Parts 1 and 2". OSHA Office of Statistics, October 2000  
<sup>25</sup> Miles, D. "A New Approach to Logging." Job Safety and Health Quarterly. Volume 12, No. 4. Summer 2001.

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framework of qualifications for the forest industry<sup>26</sup>.

## Pride and Professionalism

Some have attributed the high number of deaths and serious injuries in the forest sector in part to a diminishing sense of pride by forest workers in the work that they do. A loss of pride can breed complacency and unsafe habits overtime.

The certification and professionalization of forest workers has been suggested as one way of addressing complacency and instilling a sense of pride that will encourage professional accountability over safety. The certification of fallers is already underway as the WCB prepares to implement province-wide mandatory certification and standardized training for all fallers. Other forestry occupations would also benefit from certification and training standards. The need for sector wide certification will be discussed in more detail in the next chapter.

## The Human Environment

Finally, the human environment can contribute to unsafe conditions and behaviours in the forest sector in at least two ways: camp living conditions and drug and alcohol abuse.

Logging camps are basic support services that provide accommodation and food for forest workers in remote locations where daily commuting to work is impractical. Shifts in logging camps range from 5 days on and 2 days off shifts in accessible camps to shifts of 10 on and 4 off and 20 on and 8 off in remote camps, with camp

stay duration lengthening with more remote locations.<sup>27</sup>

Logging camps are almost always integrated with log handling, fuel storage and equipment repair services. They contain few amenities and are often not ideal living environments. Camps can breed tedium and depression and create stressors on workers who are forced to be away from their friends and families often for prolonged periods of time.

Substance abuse has also been identified as a contributing factor of serious injuries and deaths in the sector. The available scientific evidence on the impact of substance abuse on occupational health and safety, however, is equivocal and research has not yet fully examined this issue within the forest industry. While a review of deaths in the last two years in the BC forest sector found no relation between the use of medications, drugs or alcohol and incidents, substance abuse is considered by many to be prevalent in the industry.

A 1987 *Report of the BC Task Force on Alcohol and Drug Abuse in the Workplace* cited one BC forest company representative as estimating that 7 to 12 per cent of employees have alcohol problems, and a further 3 to 5 per cent have difficulty with other drugs. A 1992 *Report to the Alberta Alcohol and Drug Abuse Commission* found that 5.2 per cent of forestry and mining workers were “regular, moderate to heavy drinkers”, nearly 2 per cent were “very heavy drinkers” and almost 10 per cent were current drug users.

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<sup>26</sup> Information about Forest Industries Training, its products and services is available at [www.training.org.nz](http://www.training.org.nz)

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<sup>27</sup> Crane Management Consultants, Coastal Logging Camps – an Economic Profile. Prepared for the Ministry of Sustainable Resource Management. November 2002 (p.1).

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Many employers offer employee family assistance programs (EFAP) to assist workers who seek assistance with substance abuse. These programs, however, are only effective if workers seek assistance and are not typically available in smaller companies or to independent operators.

The level of substance abuse and its impact on safety in the forest sector is an area that requires further research. An approach is required that recognizes the fine balance between acknowledging that addiction is an illness that requires careful treatment and understanding and ensuring that the workplace is free from hazards caused by the debilitating effects of drugs or alcohol. Training supervisors to identify workers with addictions and to assist them in seeking treatment and creating an environment where workers are comfortable raising substance abuse issues may be one way of addressing this issue. The impact and effectiveness of drug testing or a zero tolerance approach might also be further explored.

## Conclusions

Improving safety in BC's forests, and keeping it on an even keel, means dealing with a varied range of human factors that affect individual workers. This demands carefully-designed and diverse strategies harmonized to focus on these goals:

- Assuring skilled, competent and professional workers throughout the industry — with uniform training standards, certification of certain occupations and measures to support ongoing competence.

- Enhancing workers' commitment to safety, enabling them to raise concerns with co-workers and employers and to report dangerous practices and injuries without reprimand and to know their rights to refuse unsafe work.
- With an eye to shifting age demographics, effectively addressing physical and mental conditioning issues that adversely affect forest workers' health and safety through the provision of on-going health and wellness programs.
- Improving camp living conditions and lessening the amount of time that workers are away from their families and friends.
- Exploring the level of substance abuse in the sector and identifying options for dealing with this issue in a sensitive but effective way.

## CHAPTER 6.0 – CHANGING STRUCTURES AND TECHNOLOGIES

### Purpose

Monitoring safety in BC's forests should be a relatively straightforward matter, but it isn't. The reason is the complex structure that has developed around timber harvesting- from ownership of the majority of forested land by the Crown to a proliferation of sub-contractors and independent operators. Added to this, are new and emerging technologies that are continually changing the face of the industry, particularly in the interior where terrain and tree size are allowing for increased mechanization.

This Chapter discusses structural and technological factors that create challenges and opportunities for safety in the forest sector.

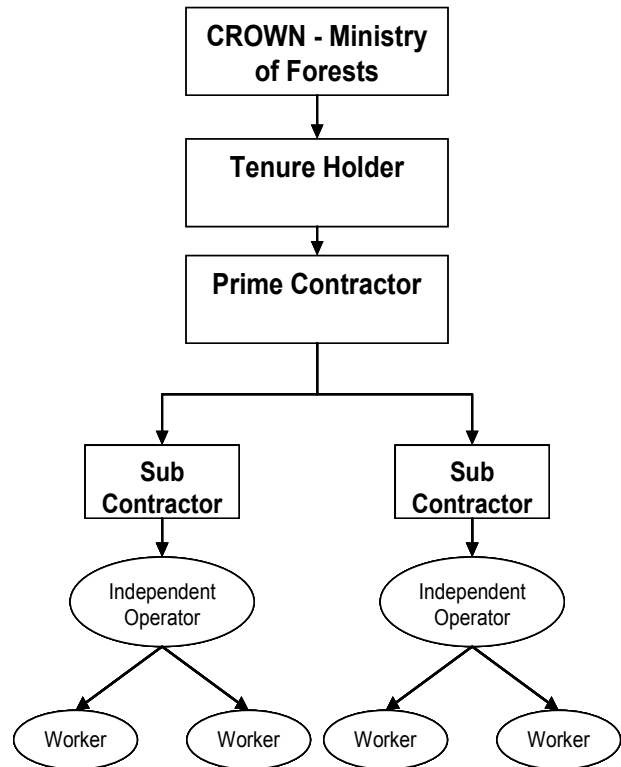
### Overview of Structure

Ninety-four per cent of forestland in BC is publicly owned crown lands managed by the provincial government through the Ministry of Forests (MOF).

The structure is reflected in the bidding process which generally comprises the following elements:

- The MOF sells the right to harvest timber to tenure holders, typically very large companies.
- Tenure holders contract most of the actual harvesting to subsidiaries or to other third parties.
- Those contractors assign specialized work such as falling trees or transporting logs to sub-contractors.

- Working for contractors and even sub-contractors are individual employees or independent operators.



### The Growing Use of Contractors

In recent years, the evolution of the multi-layered structure illustrated above has seen large companies out-sourcing more and more work. The result has been a dramatic proliferation of contractors and sub-contractors.

Prior to the 1990's, most integrated forest companies operated with sizeable in-house crews, typically organized into departments for the various phases of the logging enterprise. In this context there has typically been a health and safety infrastructure – formal occupational

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health and safety programs; health and safety committees; and supervision. The trend to tenure/contractor relationships has changed the health and safety equation. Smaller employers and independent operators often lack the capacity to provide health and safety programs, safety training, and competent supervision.

Of the forest industry's 7,000 employers, only three per cent are large companies, many holding MOF tenures. Approximately 6,800 are small businesses, including those now doing direct harvesting work under contract.

As a rule, these small contractors and sub-contractors are charged with carrying out some of the most hazardous work and they most often lack the resources, supervisory staffing and in-house safety expertise and training programs of the large companies. This has created a safety vacuum at the forest floor.

The latest WCB statistics show that with half the forest industry's work force, the small companies record far more than their share of on-the-job accidents in the woods — two-thirds of the serious injuries and 70 per cent of the deaths.

Another feature of the current structure is that it has led to an increasingly fragmented employer-employee relationship where accountability over the actions of those who actually perform the work becomes less clear. Large companies, however, tend to remain involved in the planning of front-line operations. This naturally carries direct implications for health and safety; but despite the clear connection, the WCB targets compliance activities primarily at the contractors and sub-contractors.

A related, but often overlooked issue is that literally everyone in the structure bears a responsibility for safety. Contractors and sub-contractors are accountable as direct employers, but under the *Workers Compensation Act*, so too are the owner of a job site and the prime contractor. In the legal context of timber harvesting, that means the Ministry of Forests as the effective owner of crown forest lands, as well the large companies whose tenure to harvest trees constitute prime contracts.

Implementing sector-wide pre-qualification standards that require tenure holders and prime contractors to ensure that those they contract or sub-contract meet a minimum level of safety standards is one way of addressing the dispersed control and accountability over safety. This will require a fundamental shift in employer perceptions about what is valued in the bidding process.

### **Implementing Training and Supervision**

As discussed in previous Chapters, sector wide standards for training and supervision are required in the industry to ensure that a minimum level of knowledge and competence is maintained. While excellent programs exist in some areas, no training whatsoever is available in others. Until recently, training opportunities for small companies and one-person operations have been generally inadequate, although the Forest Industry Safety Association (FISA) has begun to address this problem. Overall, the training that does exist proceeds without sector-wide standards to assure consistency of approach. Finally, the industry needs to address the question of ongoing and recurrent training needed to refresh workers' skills at intervals as short

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as a year or less. Evidence has shown that most injuries occur in January, February and in the summer months. Re-current training in these months may be more effective.

Certification of forest workers will assist in ensuring that safety standards are met at an individual level. Other Canadian jurisdictions have adopted this approach in the woods, and mandatory certification is a fact of life for Quebec and Ontario fallers and skid operators.

New Zealand, through the Forest Industries Training (FIT) program, has developed a national framework of qualifications for most jobs in the forest industry<sup>28</sup>. In addition to setting national training standards and developing training programs, FIT is responsible for operating the Forest Industry Record of Skills (FIRS), a national database and record of training, skills and qualifications achieved<sup>29</sup>.

The BC forest industry is moving in this direction now, as the WCB is working with the industry to decide how best to implement and deliver province-wide mandatory certification and standardized training for fallers.<sup>30</sup> This occupation was chosen because fallers suffer a disproportionate number of injuries. Fallers are roughly a tenth of all BC forest workers, but recorded a fourth of the industry's serious accidents in the last five years. Fallers accounted for 12 of the industry's 52 fatalities for the two years ending 2001.

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<sup>28</sup> Information on New Zealand's program was found in "Forest Operations Handbook – Safety First, Zero Tolerance". This handbook was published by Pan Pac Forest Products Limited in June 2002. It was last updated September 2003.

<sup>29</sup> Information about Forest Industries Training, its products and services is available at [www.training.org.nz](http://www.training.org.nz)

<sup>30</sup> A summary and status report of the BC faller certification standard is included at Appendix D.

Other forest industry occupations also experience excessive injury rates and might also benefit from certification and training standards.

Following in the steps of the mining industry, the forest sector might also benefit from a comprehensive and sector-wide certification standard and process for supervisors. In the mining industry, workers with "shift boss tickets" are well-respected and act as overseers of day-to-day work procedures and maintain ongoing one-on-one contact with workers.

### The Impact of New Technologies

In addition to the changing structure of the industry, changing technologies have created a number of opportunities and challenges for safety.

The Interior region mechanized its forestry operations many years ago – replacing the faller on the ground with a machine with operator protection. The prevalence of grapple skidders also grew in the Interior enabling the operator to pick up the felled trees and drag them to the landing without leaving the protection of the cab. In the Interior, the landing buckler (the worker who cuts logs to proper lengths after a tree has been skidded to the landing) is being replaced by the log processor.

As timber supply becomes less accessible for machinery in the Interior, methods to access these areas mechanically are possible. Where a mechanized approach is not possible, the competence of workers falling trees on rockier, steeper, boggier ground has to be taken into consideration.

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In the Coastal region the converse is occurring. Second growth timber on reasonably flat terrain, or on previously inaccessible terrain, traditionally felled by hand, is now being considered for logging by machines where terrain permits. Where accessibility is an issue, harvesters can be flown in by helicopter, piece by piece, to once inaccessible locations. While the procedure is not widespread on the Coast today, it is expected to grow.

Overall, technology can play an important role in reducing the current injury and death rates in the industry. Mechanization has the ability to separate the worker from the inherent risks associated with being physically close to the tree or to the log. In a study of the impact of mechanized harvesting on logging injury rates in West Virginia, researchers at NIOSH found a significant decrease in logging injuries in 11 companies after they began to use a 'feller-buncher'. They found no change in injury rates amongst other companies in the industry (i.e., those not utilizing mechanized harvesting)<sup>31</sup>.

New and emerging equipment and practices, however, can also create new hazards (for example, equipment roll-overs, the dangers of remaining stems and debris following single a tree heli-logging operation). The risks associated with increased mechanization must be assessed by workers, supervisors and employers to ensure that workers are not being placed at undue risk. Safe work practices must be developed when new equipment or procedures are introduced. Where workers are placed at undue risk such

equipment or practices must be deemed un-safe. New and emerging technologies must also be acknowledged and addressed through re-current training programs and on-going and competent supervision.

## Conclusions

The protection of forest workers must evolve to keep pace with structural and technological changes in the BC forest industry. As the harvesting system has changed, a safety vacuum has developed, and it must be filled. This calls for:

- The implementation of faller certification and the consideration of certification for other forest workers and supervisors.
- Clearly defining individual and shared safety responsibilities of everyone involved in timber harvesting — the forest worker, the direct employer, the tenure holder and the owner of crown lands – through the development and implementation of sector-wide safety standards.
- Assigning accountability for the training, supervisory and other resources required to keep workers competent and safe and ensuring that training programs are provided and accessed on a re-current basis.
- Devising and implementing WCB compliance policies to embrace all industry participants and assure that individual and shared safety responsibilities are met.
- Continuing to explore areas where the sector could do more to introduce safer technologies that protect workers or remove them from high-risk conditions, and adapting training

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<sup>31</sup> Bell, J. "Changes in Logging Injury Rates Associated with Use of Feller-bunchers in West Virginia". Presented at the International Mountain Logging and 11<sup>th</sup> Pacific Northwest Skyline Symposium 2001.

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programs and practices to address risks that new equipment or practices may create.

## CHAPTER 7.0 - THE REGULATORY CONTEXT

### Purpose

The regulatory context within which the industry operates can create opportunities and challenges for the industry in meeting occupational health and safety requirements.

This Chapter acknowledges the current regulatory regime and how it can impact compliance. The Chapter also discusses the overlap and underlap that exists in the regulation and enforcement of safety standards in the sector and the need for a renewed compliance model.

### The Changing Regulatory Landscape

The provincial government has recently made changes to its forest policies as part of an effort to help the industry get back on its feet. These reforms have moved the industry to a more market-based approach to forest management and have put more emphasis on outcome or performance-based requirements.

The recent change in provincial stumpage fees can be seen as an initial step toward the market-based timber system. Under the new auction-based system, about 20 per cent of Crown timber is sold each year through hundreds of timber sales, which vary in size and contain terms of up to four years. The timber is auctioned by BC Timber Sales. Sales go to the highest bidder as opposed to being based on non-commercial criteria. The auction results are then used to determine the stumpage rates of the other 80 per cent of Crown

timber. This system is meant to ensure that the public receives the highest possible revenue consistent with a competitive forest industry.<sup>32</sup>

This shift in regulatory landscape creates an opportunity for the industry to realign its operations and resources in a way that enhances competitiveness. In doing so, however, the industry must ensure that safety is not compromised despite temptations to cut corners that may directly or inadvertently impact safety, such as:

- Harvesting less timber when lumber prices are low and then, as they rise, rushing production in short time frames thereby promoting overcrowded cutting areas, excessive traffic volumes on back-country logging roads, overloaded logging trucks and long shifts that put workers at risk from fatigue.
- Trimming fixed overheads, adversely affecting safety — for instance, laying off knowledgeable supervisors, curtailing equipment maintenance and introducing just-in-time road construction.

Preventing such responses requires that safety be treated as a line item in business operations and considered as a primary factor in the long-term viability of one's business and the industry as a whole.

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<sup>32</sup> Province of British Columbia, Ministry of Forests Backgrounders- "BC Timber Sales Changes" and "New Timber Pricing System", both dated March 26, 2003. Available at: [www.gov.bc.ca/mof](http://www.gov.bc.ca/mof).

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Despite changes in the regulatory regime, companies continue to be subject to health and safety requirements and must look at new and innovative ways to remain competitive without compromising health and safety.

Government and the WCB can assist industry by supporting a health and safety pre-qualification standard as part of the timber bidding process, by examining ways to smooth stumpage costs throughout the year so that companies are not impelled to compress harvesting operations into tight timeframes, by providing easier access to safety records of contractors, sub-contractors and independent operators and by ensuring that employers have access to a pool of certified workers and supervisors.

## Overlap and Underlap

Meaningful action to improve safety in BC's forests will depend in large measure on the effectiveness of the regulatory functions of the WCB. The WCB must work with other agencies to ensure that all aspects of safety are considered in the regulatory process.

The WCB bears the primary statutory responsibility for occupational health and safety. Other government agencies, such as the Ministry of Forests (MOF), primarily pursue other legislated public interests. With some exceptions, the WCB and these agencies have dealt with many overlaps and conflicts between the different regulations that each administers. Overlaps remaining to be addressed run the gamut from industry-wide concerns to procedural matters to local issues. Probably more problematic, however, are some "underlaps" or regulatory gaps between systems. For example, WCB regulations require employers to have safety programs in place before work

begins, but it is unclear how this can be factored into the regulatory authority to award tenures or issue cutting approvals. In addition, there is no regulatory authority that appears to deal effectively with issues like the use of highway-rated trucks on back-country logging roads or acceptable grades and other conditions for heavy-duty off-road trucks.

## Current Legislative and Regulatory Requirements

A range of occupational health and safety requirements currently apply to workers, supervisors, employers, prime contractors, owners, and directors and officers of corporations in BC. These requirements are contained primarily in the *Workers Compensation Act* and the *Occupational Health and Safety Regulation*. A number of provisions apply both broadly and specifically to forestry employers and workers. A summary of these provisions is provided below:

### ***Workers Compensation Act (WCA)***

Section 115 of the *WCA* imposes a general obligation on every employer to ensure the health and safety of all workers working for that employer and any other workers present at a workplace at which that employer's work is being carried out. It includes a number of specific duties including the obligation to provide information, instruction, training and supervision to ensure the health and safety of workers and to establish health and safety policies and procedures.

Section 116 of the *WCA* imposes a general duty on all workers to take reasonable care to protect the worker's health and safety and the health and safety of other persons who may be affected by the worker's acts or omissions at work.

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Section 117 of the *WCA* places general duties on supervisors to ensure the health and safety of workers under their direct supervision, including making workers aware of hazards and ensuring that both the supervisor and workers comply with Part 3 of the *WCA*, regulations and orders.

Section 118 of the *WCA* addresses the responsibilities of the prime contractor on a multi-employer workplace to ensure coordination of activities at the site and to do everything reasonably practicable to ensure compliance with Part 3 of the *WCA* and the regulations.

Section 119 of the *WCA* addresses the responsibilities of the owner to maintain the owner's land and premises in a safe condition, to provide known information to the employer or prime contractor necessary for the identification and control hazards at the workplace, and to comply with Part 3 of the *WCA*, regulations and orders.

Section 121 of the *WCA* addresses the obligation of the directors and officers of a corporation to ensure the corporation complies with Part 3 of the *WCA*, regulations and orders.

Sections 125 to 140 of the *WCA* address the obligation of the employer to establish and maintain, where required, a system involving a joint occupational health and safety committee or worker health and safety representative.

## ***Occupational Health and Safety Regulation (OHSR)***

Part 26 of the *OHSR* (Forestry Operations) covers requirements specific to the forestry sector. Its requirements are in addition to the core and general hazard requirements of the *OHSR*.

Section 26.20 (Planning and conducting) establishes the general duty of management to plan and conduct forestry operations in a manner consistent with the *OHSR* and with recognized safe work practices. Specific requirements of the *OHSR* that address high risk infractions are outlined below.

Certification and training: Section 26.21 (Faller qualifications) states that an employer must not allow a worker to fall or buck trees until the worker has demonstrated to the employer that the worker is qualified. To determine qualifications, an employer must apply the standards of a training program that is acceptable to the WCB. Section 26.22 (Faller training) provides specific requirements for training fallers.<sup>33</sup>

Work practices when falling: Section 26.23 (Procedures) states that the employer must ensure that fallers and buckers follow written procedures that deal with safe work practices on various matters, including controlling the fall of trees and dangerous trees.

Section 26.24 (Responsibilities of fallers and buckers) covers a range of provisions on specific falling practices including leaving sufficient holding wood, placing the backcut higher than the undercut, ensuring wedging equipment is immediately available, and using wedges.

Ensuring other workers are at a safe distance: Section 26.23 also includes the obligation to ensure written procedures are developed and followed to ensure the safety of other workers. Section 26.24 includes the specific obligation to ensure workers are clear of the area within two tree lengths of the tree being felled. Section 26.29 (Entry to falling areas)

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<sup>33</sup> A summary and status report of the BC faller certification standard is included at Appendix D.

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restricts access of workers to the falling area.

Rollover protective structures (ROPS): Sections 16.22-16.26 deal with the obligation of the employer to ensure ROPS are installed on various types of mobile equipment, list applicable ROPS standards, establish certification and identification requirements for ROPS, and deal with the obligation to ensure that the operator's view is not obstructed by a ROPS. Section 26.53 (Ground skidding operations) includes a work practice requirement to control the risk of rollover.

Installation and use of seatbelts: Section 16.32 (Provision) deals with the requirements for seatbelts for certain types of mobile equipment. Section 16.33 (Use) covers the circumstances in which seatbelts must be used. Section 17.3 (Seat belts) provides additional requirements for vehicles used to transport workers.

Falling snags and dangerous trees: Section 26.1 (Definitions) provides a comprehensive definition of dangerous trees that includes snags. Section 26.11 (Dangerous trees) outlines the circumstances in which dangerous trees must be removed. Section 26.23 (Procedures) requires written procedures for controlling the fall of dangerous trees. Section 26.25 (Dangerous trees and logs) outlines some requirements for trees in dangerous condition, including steps to be taken if a tree is not initially completely felled. Section 26.26 (Falling dangerous trees) specifies requirements for falling practices with dangerous trees.

Domino falling: Section 26.24 (Responsibilities of fallers and buckers) addresses restrictions that apply to domino falling.

## Refocused Compliance

It is clear that WCB has the requisite authority within its current legislative and regulatory frameworks to effectively enforce health and safety requirements in the forest sector. However, it is the position of the Task Force, that this authority is not being effectively utilized. Notwithstanding the WCB's capacity to act, it cannot be in all places at once nor can it hope to prescribe fail safe mechanisms to ensure occupational health and safety and reduce the death and serious injury rates. These changes rely on the execution of the many changes outlined in this report. Having said that, the WCB can do a more effective job in its enforcement activities.

WCB enforcement activities have tended to focus on addressing the obligations and defaults of individual independent contractors and sub-contractors, and have tended not to address the role of land owners or the large tenure holders and prime contractors in ensuring the occupational health and safety of workers in forestry operations.

As noted in the previous section, the *WCA* imposes a general obligation on every employer to ensure the health and safety of "any other workers present at a workplace at which that employer's work is being carried out...". Typically, WCB officers have treated each specific location where activity occurs (falling, processing) as a separate workplace for the purpose of enforcement. This focuses enforcement on the obligations of lower level contractors and their immediate workers at that location.

The *WCA* defines a "workplace" as "any place where a worker is or is likely to be engaged in any work and includes any

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vessel, vehicle or mobile equipment used by a worker in work.” Under this definition there is nothing that precludes the WCB from treating the entire area covered by a forest tenure as a “workplace” for the purpose of enforcement.

The *WCA* clearly provides that an employer is not just responsible for its own workers, but for any other workers at the workplace where that employer’s work is being carried out. The “employer’s work” may be interpreted to include all aspects of a forestry operation taking place under a tenure.

The *WCA* also sets out duties that are specific to a prime contractor at multiple-employer workplace. Again, if the workplace is the area covered by the tenure holder, the duties of the prime contractor apply throughout the entire area.

The obligations of a prime contractor are very broad, apply to anyone at the workplace, and, in absence of a written agreement, become the obligations of the owner.

Overall, the WCB must broaden its enforcement focus to take in more than the growing population of small one- and two-person operations that record a disproportionate number of accidents and injuries. This requires treating the forest industry as a whole — allotting responsibility for safety to workers, sub-contractors, contractors, companies and tenure holders – while recognizing that extended accountability will require clear and specific information on the requirements that each party is expected to meet.

### Conclusions

Improving safety in the woods will require employers to recognize that safety is a key component of the long-term viability of the industry despite shifts in the sector to a market-based regulatory scheme. It will also require an alignment of regulatory systems among and between agencies to address overlap and fill underlaps. Finally, it will require a renewed compliance strategy by WCB that recognizes and clearly sets out the cascading responsibility of workplace parties regarding safety. Shared goals should be to:

- Encourage the industry to find innovative ways to make safety a top-of-mind consideration despite regulatory forces that promote competition and economic efficiencies.
- Encourage the adoption of worker health and safety as a consideration when developing and amending forestry regulations.
- Establish a process to encourage and maintain cooperative and complementary regulatory approaches by all agencies involved in forestry.
- Adapt the WCB compliance system to the new and evolving realities of working in the woods, emphasizing prevention activities and focusing compliance efforts on the full forest operation, from individual worker to tenure holder.
- Ensure that compliance strategies support and communicate a worker’s right to refuse unsafe work.
- Adopt and implement a sector-wider health and safety pre-qualification

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standard that is considered as an important element in the awarding of harvesting rights while being sensitive to the need to uphold open competition.

- Request BC Timber Sales to explore ways to smooth stumpage rates to mitigate compressed work seasons and overcrowding on roads and in cutting areas.
- Ensure timely access to safety records and information on deaths and serious injuries in the BC forest sector.

## CHAPTER 8.0 – ECONOMIC UNCERTAINTY

### Purpose

In recent years, the BC forest sector has suffered from the impact of a number of economic pressures - the slowing global economy, aggressive foreign competition, countervailing duties and anti-dumping charges resulting from the softwood lumber dispute, the impact of recent pine beetle infestations and the devastation caused by the recent wild fires in the Interior. These forces have contributed to the economic downturn of the industry and have resulted in layoffs, mill closures, industry restructuring, and reductions in lumber exports.

While safety must not take a back seat to economic considerations, the reality is that pressures to increase productivity and reduce costs were raised in Task Force consultation sessions as being a contributor of deaths and serious injuries in the sector and, in this context, they are considered.

### Impact of Increased Demands for Efficiency

Forestry is a commodity-based business where cost and quality dictate demand. Rapidly changing market conditions have created an environment where employers are forced to become more competitive in order to survive. These forces include a dramatic increase in competition from other regions as well as from non-wood substitutes, a loss of market share in Japan, and the rising Canadian dollar.

The impact of changing markets is illustrated in key economic indicators for the sector. The 2001-2002 BC Ministry of Forests Annual Report reveals that between 2000 and 2001, forest exports dropped 11 per cent, harvest levels fell 6.5% and total employment in the industry plunged 12 per cent. A recent report by the BC Coastal Industry claims that lumber shipments to the US and Europe declined by 40 per cent and 75 per cent respectively in the last 15 years.<sup>34</sup>

Many employers in the industry attribute the industry's inability to maintain its market share in part to an excessively high cost structure. They also acknowledge that declining profitability weakens a company's ability to generate revenue for ongoing reinvestment and research and development. Declining profitability may also impact safety as escalating demands are made to increase productivity and reduce costs.

Cost pressures can create stress on workers who may fear job loss and cut corners in order to meet mounting production demands. Some of those the Task Force consulted with indicated that the move to compressed seasons can create situations where workers are required to work longer shifts for more consecutive days. This can lead to fatigue and misjudgments that can have deadly consequences. The pressure to increase productivity has also been identified by some as a cause for a number of speeding-

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<sup>34</sup> "Embracing a New Vision – Rebuilding BC's Coastal Forest Industry." p.4.

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related deaths, excessive overloading of logging trucks, and head-on collisions due to logging road congestion caused by a lack of road-use planning and communication between tenure holders.

Reductions in a company's investment and focus on safety and training and on on-going maintenance of equipment may also occur as financial resources diminish. Occupational health and safety regulations do not change, however, when economic or regulatory pressures arise. Safety is a constant and the industry must look to new and innovative ways to improve safety and remain competitive.

## Improving Costs through Safety

### *Current Data and Trends*

At the end of 2002, the workers' compensation insurance pool covering the BC forestry industry carried a large unfunded liability totaling over \$120 million. This unfunded liability represented a funding level of 86% and was equivalent to 14% of the industry's annual payroll. This funding shortfall arose as a result of several negative

converging circumstances – significantly higher than expected injury awards for prior period claims and the hangover from negative investment returns in 2001 and 2002.

As discussed in Chapter 2.0, the industry's overall injury rate has continued to improve. The most significant reductions, however, have occurred in the low severity and low cost categories of injuries, while severe injuries and deaths continue to contribute to the bulk of claim costs.

In 2004, \$1.54 will be added to the Forestry Rate Group 2004 base rate. If the numbers of serious injuries and deaths are not addressed, high claims costs will continue to increase employer rates, which could impact the competitiveness of the industry.

The figure below contains key financial data for the industry and illustrates the following industry trends:

- Relatively flat payroll and workforce (person years).
- Declining claim counts and overall injury rate.
- Persistently high average cost per claim.
- Moderating gains in cost rate.
- Fund balance eroded to large deficit (86% funding level).

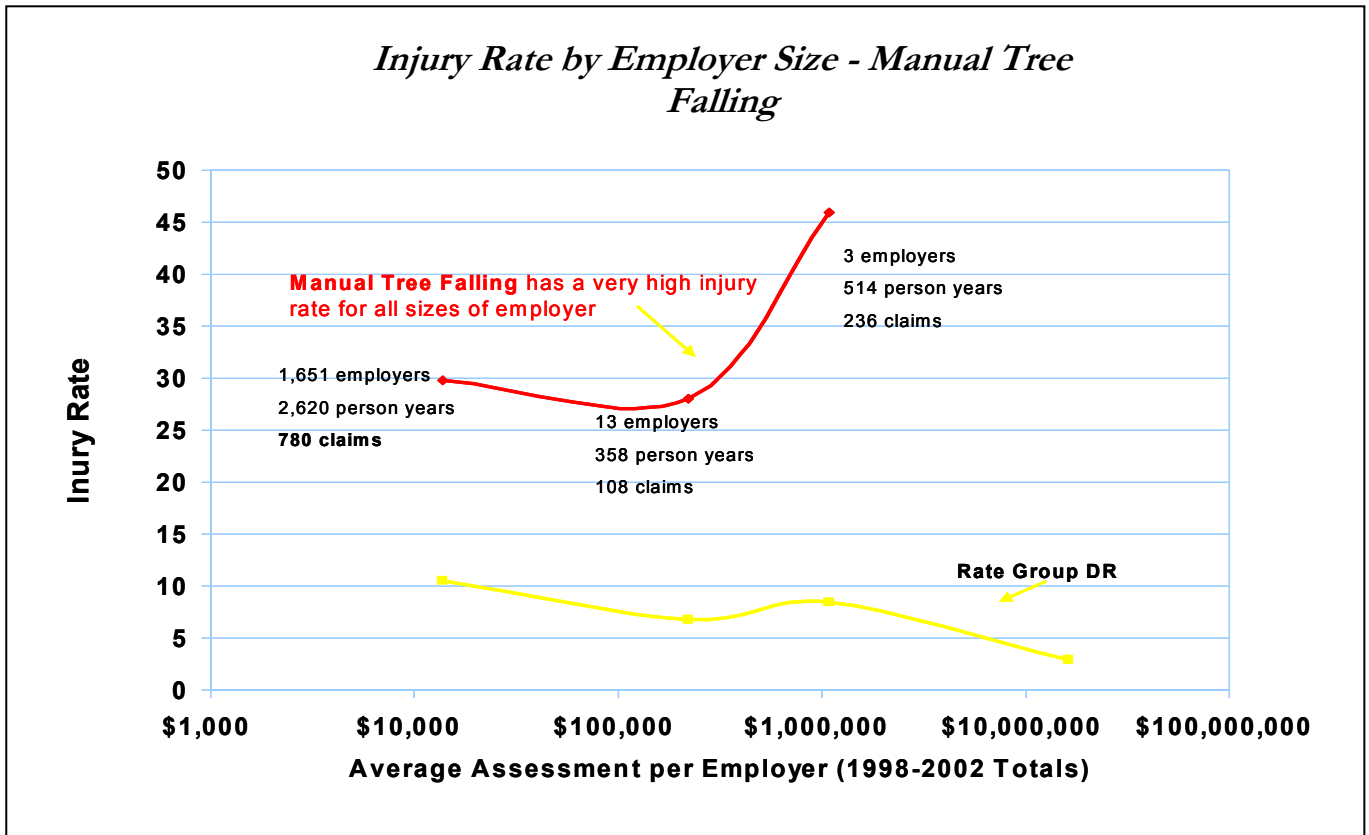
### *Key Financial Data at a Glance*

| Rate Group DR - Forestry |                      |                 |                                   |                |                       |   |                                  |
|--------------------------|----------------------|-----------------|-----------------------------------|----------------|-----------------------|---|----------------------------------|
| Year                     | Payroll<br>(\$000's) | Person<br>Years | Non-Health<br>Care Only<br>Claims | Injury<br>Rate | Avg Cost<br>Per Claim | Fully<br>Reserved<br>Claim<br>Cost Rate | Fund Balance<br>(\$000's)        |
| 1998                     | \$863,691            | 19,340          | 1,676                             | 8.7            | \$34,603              | \$6.71                                  |                                  |
| 1999                     | \$928,074            | 20,991          | 1,731                             | 8.2            | \$35,372              | \$6.60                                  |                                  |
| 2000                     | \$944,430            | 21,844          | 1,647                             | 7.5            | \$40,891              | \$7.13                                  | rate group was<br>formed in 2001 |
| 2001                     | \$896,327            | 20,198          | 1,302                             | 6.4            | \$42,907              | \$6.23                                  | (19,610)                         |
| 2002                     | \$889,126            | 19,582          | 1,238                             | 6.3            | \$33,890              | \$4.72                                  | (120,743)                        |

## FOREST SAFETY TASK FORCE

A review of assessment rates in the forest sector reveals a heavy skew of injury frequency and high injury costs towards small firms in the manual tree falling category (Classification Unit). Addressing the injury frequency and disability management challenges in the small firms in manual tree falling within the forestry industry has the most leverage in terms of reducing human suffering and economic burden on the forestry industry as a whole.

While the majority of injuries and deaths are occurring in small firms (typically on the coast), addressing the high injury rate will require the backing of the entire industry. Small firms are typically contracted by tenure holders or prime contractors to carry-out high-risk work in the most dangerous conditions (typically on the coast) and are extremely difficult to target given their size (many are one or two person operations).



Source: WCB Finance Division

## FOREST SAFETY TASK FORCE

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### *Future Projections - Costs*

Reducing the number of serious injuries in particular will have a significant impact on employer rates in the sector. The figure below shows that assuming no change in the size of the industry and no change in the average cost per serious injury claims,

a reduction in serious injuries by 50% by 2006, 75% by 2008 and 100% by 2010 would result in savings of about \$180 million over seven years for rate group DR (Integrated Forest Management). These savings would be even higher if medium and low serious injuries were also reduced.

### *Rate Group DR (Integrated Forest Management - all Classifications)*

|                            | 2003    | 2004 | 2005   | 2006   | 2007   | 2008   | 2009  | 2010 | Total Cost Reduction |
|----------------------------|---------|------|--------|--------|--------|--------|-------|------|----------------------|
| <b>Serious Injury Rate</b> | .86*    | .69  | .54    | .43    | .31    | .22    | .11   | .00  |                      |
| <b>FRCC Costs**</b>        | \$41.5* | \$33 | \$26.1 | \$20.7 | \$14.7 | \$10.4 | \$5.2 | \$0  | \$180.4              |

Source: WCB Finance Division

\* Estimate

\*\* Fully Reserved Claims Costs

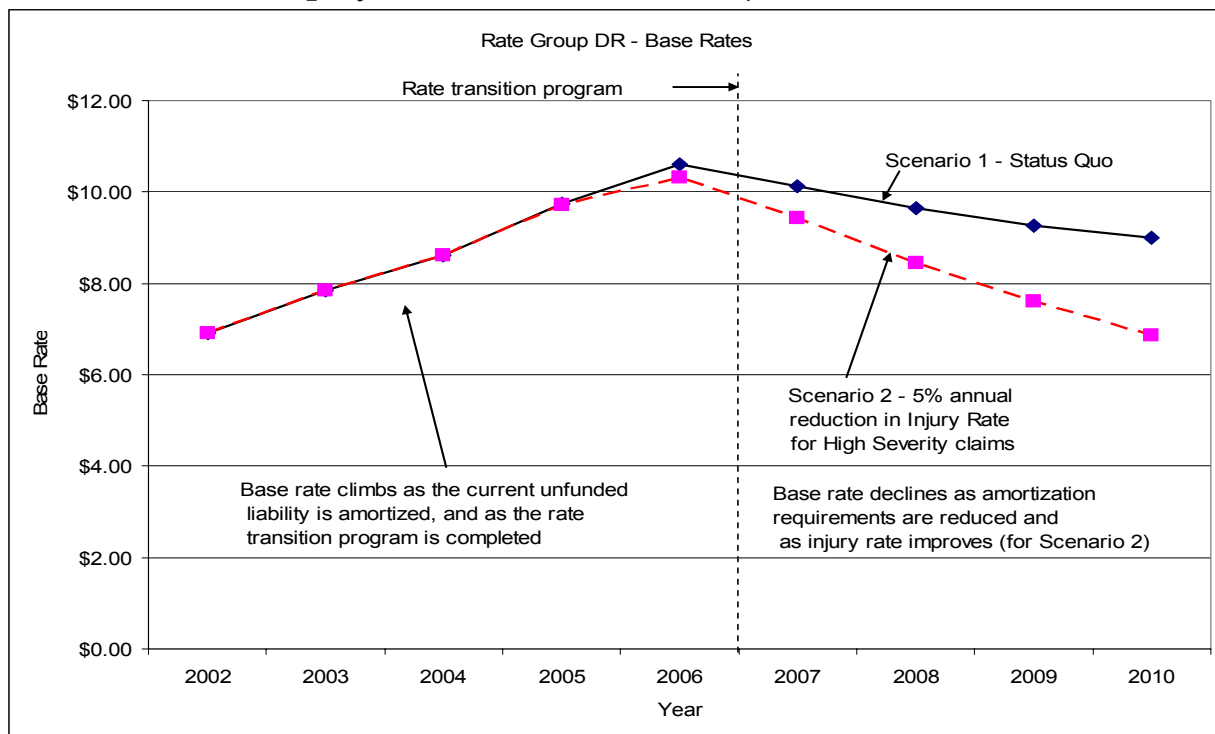
# FOREST SAFETY TASK FORCE

## *Future Projections - Rates*

WCB estimates indicate that if the serious injury and death rates in the forest sector do not change, the average base rate for the Forest Rate Group would increase from \$6.91 in 2002 to \$8.99 in 2010 (assuming a 2% increase in payroll each year and neutral investment performance) and would result in a \$36 million unfunded liability at 2010 for the rate group.

Assuming a 5 per cent reduction in serious injuries, starting in 2004 and continuing to 2010, the average base rate for the Forest Rate Group would decrease to \$6.87 in 2010 (again, assuming a 2 % increase in payroll each year and neutral investment portfolio) and the projected year-end rate group balance for 2010 would be \$6 million.

## *Employer Assessment Rate Projection to 2010*



Source: WCB Finance Division

# FOREST SAFETY TASK FORCE

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In addition to reducing assessment rates, improvements in safety can have a positive impact on a firm's productivity overall. There are operational benefits for employers who invest in safety. Case studies have shown that good health and safety workplace practice is good for business, is cost-effective and provides often significant returns on investment.<sup>35</sup>

## Approaches to Funding Safety Initiatives

There are alternative approaches to addressing the challenge of excess injuries and costs in the forest industry that range from a simple funding model for a safety association, to comprehensive actions and funding falling under varying levels of sponsorship/responsibility. Approaches could include:

1. Collective funding by firms to increase the number of WCB safety officers for enforcement and education – specific charge to the forestry industry.
2. Individual firms committing to and assuming the cost of safety training and disability management.
3. Specific surcharges on manual tree falling firms for the purpose of funding a safety and certification agency.
4. Collective funding for an industry safety training and certification agency.

5. Comprehensive industry wide efforts to address the problem of injury frequency and severity with direct cost reduction benefits to employers who participate in and successfully obtain pre-qualification certification.

## Conclusions

- The industry is facing an uncertain economic future with changing market forces, pressures to become more competitive and to improve productivity and lower costs. Despite these pressures, the industry must agree that safety is an over-riding priority. Safety must not take a back seat to costs – it must be treated as a lever to improving the long-term viability of the industry.
- The incidence of deaths and serious injuries has a significant impact on WCB assessment costs in the industry and these costs are not sustainable. Reductions in the serious injury rate will lead to reductions in employer costs and increases in overall productivity.
- The industry has the opportunity to work with the WCB to address the unacceptable level of injuries and costs through various funding models. These opportunities should be explored.
- The cost and manner of funding safety initiatives and programs will have to take into account the current economic pressures being experienced by the sector; however, the entire industry must be in a position to support and sustain a sector-wide solution.

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<sup>35</sup> See “*Increasing Productivity and Profit through Health and Safety – Case Studies in Successful Health and Safety Practice*” by Maurice Oxenburgh (CCH International, January 1994).

**APPENDICES**

# FOREST SAFETY TASK FORCE

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## APPENDIX A - TASK FORCE TERMS OF REFERENCE

### **Purpose:**

The Task Force is to develop an action plan to reduce the rates of serious injuries and deaths in the BC forest sector. The initial target for the action plan was to reduce these rates by at least 50 per cent within three years. While this goal is significant, the Task Force has agreed to treat this as an interim target and to set the ultimate goal of eliminating all avoidable and serious injuries and deaths in the sector as soon as possible.

### **Rationale:**

BC has a long history of severe and extreme accidents and hazards in the forest sector. There were 250 deaths during the period 1993 to 2002. This was double the rate of the next most hazardous industry. In 2002 there were 24 deaths. This is a serious concern with the workers, the industry and the government. We need to do better.

Numerous reports and studies have been prepared and conducted to try and improve the safety in the forest sector. The most recent BC report was prepared by the IWA-Canada and it sets out 29 recommendations for the improvement of occupational health and safety in the BC coastal logging industry. This latest report was positively responded to by the Workers' Compensation Board and a proposal for implementation was made by the IWA to the Minister of Skills Development and Labour. Within the sector itself, some positive trends have been begun to emerge along with a new range of best practices. Capturing and building on this momentum is crucial.

The Minister of Skills Development and Labour is determined that this round of discussion lead to positive results and that means fewer deaths and serious injury, a safer workplace and a reduction in the social and financial costs of the forest industry.

### **Objective:**

The Minister set the goal of at least a 50% reduction in the next three years and further reductions thereafter and has asked Douglas Enns, Chair of the Workers' Compensation Board to head up a taskforce to develop an action plan to get there. The Task Force has agreed to go beyond the Minister's target and to work to eliminate all avoidable deaths and serious injuries in the sector as soon as possible.

### **The Nature of the Action Plan:**

The intention is to develop an action plan that is supported by all parts of the industry including the workers themselves. The Minister has asked that the committee attempt to reach broad agreement on what needs to be done and how best to implement the changes and approaches that will produce results.

## FOREST SAFETY TASK FORCE

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### **Mandate:**

The taskforce will provide recommendations and an action plan to eliminate serious injuries and deaths in the forest sector as soon as possible.

### **Timeline:**

The taskforce will provide recommendations and an action plan to the Minister of Skills Development and Labour on or before December 2003.

# FOREST SAFETY TASK FORCE

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## APPENDIX B – CONSULTATION SUMMARY

### **Introduction:**

The following is a brief summary of the themes raised during consultation with stakeholders regarding the causes of deaths and serious injuries in the BC forest industry and possible solutions for addressing this issue.

### **Purpose and Methodology:**

Through the consultation process the Task Force was able to involve a large number of informed individuals and organizations concerned with forestry and forest safety. This input significantly assisted the work of the Task Force and the formulation of the Action Plan. The consultation was conducted largely through interviews and follow-up with stakeholder groups and individuals. A consultation document was prepared and widely circulated and supplemented by a number of meetings and a session with the Task Force.

### **Advice on the composition and functioning of the Task Force:**

There were a number of early concerns raised with the composition and approach being taken by the Task Force. Early steps were taken to address these concerns. Overall, the mandate and focus of the Task Force was broadly supported. As a result of the early consultation, the initial target of the Task Force to effect a 50% reduction in the rate of fatalities and serious accidents over three years was changed to focus on eliminating all fatalities and serious accidents.

**Advice on the Deliberations of the Task Force:** The consultation provided advice on how the Task Force should approach its mandate:

- **“Go big or go home”:** Throughout the consultation there was a level of cynicism and skepticism that this effort would not be any different or produce any better result than others that had preceded it to little effect. It is important, therefore, for the Task Force to produce a major and substantial health and safety initiative is both comprehensive and effective.

## FOREST SAFETY TASK FORCE

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- **The government and its agencies have an important role to play:** The key role of government and its agencies came up frequently. An important part of the success of the safety initiative will be the effective and supportive participation of government as legislator, regulator and tenure holder.
- **Pay attention to the smaller companies:** Safety issues are more prevalent and the solutions are more difficult in the 97% of the industry made up of small and medium businesses that employ about 50% of the workforce but account for 60% of serious injuries and 70% of fatalities. Changes in the structure of the industry is going to put more pressure on these smaller companies, least well equipped to deal with the issues within their own resources. There needs, therefore, to be a concentrated effort to forge a health and safety strategy that will take these changes and challenges into account.
- **There are important differences between the Coast and the Interior industries:** There are important differences between the structure and the operation of the industry on the coast and in the interior that need to be taken into account in the development of a health and safety Action Plan.

### **Advice on how to achieve the Task Force's Mandate**

The consultation was most valuable in providing advice on the specific issues that must be dealt with if the Action Plan being put forward by the Task Force is to be successful. The major points are summarized below:

- **There needs to be a Change to the Safety Culture of the Industry:** The most important message of the consultation is the need for a fundamental shift in the culture of the forest sector to make the health and safety of worker an overriding priority. Without this shift, improvements can be made, but the dramatic change that the Task Force is look for will not be achieved.
- **Collective Responsibility for safety must be encouraged:** There is general agreement that safety has to be everyone's priority to be successful, and that it must be seen as a collective responsibility. In some areas and jurisdictions where the industry has come together to deal with safety issues, there have been positive results.

## FOREST SAFETY TASK FORCE

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- **Comprehensive Training and Supervision are important:** The lack of consistent and comprehensive training, no process for the certification and upgrading of key employment functions, and no program for the training of supervisors all contribute to the current safety record of the sector. Moving toward certification of all key functions, together with the requisite training, tracking and upgrading, will make a significant difference in the approaches and attitudes toward safety, and also support the recognition of forestry workers as skilled professionals committed to their craft and responsible for their own safety and that of their co-workers.
- **Compliance needs to be renewed and made more proactive:** The current compliance regime is well regarded but needs to be reviewed in view of the changing structure and the need to put more emphasis on safety as a priority. This will require a different approach to the relationship of licencees, prime contractors and sub-contractors, more emphasis on the setting of standards, training, audits and, where appropriate, enforcement.
- **Legislation, regulations and the actions of government agencies must contribute to the safety and health of forest workers:** The consultation identified several areas where government legislation and policies should be reviewed. This include the role of Timber Sales BC as the tenure holder to take ownership and accountability for the safety of operations where they award tenure; the need to build minimum requirements and pre-qualifications into the competitive process for the sale of timber; the need to consider how the process for pricing stumpage can be managed to avoid unnecessary deadlines or financial incentives that can adversely impact on safety; and the need to review internal jurisdiction among government agencies for inspections, road safety, the investigation and reporting of accidents, and the reconciliation of environmental standards with safety concerns.
- **Technologies and techniques that reduce the risk of injury should be encouraged:** There was some discussion around the potential impact of new technologies and approaches that can reduce injury and possible fatalities. There were several examples of technologies that either increased safety or exacerbated safety. There should, however, be encouragement to develop and introduce new approaches and technologies that will reduce the incidence of serious injuries.

## FOREST SAFETY TASK FORCE

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- **Information and analysis on serious incidents and fatalities must be better and timelier:** Information on fatalities and serious injuries need to be more timely and there should be some immediate reporting with more detailed reporting occurring later.
- **The particular safety needs of First Nations need to be taken into account:** As First Nations forestry companies become more directly involved in the sector, their specific needs for training and certification need to be carefully considered.

### Recommendations to the Task Force

The consultation process resulted in a host of recommendations, both large and small, being made to the Task Force:

- **The Task Force needs to be the catalyst for a shift in safety culture of the Forest Sector:** Frequent reference was made to the need to change the culture and deal with the underlying attitudes as a pre-requisite to meaningful, long-term change. Just how this would be accomplished is left to the collective creativity of the Task Force.
- **There needs to be a dedicated Health and Safety Agency for the Forest Sector:** There is general support for a move to create a dedicated Health and Safety Agency. This support, however, was qualified by a number of concerns and requirements. These included concern that any new approach not duplicate current efforts, that the cost of the initiative be broadly funded, that the governance of the agency be by the industry, and that the mandate go well beyond training to focus on certification, tracking, standards, information gathering and dissemination and research.
- **There needs to be a review of the key mandates and obligations of the key organizations in the area:** Generally, the roles of all the key stakeholders, organizations, ministries and agencies need to be reviewed to help develop a culture of safety and to implement the Action Plan recommended by the Task Force.

# FOREST SAFETY TASK FORCE

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## Consultation Participants

### Individuals

|                |                 |                      |
|----------------|-----------------|----------------------|
| John Allen     | Nancy Harwood   | Alan Robinson        |
| John Betts     | Reid Hedlund    | George Rogers        |
| Dave Brensrud  | John Holmes     | Keith Rush           |
| Dave Bryden    | Steve Larkman   | Doug Rutledge        |
| Doug Daniels   | Wayne Lintott   | J. Sallenbach        |
| Don Dahr       | John Mann       | Bill Sauer           |
| Lee Doney      | Don Mackay      | Jim Shepherd         |
| Jim Cadden     | Anna Mauch      | Roberta Sheng-Taylor |
| Sandie Cartie  | Ian May         | Randall Shoop        |
| Jim Chorney    | Mike McGibbons  | Dave Stuart          |
| Ron Corbeil    | Sandy McDade    | Ken Stewart          |
| Wayne Coulson  | Alison McKenzie | Leith Skinner        |
| Barb Deschenes | David Mullett   | Leslie Varley        |
| Bill Dow       | Mike McNabb     | Les Veale            |
| Roberta Ellis  | Roy Nagel       | Michelle Ward        |
| Doug Enns      | Terry O'Neill   | Jim Williams         |
| Dave Emerson   | Bert Painter    | Don Wright           |
| Erik Erickson  | Cindy Pearce    | Doug Wilson          |
| Jim Girvan     | Bell Pole       | Dwight Yochim        |
| Dave Haggard   | Steve Price     | Brian Zak            |
| Roger Harris   | Rob Reynolds    |                      |

### Industry

|                                  |   |
|----------------------------------|---|
| Ainsworth Lumber Company Ltd.    | Lignum Ltd.                               |
| Babine Forest Products Limited   | Lytton Lumber Ltd.                        |
| Blackwater Construction Co. Ltd. | McBride Forest Industries Ltd.            |
| Canfor                           | Nechako Lumber Company Ltd.               |
| Carrier Lumber Ltd.              | Pope & Talbot Ltd.                        |
| Colson Lumber                    | Riverside Forest Products Ltd.            |
| Galloway Lumber Company Ltd.     | Sallenbach Logging Ltd.                   |
| Forest Hill Contractors Ltd.     | Slocan Group                              |
| Hayes Lumber                     | Tembec Industries Inc.                    |
| Houston Forest Products Ltd.     | Timber West                               |
| Interfor                         | Tl'oh Forest Products Limited Partnership |
| KDL Group of Companies           | Weldwood of Canada Ltd.                   |
| Kispiox Forest Products          | West Fraser Timber Company Ltd.           |
| Kitwanga Lumber Company Ltd.     | Weyerhaeuser Company Ltd.                 |

### Associations

|                                      |                                     |
|--------------------------------------|-------------------------------------|
| Assoc of BC Professional Foresters   | Coast Forest and Lumber Association |
| BC Lumber Trade Council              | Council of Forest Industries        |
| Central Interior Logging Association | Forest Industry Safety Associations |

## FOREST SAFETY TASK FORCE

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Industrial, Wood and Allied workers of  
Canada  
Interior Logging Association  
Northwest Loggers Association  
Truck Loggers Association

Western Silvicultural Contractors'  
Association  
Western Fallers' Association

### **Ministries and Agencies**

Ministry of Skills Development and  
Labour  
Ministry of Forests  
Ministry of Water, Land and Air  
Protection

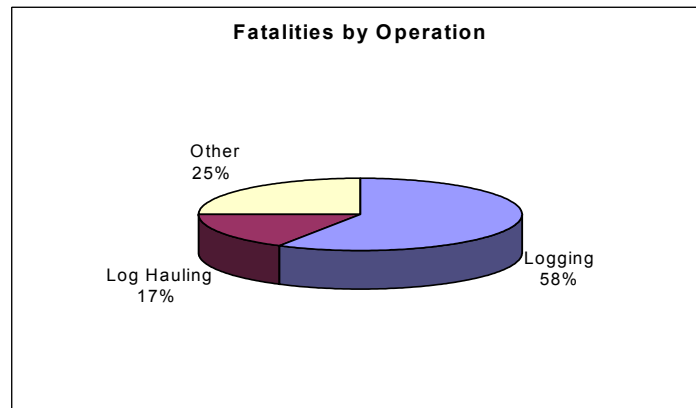
RCMP  
Timber Sales BC  
Public Safety and Solicitor General  
Workers' Compensation Board

# FOREST SAFETY TASK FORCE

## APPENDIX C – ADDITIONAL FATALITY STATISTICS

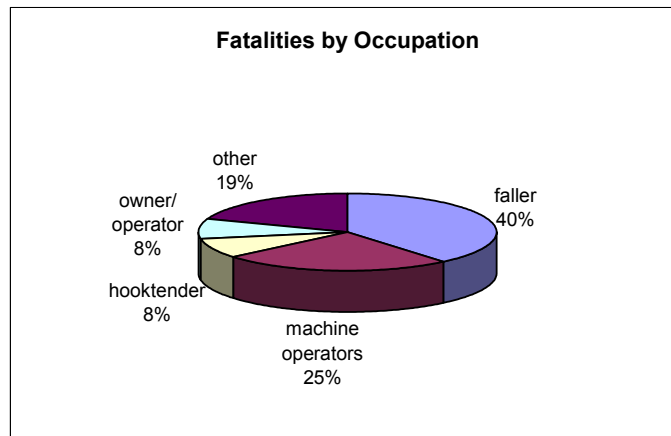
A detailed file review of investigation reports from 36 fatalities occurring in 2000 and 2001 (18 in each year) was undertaken.

Of the 36 fatalities reviewed, more than half (58%) occurred in logging operations. Less than one fifth (17%) occurred in log hauling. One quarter of the 36 fatalities occurred in "other" types of operations (e.g., on the way to and from work, tree-planting operations, etc.)



Source: WCB Statistics

Of the 36 fatalities reviewed, where the occupation could be determined, 40% were fallers, 25% were machine operators, 8% were hooktenders, 8% were owner/operators, and 19% were classified as "other" (e.g., welder, tree-planter). Of the 9 machine operators, almost 80% were logging truck drivers and 20% were skidder operators.



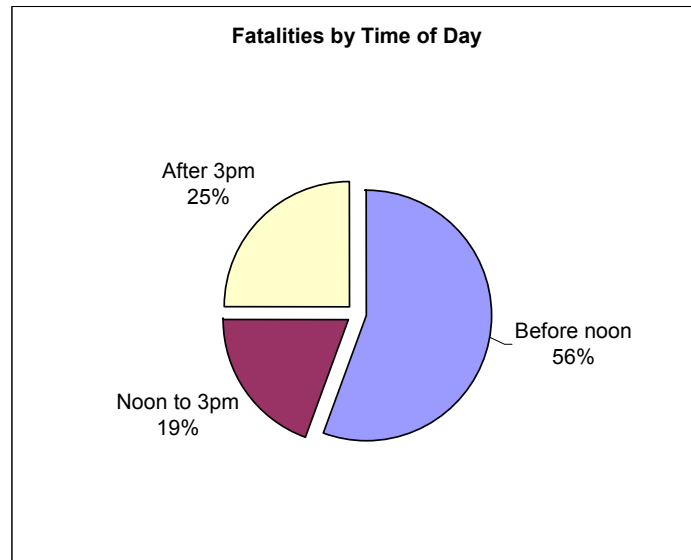
Source: WCB Statistics

Of the 36 fatalities reviewed, where the time of day was indicated, 20 (56%) occurred before noon, 7 (19%) occurred between noon and 3pm, and 9 (25%) occurred after 3pm<sup>36</sup>.

<sup>36</sup> Shifts typically started at around 6am.

# FOREST SAFETY TASK FORCE

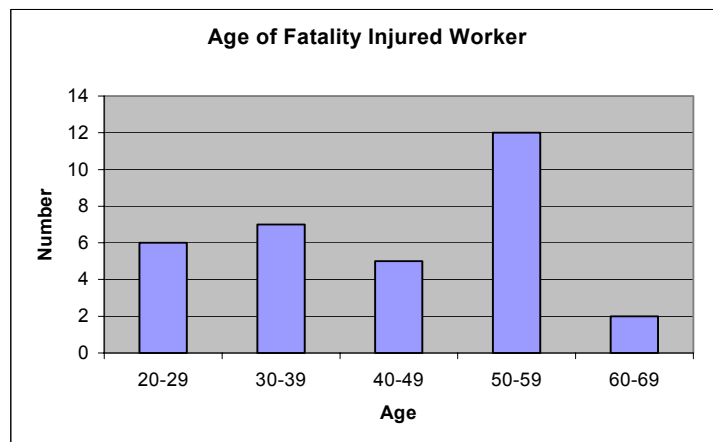
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Source: WCB Statistics

Of the 14 deaths among fallers, 7 (50%) died before noon, 3 (21%) died between noon and 3pm, and 4 (29%) died after 3pm. Of the 7 deaths among logging truck drivers, 2 (29%) died before noon, 3 (43%) died between noon and 3pm, and 2 (29%) died after 3pm. Of the 2 skidder operators killed, both died before noon.

Of the 36 fatalities reviewed, 32 reported the decedent's age. Of these, 37% were aged 50-59, 22% were aged 30-39, 19% were aged 20-29, 16% were aged 40-49, and 6% were aged 60-69.

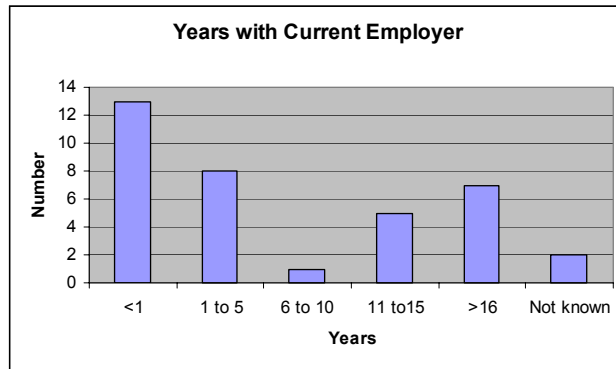


Source: WCB Statistics

The fatality investigations reported years of experience in two ways: years of experience with current employer and years of experience at current task.

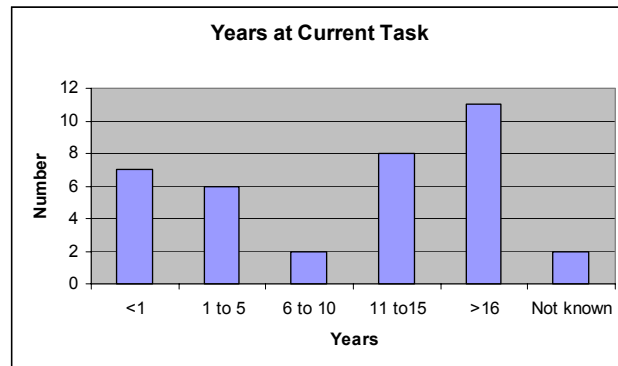
## FOREST SAFETY TASK FORCE

Of the 34 fatality investigations in which "years of experience with current employer" was reported, 40% had worked less than one year, 21% had worked 1-5 years, 3% had worked 6 to 10 years, 15% had worked 11 to 15 years, and 21% had worked for more than 15 years.



Source: WCB Statistics

Of the 34 fatality investigations in which "years of experience at current task" was reported, 21% had worked less than one year, 18% had worked 1 to 5 years, 6% had worked 6 to 10 years, 24% had worked 11 to 15 years, and 31% had worked more than 15 years.



Source: WCB Statistics

The review of fatality investigation reports also revealed that the most common contributing factors to logging fatalities were: improper or incorrect work procedures, failure to adequately assess hazard, lack of awareness of the "physics", lack of written safe work procedures, and inadequate training or supervision. The most common contributing factors to logging truck fatalities were: overweight loads, poorly maintained brakes, poor road conditions and excessive speed (in some, but not all cases). The most common contributing factor in motor vehicle fatalities was excessive speed.

# FOREST SAFETY TASK FORCE

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## APPENDIX D – OVERVIEW OF BC FALLER TRAINING STANDARD

### 1. Summary

#### *The BC Faller Training Standard*

The BC Faller Training Standard is a training and certification standard that has been developed to meet the requirements of section 26.22 of the *Occupational Health and Safety Regulation (OHSR)* which requires fallers to receive training and to become certified.

The standard has been developed with a focus on training fallers in the safe work procedures necessary for falling and bucking.

The goal of the BC Faller Training Standard is to ensure persons working as fallers have the knowledge, skills, abilities, work practices, and attitude that will enable them to function as safe, productive fallers.

The program emphasizes the importance of being a professional faller from three main perspectives:

- Completing a risk and hazard assessment of each situation prior to making any cuts so that the faller is able to formulate an effective falling or bucking plan
- Seeking qualified assistance when the faller is unsure of his/her abilities or require help
- Continuously improving workmanship and practice

#### *Faller Certification Overview*

The BC Faller Training Standard is the foundation for the Faller Certification process. The process is intended to cover the certifying of production hand-fallers as required by the *OHSR*.

The regulation views fallers from two perspectives, the new faller with less than two years experience and current fallers with more than two years experience. In response, the BC Faller Training Standard includes the “Faller Training Standard Course Challenge” (grandfathering), whereby current fallers can challenge the training course by completing the exam that would normally be given at the end of the training program for “new” fallers.

The Faller Certification Process is made up of a written/oral examination and a field evaluation that will be applied consistently across the province to certify BC fallers. The faller’s performance skills will be assessed through a written/oral examination and through an onsite (falling area) evaluation to test the faller’s knowledge and application of falling safe work procedures. A passing grade of 75% is required in each of the written/oral exam and the field evaluation. Examination information is forwarded to the agency administering the certification database for record keeping purposes. Fallers who pass both portions of the

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examination/evaluation are eligible to receive their faller's logbook and falling certification ticket, once deemed certified by the Qualified Supervisor/Trainer (QS/T)<sup>37</sup>.

## 2. Current Regulatory Requirements

The Faller Training Standard is a training and certification standard that has been developed to meet the requirements of section 26.22 of the OHSR, which requires fallers to receive training and be certified. Existing fallers may be exempted from the training requirement if:

- the worker has performed falling regularly for at least two years before April 15, 1998;
- the worker's activity is evaluated at the worksite and the worker is certified as a competent faller by a qualified supervisor or trainer; and
- the worker passes a written or oral examination on falling in the presence of a Qualified Supervisor/Trainer.

The process described above is the grandfathering faller certification process. Those fallers who are not eligible to participate in the grandfathering certification process will be required to meet additional requirements in addition to the certification process.

On June 30, 2003, the WCB implemented the BC Faller Certification Standard, after the WCB completed a pilot of the certification process. The WCB began grandfathering fallers as of September 1, 2003.

## 3. Pilots and Qualified Supervisor/Trainer Rollout

- **The classroom portion** of the faller training was piloted in the last two weeks of February 2003, with both industry and WCB representation.
- **Field evaluation pilots** were completed in various areas of the province in May/June 2003.
- **Qualified Supervisor/Training course pilot** was completed in June 2003.

## 4. Existing Faller Certification Tools/Documents

The table below provides an inventory of faller certification tools that currently exist and a brief description of the purpose of each.

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<sup>37</sup> For the purpose of the Faller Certification process, the term "Qualified Supervision/Trainer (QS/T)" is used to describe the role of the industry supervisors deemed qualified to test and certify fallers.

## FOREST SAFETY TASK FORCE

| Tool/Documentation Name                         | Description/Purpose   |
|---|---|
| 1. Faller's Certificate                         | <ul style="list-style-type: none"> <li>Document that confirms that the named faller has been certified as having met the requirements of the BC Faller Training Standard.</li> </ul>  |
| 2. Certification Feedback form                  | <ul style="list-style-type: none"> <li>Survey used to acquire feedback from fallers being certified.</li> </ul>   |
| 3. Cover Letters (Suite of Letters)             | <ul style="list-style-type: none"> <li>A series of cover letters used to document acknowledgement, acceptance, rejection, confirmation processes in the grandfathering process.</li> </ul>  |
| 4. Dispute Resolution Guidelines and Procedures | <ul style="list-style-type: none"> <li>Guidelines and procedures describing: non compliance issues arising from the evaluation process, disagreement or adversarial situations, appeals and adjudication process for any fallers who fail certification, suspension of faller's certificate and remedial training plans.</li> </ul> |
| 5. QS/T Code of Practice                        | <ul style="list-style-type: none"> <li>Combined Code of Ethics and Standards of Practices that have been agreed to, signed off by, and will be adhered to by all qualified supervisor/trainers as part of the certification process.</li> </ul>   |
| 6. Faller Code of Practice                      | <ul style="list-style-type: none"> <li>Standards of Practice that have been agreed to, signed off by and will be adhered to by certified fallers.</li> </ul>  |
| 7. Field Evaluation Workbook                    | <ul style="list-style-type: none"> <li>A comprehensive guideline describing the Standard, Certification Process and procedures, Evaluation Overview, Written/Oral Examination, Field Evaluation Overview and requirements, Certification process and Duty of Care.</li> </ul>   |
| 8. Field Evaluation Worksheet                   | <ul style="list-style-type: none"> <li>A 22-page evaluation worksheet that is used to evaluate the faller's field work (tree falling). The Evaluation uses weighted conditions and numerical marking to capture results.</li> </ul>   |
| 9. Infoflips (two flips per set)                | <ul style="list-style-type: none"> <li>Need-to-know information summarizing the BC Faller Training Standard for use by workers working in falling operations.</li> </ul>  |
| 10. Initial Safety Meeting Checklist            | <ul style="list-style-type: none"> <li>An itemized checklist describing the essential components of an initial safety meeting in falling operations.</li> </ul>   |
| 11. Log Book                                    | <ul style="list-style-type: none"> <li>A faller-specific book documenting the faller's competency and work experience, organized by tree species group, timber type, terrain, etc. All documentation contained in the logbook must be verified by the faller's supervisor.</li> </ul>   |
| 12. Media Campaign Kit                          | <ul style="list-style-type: none"> <li>A collection of need-to-know information describing the faller certification, the Standard, grandfathering process and costs. Includes FAQs, Information Sheets and Overview flowcharts. Will be used for public affairs purposes or at Trade Shows.</li> </ul>                              |
| 13. Mobile Equipment                            | <ul style="list-style-type: none"> <li>A checklist and form describing the essential components</li> </ul>  |

## FOREST SAFETY TASK FORCE

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|  |  |
|--|--|
| Pre-Shift Check                              | of checks that must be conducted before using mobile equipment in falling operations.  |
| 14. OHSR Samples                             | <ul style="list-style-type: none"> <li>Relevant parts of the OHSR that pertains to falling operations.</li> </ul>  |
| 15. QS/T Training Course (Instructor)        | <ul style="list-style-type: none"> <li>Instructor's notes and script to conduct QS/T Training course.</li> </ul>   |
| 16. QS/T Training Course (Trainee)           | <ul style="list-style-type: none"> <li>Trainee's workbook to take part in the QS/T Training course.</li> </ul>   |
| 17. QS/T Handbook                            | <ul style="list-style-type: none"> <li>A guideline and procedures manual that documents and supports qualified supervisor/trainers who conduct faller certification.</li> </ul>  |
| 18. Quality Assurance Audit for QS/Ts        | <ul style="list-style-type: none"> <li>An 8-page form used to audit the quality and caliber of qualified supervisor/trainers conducting faller certification.</li> </ul>   |
| 19. Study Guide                              | <ul style="list-style-type: none"> <li>Guidelines and recommendations for fallers who are studying for the Written/Oral Faller Certification Examination.</li> </ul>   |
| 20. Written Exam 1                           | <ul style="list-style-type: none"> <li>Written/Oral Examination and Answer Key used to test fallers in the grandfathering process of the faller certification program. There are three versions of exams and answer keys.</li> </ul>   |
| 21. CD ROM                                   | <ul style="list-style-type: none"> <li>CD ROM of BC Faller Training Standard Instructor's and Trainee's Manuals (PDFs).</li> </ul>   |
| 22. Database Development (under development) | <ul style="list-style-type: none"> <li>Standalone computer database capturing faller certification documentation including but not limited to: application, written/oral examination results, and field evaluation results.</li> </ul> |
| 23. Training Standard (Instructor)           | <ul style="list-style-type: none"> <li>Instructor's notes and script to conduct BC Faller Training Standard course.</li> </ul>   |
| 24. Training Standard (Trainee)              | <ul style="list-style-type: none"> <li>Trainee's workbook to take part in the BC Faller Training Standard course.</li> </ul>   |
| 25. DVD & VHS Sets                           | <ul style="list-style-type: none"> <li>VHS tapes or DVDs of video footage accompanying the BC Faller Training Standard course.</li> </ul>  |

### 5. Next Steps

One industry-focused Qualified Supervisor/Trainer course will take place December 2003, with 3-4 more sessions proposed to take place in 2004 (in various areas of the Province). The courses will provide for training of industry supervisors to take over the evaluation function along with a training component.

An official rollout of the Faller Training Standard is expected to occur in early 2004.

# FOREST SAFETY TASK FORCE

## APPENDIX E - 1926 COMMENTARY ON FALLING

Form 128

Address all communications to the Workmen's Compensation Board

E. S. H. WITH K. C., CHIEF CLERK  
PARKER WILLIAMS, COMMISSIONER  
HUGH B. CILMOUR, COMMISSIONER  
F. W. HIRSCHE, SECRETARY



BRITISH COLUMBIA

### The Workmen's Compensation Board

VANCOUVER.

July 7th, 1926.

#### FALLING TREES

Dear Sir:-

Accidents - dread enemies of humanity - cast their shadow over every field of labor, taking their toll relentlessly day by day, destroying, crushing, and maiming industrial workers, weak and strong alike, and leaving in their wake nothing but broken bodies, wrecked homes, suffering, heart aches and regrets.

Last year there were no less than 244 accidents caused by trees falling on workmen. In 13 of those cases the injured man lost his life, while 19 others were left crippled for life. The \$146,620.73 those falling tree accidents cost the employers of British Columbia in compensation is but one part of the needless drain on men and resources of the industry. In the past eight years falling trees accounted for 1574 accidents, 75 lives and the permanent maiming of 108 workmen. The cost in assessments paid by employers for those accidents alone was \$796,280.57. Employers and workmen can ill afford the sacrifice they are offering up annually to this persistent force of human destruction.

There is no large class of industrial accidents which can be more readily placed in the "avoidable" column than those resulting from falling trees. Almost everything depends upon the individual carefulness of the workmen himself and those working around him. Rules, regulations, safety devices and posted warnings are all useless unless every man is careful to see that they are enforced, unless every man is careful to watch for danger and careful to warn others of danger.

Preach safe practices, and practice the doctrines of safety. It pays.

Yours very truly,

THE WORKMEN'S COMPENSATION BOARD