Western Forestry Contractors' Association

FINAL REPORT
BC Silviculture Labour Force Strategy Implementation Project

Submission Date: March 31, 2026

This program is funded by the Government of Canada and the Province of British Columbia.

DISCLAIMER

The views and opinions expressed in this report are those of its author(s) and not the official policy or position of the Government of British Columbia.

ACKNOWLEDGMENTS

We acknowledge that in our province, the forest operations that are the subject of this report take place on the traditional territories of Indigenous Peoples who have lived on and stewarded these landscapes since time immemorial. The Western Forestry Contractors' Association is committed to working together with First Nations in addressing reconciliation.

We also acknowledge the in-kind contributions of the volunteer subject matter experts on the Project's Governance Committee and the members of the WFCA Board of Directors in the production of this report and the execution of the Project's goals and objectives. We also recognize the support and commitment from our consultant community and our staff at MPS Executive Suites. Finally, we appreciate the ongoing support of the Labour Market Partnership Program.

No AI has been used in the production of this report.

EXECUTIVE SUMMARY

PROJECT OVERVIEW

In 2023, the Western Forestry Contractors' Association (WFCA) received funding from the Government of British Columbia's Sector Labour Market Partnerships (SLMP) Program to develop and implement a labour market strategy for the silviculture sector in B.C. The project builds on foundational research conducted in two earlier phases: Labour Market Information (LMI) research completed in 2021 that surveyed 228 employers and 907 employees, and a comprehensive Labour Market Strategy published in January 2022 that set four strategic pillars to address recruitment, retention, workforce development, and safety challenges across the sector.

The three-year implementation project (2023–2026) set out to upskill the workforce, improve workplace safety, strengthen recruitment and retention practices, and support the sector's adaptation to changing economic, ecological, and policy conditions. The project was guided by a volunteer Governance Committee of industry subject-matter experts and delivered through a consortium of specialized consultants, with the WFCA providing project management and coordination.

This report presents the final account of the project's activities, outcomes, and sustainability planning. An independent evaluation conducted by Qatalyst Research Group assessed the strategy's implementation, achievement of early outcomes, and ongoing impacts and sustainability (see Appendix M). This Executive Summary highlights the key findings from that evaluation alongside the project narrative.

STRATEGY COMPONENTS AT A GLANCE

The Labour Market Strategy organized its activities around five major deliverables, each addressing recommendations from the 2021 LMI research:

Component	Description	Status as of March 2026
Wildfire Safety Awareness Training	▪ Three-tier online training series (Workers, Supervisors, Crews) addressing obligations under BC's Wildfire Act, focusing on awareness, prevention, and safety rather than certification-level fire suppression (see Appendix A).	▪ Live online since late 2024. Several hundred registrations and the number of completions are rising as the 2026 field season approaches.
Power Saw Operation Curriculum	▪ Field-based chainsaw training for brushing and fuels management work, developed with instructor Paul Nimmon and field-tested with West Coast crews in	▪ Piloted with approximately 45 students. 100% completion among registrants. BC SAFE Forestry

Component	Description	Status as of March 2026
	cooperation with Mosaic Forest Management (see Appendix B).	Program funding chainsaw advocate pilot in 2026.
Indigenous Awareness and Relations Training	▪ Online Indigenous Awareness module (see Appendix C) plus in-person Working Effectively with Indigenous Peoples (WEWIP) course (see Appendix D for the Course Agenda), developed with Indigenous Corporate Training Inc. ▪ Three WEWIP sessions delivered (Jan 2025, Nov 2025, Jan 2026).	▪ 94 registered for the online module (65% completion). 54 WEWIP attendees across three sessions (100% completion). ▪ Training has reached the majority of reforestation and consulting firms.
Compass Respectful Workplace Program	▪ AI-assisted tool generating personalized workplace policies through guided interview-style questions. (see Appendix D) Three interconnected toolkits: Employer Standards (see Appendix E), Leadership Standards (see Appendix F), and Crew Standards (see Appendix G).	▪ Introduced at the WFCA 2026 Conference in January. Currently in internal pilot testing. Goal to go live in spring 2026.
Career Pathfinder and Role Directory	▪ Interactive career-matching tool using LLM technology, paired with an expanded Role Directory covering over 40 occupations in the restoration economy (see Appendix I & Appendix J).	▪ In the final stages of approval and testing. Role Directory expanded from approximately 12 to over 40 occupations.

KEY EVALUATION FINDINGS: IMPLEMENTATION

The independent evaluation conducted by Qatalyst Research Group (see Appendix C) confirmed that the WFCA successfully developed and delivered all planned components of the strategy, despite facing implementation challenges, including contract negotiation delays, limited project management capacity, budget pressures, and the seasonal nature of the industry.

The Governance Committee was instrumental in the strategy's implementation success. Members championed specific components, led sub-committees, and participated directly in reviewing, testing, and piloting materials. Committee members brought deep subject-matter expertise: Mike Effray contributed frontline wildfire experience to ensure training was operationally credible; Jordan Tesluk and Jonathan Clarke shaped the respectful workplace component, drawing on long-standing industry relationships; Kate Thom brought organizational psychology expertise that was widely praised for making EDI practical rather than prescriptive; and Maia Mercure contributed insight into worker pathways and youth engagement.

Several components underwent significant but well-received pivots from their original plans:

- The EDI component was reframed from compliance-based diversity training to the Compass Respectful Workplace Program after industry feedback revealed resistance to prescriptive approaches. Research also showed that poorly designed diversity training can increase resistance to it, validating this shift.
- The wildfire training shifted from a field-based model to online-only delivery, focusing on awareness rather than hands-on fire suppression, after the committee clarified that the purpose was to make workers "aware, alert, and able" rather than to certify wildfire fighters.
- Career path materials evolved from traditional career mapping to an interactive, restoration-economy-focused tool powered by LLM technology, reflecting the sector's anticipated transition from primarily reforestation work toward broader ecosystem restoration services.

The WFCA also built a substantial network of partners across five categories, including:

- Restoration economy (OGRIS, BC Energy Regulator, Enserva),
- Education (Thompson Rivers University, CETABC),
- Safety (BC Forest Safety Council, WorkSafeBC),
- Indigenous organizations (FNESS, BC First Nations Forestry Council), and government agencies (BC Wildfire Service, Public Safety Canada).
- Forestry Together, a national wood products consortium, emerged as a major cross-cutting partner.

These partnerships extended the strategy's reach and positioned silviculture as a more established part of the broader forestry sector. Engagement with the Forest Products Association of Canada gave the silviculture sector greater national visibility, with participants noting they often found themselves ahead of the broader industry.

KEY EVALUATION FINDINGS: EARLY OUTCOMES

Training uptake was modest but growing, with high satisfaction among those who participated. As of March 2026, several hundred workers, supervisors, and crew members had registered for training, with completion rates varying significantly by format. In-person training achieved the highest completion rates: Power Saw Operations and WEWIP both reached 100% completion among registrants. Online wildfire training completion ranged from 9% (Tier 3) to 38% (Tier 1), reflecting challenges common to self-directed online learning. Indigenous Awareness Training achieved a 65% completion rate.

Participant satisfaction was notably high. Among those who completed training, 93% reported being satisfied or very satisfied (average rating 4.6 out

of 5). Even 72% of non-completers expressed satisfaction with the content they had accessed. The average likelihood of recommending the courses was 4.6 out of 5, with half of the follow-up survey respondents having already recommended the training to others and another 30% planning to do so.

Most participants were referred to by their employer or a colleague (55%) or through direct WFCA invitations (38%). Key motivators for completing training were perceived usefulness (63%) and interest in the subject matter (58%). The evaluation found that intrinsic interest and perceived personal benefit were the key differentiators between completers and non-completers — offering training for free did not, on its own, guarantee uptake.

Early evidence of impact is emerging across all components:

Wildfire Safety and Workforce Upskilling (see Appendix A):

- Online wildfire training has been integrated into some companies' onboarding processes. Nearly two-thirds (65%) of follow-up survey respondents reported that taking courses sparked interest in further wildfire-related education, including forest ecology, fire science, and emergency management. Training materials are being used beyond WFCA membership by archaeological companies, forestry consulting firms, and wildfire protection services.

Indigenous Awareness and Relations (see Appendix C):

- Approximately 90% of respondents reported increased understanding across all topic areas, including Aboriginal and treaty rights (92%, average rating 4.0), building relationships on unceded lands (92%, 4.1), and Indigenous history since 1867 (89%, 4.0). The training has equipped workers with practical knowledge to collaborate with local communities, particularly when performing fuel-modification treatments in or near Indigenous communities. Participants reported gaining a broader perspective on First Nations relations and a stronger foundation for professional engagement.

Respectful Workplace Tools (see Appendix E):

- The Compass tools help companies develop and update workplace policies. Several respondents noted that many companies had outdated policy documents, and the tools to help write or rewrite workplace policies were described as particularly valuable. The program was redesigned to be practical and non-prescriptive, using heuristic learning focused on staff experience, leadership, and interpreting laws and regulations.

Career Pathways (see Appendix J and Appendix K):

- The Career Pathfinder tool demonstrates that career progression is possible without formal education, countering perceptions of the

industry as a dead end. The tool outputs personalized career paths with required hard skills, soft skills, and education. The expanded Role Directory, written in second person to let candidates experience what a real workday feels like, covers over 40 occupations across the emerging restoration economy.

CHALLENGES AND LESSONS LEARNED

The most significant challenge identified by the evaluation was the limited time to promote the tools. The seasonal nature of the industry makes it very difficult to get employers' attention, with opportunities for engagement and promotion limited to 4 to 6 weeks before the start of the season in February or May, depending on location and weather.

Email-based outreach proved insufficient to reach contractors and company owners across the industry. Many had not yet recognized the value of the tools, assumed they were not relevant to their work, or felt too busy to engage.

The evaluation found that direct, in-person engagement is the most effective pathway to broader adoption. Face-to-face contact through conferences, workshops, industry tours, and direct conversations builds the trust needed for contractors to engage with new tools. The annual WFCA Conference has proven to be an effective anchor for engagement, achieving higher participation and completion rates than online-only offerings. Contractors who experience the tools firsthand become word-of-mouth advocates.

Additional challenges included shifting the labour market context from scarcity to surplus, which diminished the perceived urgency of recruitment-oriented materials felt only a few years earlier; navigating political sensitivity around EDI language, requiring careful reframing; and navigating the existing ecosystem of training and emerging resources available.

Key lessons learned include the adoption of a Minimum Viable Product (MVP)[1] approach that allows iterative improvement based on real-world feedback; engaging high-calibre external consultants fills internal capacity gaps effectively; building flexibility into timelines to accommodate seasonal industry demands; using new technologies to reduce administrative burden and increase engagement; and establishing targets for contacts, sessions, and attendance needed to demonstrate impact and enable course correction.

[1] A **minimum viable product (MVP)** is a version of a product with just enough features to be usable by a target audience of early adopters who can then provide feedback for future revisions and development.

SUSTAINABILITY OUTLOOK

All elements of the project will be maintained beyond the agreement term, supported through a combination of strategies:

- **Financial sustainability** will be pursued through a blended funding model combining BC SAFE Forestry Program annual budgets, WFCA membership contributions, modest registration fees as uptake grows, potential advertising revenue on The Cache platform, and alignment with the national Talent Pipeline Management pilot funded through the Sectoral Workforce Development Program.
- **Organizational continuity** is being addressed by embedding labour force management into the WFCA's executive director's job descriptions and succession plans. Key governance committee members will be invited to join the BC SAFE Forestry Program's Strategic Advisory Committee to retain institutional knowledge. The WFCA has engaged a public relations firm to handle ongoing communications and promotion.
- **The partnership network** built during the project provides critical infrastructure for sustainability. The BC SAFE Forestry Program has committed to supporting the chainsaw training pilot through its 2026 work plan and indicated interest in supporting the Compass Program under its worker well-being mandate. Thompson Rivers University has expressed interest in future collaboration on wildfire training. The Forest Products Association of Canada's national Talent Pipeline Management pilot aligns directly with the project's career pathway and restoration economy work.

The most pressing sustainability risk is that without continued active promotion and direct engagement, the tools risk going unused despite their quality. The evaluation recommends establishing quantified targets for contacts, sessions, and attendance to enable monitoring. The sector's economic challenges from trade tariffs and government austerity compound this risk by diminishing the industry's capacity to invest in workforce development.

TABLE OF CONTENTS

DISCLAIMER ii
ACKNOWLEDGMENTS iii
EXECUTIVE SUMMARY iv
PROJECT OVERVIEW iv
STRATEGY COMPONENTS AT A GLANCE iv
SETTING THE SCENE 1
GOVERNANCE COMMITTEE 4
THE PROJECT WORK PLAN 7
CLIMATE ADAPTATION WILDFIRE AWARENESS TRAINING 9
INDIGENOUS AWARENESS, RELATIONS, AND RECRUITMENT TRAINING 10
2025: THE PROJECT AT THE MIDWAY POINT – THINGS LOOK DIFFERENT FOR THE SECTOR 13
PROJECT TRAINING GOES LIVE 14
ADAPTING TO CHANGES IN THINKING ABOUT EDI 16
RECRUITMENT, RETENTION AND ROLES IN THE RESTORATION ECONOMY 18
TARGETED COMMUNICATION CAMPAIGNS 20
SUSTAINABILITY FRAMEWORK FOR CONTINUING THE LABOUR FORCE STRATEGY 21
OUR PARTNERS 24

APPENDIX A – Wildfire Awareness Training Course Curricula 26
APPENDIX B – Power Saw Operation for Forestry Workers Training Module 60
APPENDIX C – Indigenous Awareness Training Course Curricula 162
APPENDIX D – Working Effectively with Indigenous Peoples (WEWIP) Course Agenda 172
APPENDIX E – The Compass Program Introductory Slides for the 2026 WFCA Conference 175
APPENDIX F – Employer Standards Kit 193
APPENDIX G – Leadership Standards Kit 234
APPENDIX H – Crew Standards Kit 273
APPENDIX I – User Dashboard for the Crew Standards Kit (UX Example) 287
APPENDIX J – Role Directory (UX Example) 296
APPENDIX K – Career Directory Role Descriptions 310
APPENDIX L – Governance Committee's Terms of Reference (TOR) 393
APPENDIX M – Briefing Paper: Continuing Education in British Columbia Prepared for the WFCA 398
APPENDIX N – Evaluators Report 421

SETTING THE SCENE

Tree planters walking into a planting block. The reforestation sector plants more than one hundred seedlings per second across B.C. at the peak of the spring planting campaign.

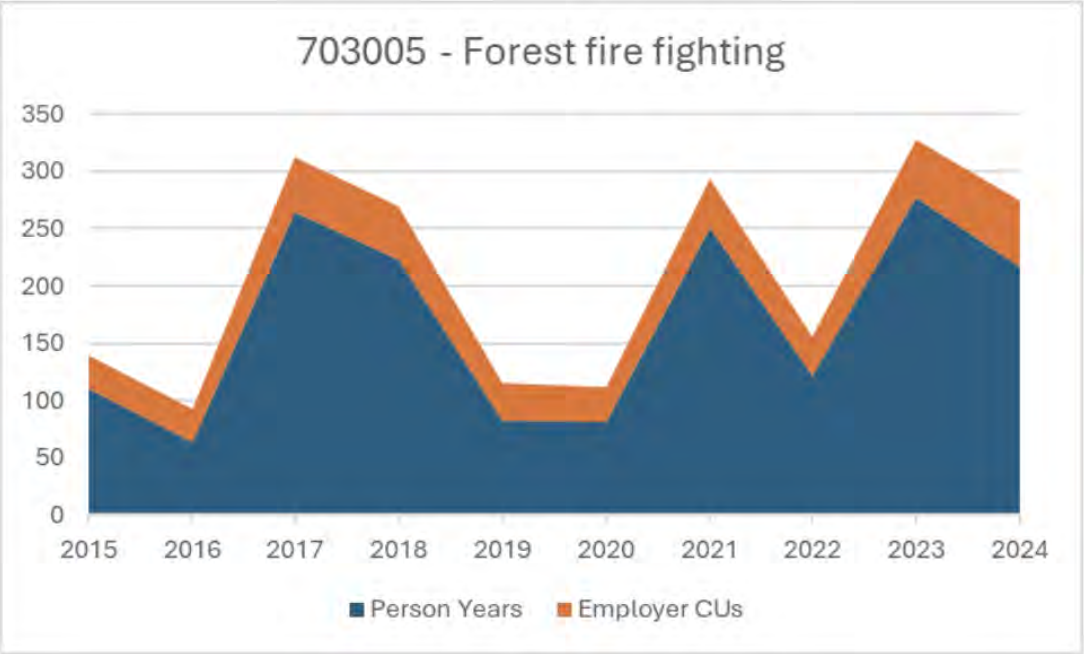
The completion of the 2021 Silviculture LMI Research Report and the following 2022 Labour Market Strategy for the Silviculture Industry provided statistical and strategic grounds for the Silviculture Labour Force Strategy Implementation Project. The Project's labour force pilot curricula, resources, and tools come at a critical transformation in the wood products sector. That change is producing both employment disruption and opportunities. Significant change is also occurring societally, particularly in how we treat minorities, Indigenous Peoples, and one another in the workplace. At the same time, climate change and its consequences are an increasing threat. Mitigating its effects represents an opportunity for the silviculture workforce with its origins in reforestation, its young workforce, and its proven agility as an adaptable and reliable service supply chain. The Project's pilot tools,

resources, and training modules come at a time to support the sector as it evolves from being primarily based around reforestation to a more diverse ecosystem restoration services supply chain.

The Western Forestry Contractors' Association represents the small and medium-sized enterprises making up the reforestation and ecosystem restoration services supply chain in Western Canada. Our members operate seedling and native plant nurseries, contract reforestation and silviculture businesses, forest fire fighting, prescribed burning and wildfire fuels management crews, as well as independent forest consulting firms. Our clients include First Nations, government ministries and agencies, forest licensees, and the energy, mining, and transportation sectors. The WFCA has represented its members in the development and implementation of forest and land management policy, practice, and workplace safety since 1984.

It is noteworthy in the context of this report that the reforestation and ecosystem restoration sector is a major youth employer at a time when youth unemployment is a major challenge for B.C. The 2022 LMI analysis mentioned above included B.C. nurseries, tree planting, stand tending, forest fire fighting and forestry consulting employers and employees. The estimated 228 reforestation and restoration employers in the province employ between 8,000 and 10,000 seasonal and full-time employees at the peak of the annual field season, the difference depending on emergency forest fire employment. Of the total labour force, 60% are young workers between the ages of 18 and 30. Eighty percent of the labour force is younger than 35 years. Forty percent of the workers are women.

The cadence of most forest nurseries, reforestation, wildfire, and ecosystem restoration work is seasonally linked to the natural cycles of the plants and lands that we work with. Work, such as wildfire fighting, varies from year to year depending on the severity of our forest fire seasons. Weather, especially extreme weather, adds another variable to the timing, sequencing and safety of work within any season.



Annual variability of commercial wildfire suppression employment leads to seasonal training, recruitment and retention challenges.
(Note: Employer Classification Units (CUs) is a WorkSafeBC term that classifies groups of employers for assessing collective injury rates and premiums.)

Nevertheless, as an example of the sector's logistical efficiency and productivity, the reforestation sector plants over 100 seedlings per second across the province during spring planting. To be as efficient as the sector needs to be requires an intense concentration of effort on the part of employers and their professional, technical and skilled-seasonal employees. The itinerancy, remoteness, and urgency of the work season consume the attention of the sector for many months of the year. This defining feature of the sector has shaped the development and delivery of the Labour Force Strategy Implementation Project's training, tools and resources.

After a few months of negotiating, the BC Silviculture Labour Force Strategy (SLFS) funding agreement was signed on 5 June 2023. During those negotiations, the provincial silviculture field season was in many places under assault from extreme weather and wildfires. Early spring flooding and fires disrupted operations, followed by the summer's extreme heat, drought and smoke. On August 18, the Government of British Columbia declared a provincial wildfire emergency as the threat spread from the northeast to the south. By mid-September, when the Order was lifted, 2023 had become the worst wildfire season in B.C.'s recorded history. Nationally, 18.5 million hectares had burned, making it at the time Canada's worst on record. Both 2024 and 2025 have continued the pattern of destruction nationally.

Perhaps it is a relevant coincidence that the Project, with its themes around climate adaptation and the paradigm shift towards a restoration economy, should begin in the summer of wildfire disasters fueled by climate change.

GOVERNANCE COMMITTEE

The June signing of the BC Silviculture Labour Force Project Agreement coincided with the peak of the sector's 2023 field season: a particularly distracting and disrupted one as described above. This led to delays in recruiting members for our Governance Committee. We were able to draw from the large pool of experienced prospects from the previous Labour Market Information and Labour Market Strategy committees. But over the summer, most of our prospective members were dealing with the field season's upsets and emergencies. It took until September to receive their expressions of interest, share the draft terms of reference for the committee to review and secure their signatures. At that time, we held an informal group call for those signed on to answer any final questions and confirm their commitments.

The Committee held its first official meeting on 17 October 2023. Five months had passed since the Agreement had commenced, creating a backlog of business for the Governance Committee. Complicating things, Chris Akehurst, the Chair of the previous Labour Market Governance Committee, reported in the summer that, for health reasons, he would not be able to chair the Labour Force Strategy Implementation Project Governance Committee as planned. A search for a suitable replacement took place over the fall.

In July, alongside recruiting Governance Committee members, WFCA staff developed a Draft Project Management Workplan and the Committee's Draft Terms of Reference in consultation with the Ministry of Post-Secondary Education and Future Skills (PSFS). By August, the marketing firm Niche and Black Sheep Brands were contracted to draft a Communication Strategy for the project. The firm had worked with the WFCA on related projects and was familiar with the sector and the Project. At the same time, Qatalyst Research Group who authored the previous Silviculture LMI and Labour Force Strategy were contracted to develop the Draft Evaluation Framework. These Agreement deliverables were submitted in draft form to PSFS on 1 September 2024. The materials were also circulated to the Governance Committee as part of their orientation to the Project and for their eventual approval at the planned first official meeting in October.

During September Committee members were canvassed on their areas of general interest considering the four principal domains of the Project: Climate Adaption/Wildfire; Indigenous Relations; Equity, Diversity, and Inclusion; and Career Development, Recruitment and Retention As described in the Governance Committee's Terms of Reference (see Appendix L) each of these areas would be supported by a technical subcommittee chaired by a Committee member.

Other work proceeded in the same month, including completing a draft Environmental Scan of the availability and relevancy of related training and resources developed in other jurisdictions pertaining to Climate Adaption/Wildfire; Indigenous Relations; Equity, Diversity, and Inclusion. The Scan concluded that these resources did not relate well to the circumstances of forestry work and its labour force. Because of the backlog of work before the Committee, the Scan's submission for approval was postponed until Q1 2024.

Initial discussions began with Indigenous Corporate Training Inc. to develop training modules consistent with the goals of the Project. Conversations also began with wildfire ecologist, trainer, and content developer Colleen Ross of CR Professional. She was highly recommended by our subject matter experts in the wildfire community as reliably suited to developing the wildfire awareness training we had in mind. Meanwhile, meetings were held with PSFS communications staff to develop a press release announcing the Project.

As noted, the first formal meeting of the Governance Committee took place in October. To catch up on all the work at hand, a second hour-long virtual meeting was held in November. In those meetings, the Committee finally reviewed and approved for formal submission the outstanding deliverables required regarding the Work Plan and Budget, the Evaluation Framework, the Terms of Reference, and the Communication Strategy. The various subcommittees pertaining to the Project's domains were convened with members volunteering as chairs. During these meetings, the Committee Members were able to introduce, or reintroduce themselves, collectively sharing their interests and aspirations for the Project. They also discussed candidates for the Chair position. Soon afterwards, forest consultant Dean Marshall, well known to the community and, at the time, serving as a WFCA director, accepted the offer to chair the Committee. It had been six months since the signing of the Agreement. The Governance Committee was now properly convened, chaired, and ready to lean into the main work of the Project.

Over the course of the Project, the Governance has held two to three regular meetings per year to review progress and approve products and materials. Members also made themselves and their expertise available when needed to support the ongoing work of our consultants on the Project's deliverables. In the development of the wildfire awareness training and some of the HR materials, the respective sub-committee chairs were particularly instrumental contributors to the results. The Governance Committee proved committed in spirit and action to their duties regarding the Project.

Governance Committee Membership Table

Role	Name	Position	Organization
Ex-Officio	Matt Boddy	Senior Program Manager	Ministry of Post-Secondary Education and Future Skills
Chair	Dean Marshall	Owner Operator	RDM & Co (Former Director of Western Forestry Contractors' Association)
Acting Project Manager	John Betts	Executive Director	Western Forestry Contractors' Association
Committee Member	Dick Mynen	President & CEO	TDB Consultants Inc.
Sub-Committee Chair for EDI and HR	Jordan Tesluk	Forestry Safety Advocate	
Sub-Committee Chair for Wildfire Awareness	Mike Effray	Director	Strategic Fire Control
Committee Member	Tony Harrison	General Manager	Cariboo Carbon Solutions
Committee Member	Jonathan Clark	Camp Manager	Folklore Contracting
Committee Member (June 2023 – March 2025)	Maia Mercure	Workforce Specialist	First Nations Forestry Council
Committee member (June 2023 – December 2024)	Slaine Sutherland	HR Manager	Summit Reforestation

THE PROJECT WORK PLAN

One of the first deliverables of the Project was an overview of how we intended to deliver its objectives, including milestones, our methods, the deadlines for deliverables, and who was responsible. The Project Management Workplan covers the three-year span of strategy implementation.

Because the silviculture sector comprises working with biological and ecological systems, the tempo and kinds of work undertaken are determined by seasonal cycles. The pace and timing of the Project are determined by the same. For instance, the high level of field activity through spring and summer constrains our ability to communicate and interact effectively with many of our subject matter experts absorbed in their field seasons. The timing for developing and testing the products of the Project is very sensitive to the seasonal rhythm of the sector. The off seasons, fall and winter, offer opportunities for more intense work. But if we miss a planning window to get a product ready for pilot for the approaching field season, it may be months before we get another chance. The Workplan, then, is designed, in part, to avoid the risk of setting the Project back due to the seasonal pulse of field work.

As mentioned, the Workplan was built around the four principal domains of the Project: Climate Adaption/Wildfire; Indigenous Relations; Equity, Diversity, and Inclusion; and Career Development, Recruitment and Retention. Each of these domains includes a cluster of deliverables.

Wildfire poses a growing risk to forestry crews, and training in this area is needed to deal with the hazard. There is also a potential liability in the regulatory gap between *the Wildfire Act* and the *Occupational Health & Safety Regulations* governing forest fires and forestry operations. Four training pilot modules were included in the Agreement:

- Forestry crew awareness
- Crew leader fire control
- Hand Tools & Crew Drills
- Train the trainer

A fifth climate adaptation deliverable included chainsaw operator training for silviculture and wildfire fuels management. This work, sometimes referred to as slashing or tree thinning, is not covered by *the BC Falling Standard Regulation*. Yet work is hazardous, requiring specific skills different from tree falling. The pilot curriculum addresses this training gap and establishes a

competency standard for tree thinning, brushing and wildfire fuels management activities.

Our province, with *its Declaration of the Rights of Indigenous Peoples Act* and the *94 Calls to Action from the Truth and Reconciliation Commission*, set a process for mending relations with Indigenous Peoples. There is very little forestry work that is not done on Indigenous traditional territories. Often, forestry work takes place near First Nations communities. These communities are increasingly involved in forestry and restoration work. There are moral and pragmatic reasons for forestry workers and businesses to understand Indigenous culture and history and be able to work and partner with Indigenous Peoples.

Three Indigenous training pilots were included in the Agreement:

- Indigenous Awareness Training
- Indigenous Relations Training
- Indigenous Employment, Retention and Recruitment Training

These modules were the first set of deliverables, with work beginning in Q4 2023 to produce pilots available in time for the 2024 Q2 seasonal training window. Final revisions were scheduled for Q4 2024

As identified in the *2022 Labour Market Strategy for the Silviculture Industry,* historical recruitment practices of the sector "had contributed to a largely homogenous workforce limiting the pool of potential workers to draw from." The sector will benefit if its workforce begins to reflect the diversity of the Canadian population. Developing Equity, Diversity and Inclusion (EDI) training and resource tools were initially planned to commence late in 2024, with training and product pilots tested and revised throughout 2025.

The EDI deliverables included in the Agreement were:

- EDI training curriculum
- Respectful workplace audit tool

Land management practices and policies are going through what is often referred to as a paradigm shift as we adapt to climate change. A restoration economy dedicated to restorative development is emerging, creating occupational and career opportunities in the reforestation and ecosystem restoration. Many of the jobs and careers will go to young workers in search of agencies and meaningful work in the face of climate change.

The Agreement included the following deliverables:

- A WFCA-hosted job board
- A career map for the restoration sector

These modules were the first set for development in beginning Q3 2024, with pilots available in time for the 2025 Q2 seasonal training window. Final revisions were scheduled for Q4 2025 and Q1 2026.

Project Team/Consultants Table

Project Team Role	Organization	Name	Title
Marketing/Communications Strategy Developer	Niche Systems	Kathryn Thom	Founder & Strategic Advisor
Content Developer	CR Professional	Colleen Ross	Wildland Fire Ecologist
Training Curriculum Developer	Lukwa Enterprises Ltd.	Paul Nimmon	Owner/Operator
Chainsaw & Wildfire Subject Matter Expert	BC Forest Safety Council	Richard King	Director, Programs and Training
Post Secondary Education Subject Matter Expert	Dennis Silvestrone and Associates	Dennis Silvestrone	Owner/Director
Content Developer & Course Instructor	Indigenous Corporate Training Inc.	Flavio Caron	Trainer/Speaker
Project Evaluator	Qatalyst Research Group	Ted Weicker	President
		Herman Wagnleithner	Research Lead
		Slavica Stevanovic	Research Lead

CLIMATE ADAPTATION WILDFIRE AWARENESS TRAINING

When the protracted 2023 wildfire season ended, Colleen Ross, owner of CR Professional, was contracted to draft wildfire awareness training content and curricula for forestry workers. By late fall, she began developing content in collaboration with the Governance Committee's Wildfire Training Sub-Committee, chaired by Committee member Mike Effray. As the content took

shape, those involved in the process agreed that the most effective and efficient delivery would be online self-directed training. Content for three pilot modules was completed by the end of 2024, including materials for: general wildfire awareness for all forestry workers; a second course intended for supervisors' due diligence; and the third, supplementing supervisory training on conducting field drills with crews. The courses were not intended to replace S100 training used to certify forest fire fighters.

While content was under development, including reviews with the sub-committee, Niche/Black Sheep Brands were contracted to format and stylize the training materials for online delivery. At the January 2024 WFCA Annual Conference, along with the PSFS press release announcing the Project, we mentioned to attendees that the online wildfire awareness pilots could be ready by April. The thought was that workers might sign up for the training in their evenings in camp. But that proved unrealistic. As we were to find out in different ways, once the planting campaign is underway, there is no getting anyone's attention or their time. We held off going public until late November 2024, when the field season was winding up, and some downtime was available to interested workers.

INDIGENOUS AWARENESS, RELATIONS, AND RECRUITMENT TRAINING

Forestry work takes place on Indigenous Traditional Territories, often near First Nations communities throughout B.C., creating opportunities for understanding and partnerships.

To initially introduce the subject of Indigenous relations to our sector, gauge interest in training, and guide our approach to the topic, the WFCA held Indigenous Corporate Training Inc. workshops at two of its annual conferences. In 2023, Rob Everson, Hereditary Chief of the Gigal'gam 'Walas Kwagu'ł, spoke to the audience about the Indian Act and its effects on Indigenous Peoples. In 2024, cross-cultural trainer Flavio Caron led an interactive session to understand our sector's relations with First Nations and how they could be supported with training.

As a result of those workshops, the Governance Committee Indigenous Relations Sub Committee Chaired by the BC First Nations Forestry Council's Maia Mercure, undertook to review and recommend changes to ICT's proposed Indigenous Cultural and History Awareness content for silviculture. Intended for a general audience, the Subcommittee recommended that customized training be offered as an online self-directed module. Flavio Caron worked with the Subcommittee over the spring, making the training content relevant and relatable to the intended audience of forestry workers. Once completed, Niche/Blacksheep United formatted the materials for online delivery.

It was the original intent that a similar process would be undertaken for the remaining modules, Indigenous Relations and Indigenous Employment, Retention, and Employment. However, the feedback from Mr. Caron's session at the 2024 conference showed the audience wanted other topics to be covered, including the *Declaration of the Rights of Indigenous Peoples Act (DRIPA)*. Since the training was intended for company managers and supervisors as part of their professional development, they felt it would be most effective if the training were delivered in person.

Again, the subcommittee members worked with Mr. Caron to implement the revisions needed for the proposed content and the practicalities of in-person delivery. That resulted in a new course, Working Effectively with Indigenous Peoples, combining the content of the previous two mentioned above, plus new materials. The result was a day-long session to be delivered by Mr. Caron at locations across B.C. As a requirement for the training, students were to complete the online Indigenous Culture and History Awareness training or equivalent. The materials were piloted successfully at the WFCA 2025 Conference in Victoria. Since then, two other sessions have been held: one in Prince George in November 2025 and again in Victoria at the 2026 WFCA conference. Over 50 participants completed the training, reporting positively

on the materials and the presentation. Given the number of employees in the sector, the training has reached a significant portion of our intended audience.

THE CACHE ONLINE TRAINING ACADEMY AND HUMAN RESOURCE PORTAL

The Cache: the social media site for the Project's training and HR Resources reflects the culture and community of the reforestation and ecosystem restoration sector.

In 2023, to counter the misinformation and invective typical of some tree-planting social media sites, the WFCA built The Cache. This web portal offers reliable and safe information for workers. The site is intended to reflect the culture and community of the forestry workers who make up the sector. To encourage ownership by the site's users, the role of the WFCA, as an employer organization, is deliberately understated.

It is the location of the Project's online academy, including the Indigenous and wildfire safety training. It is also the location for the Project's HR and respectful workplace resource, The Compass Program and the Pathway Tool describing career and occupational opportunities in the restoration workforce. It is where the Project's BC Forestry Job Board has been located since January 2025. Through The Cache, B.C. employers have been recruiting forestry professionals, technical, and seasonal workers.

2025: THE PROJECT AT THE MIDWAY POINT – THINGS LOOK DIFFERENT FOR THE SECTOR

The underlying assumptions of the Project were based on evidence gathered for the 2022 Labour Market Strategy for the Silviculture Industry. That was a time of increasing reforestation demand, including the largest reforestation effort in B.C. in 2020, when crews planted 305-million seedlings during the COVID pandemic's first year. But by 2024, the B.C. wood products sector was in a steep decline. From an average Allowable Annual Cut (AAC) of 66 million cubic meters since 2019, the actual harvest had declined to 35-million cubic meters in 2023, which continued in 2024. Lumber production fell to 8.3 million board feet, half of what it was at its peak in 2005. This fall in the harvest resulted in 60-million fewer seedlings planted in 2025, which has continued into 2026. Because it takes at least a year to grow a seedling, the nursery sector felt a loss earlier than planting contractors, with approximately 120 nursery greenhouses sitting empty and 20% of producers' outdoor growing compounds vacant during 2024. The health of the B.C. wood products sector is critical to the forestry sector since the commercial harvest generates almost 80% of the reforestation demand. The American tariffs and trade disruptions have served to aggravate an already difficult situation.

Hiring in the reforestation sector has not increased due to the downturn. Margins have shrunk for companies. Uncertainty about how long current circumstances might persist and how resilient the sector can remain in both employee and employer minds.

On the more positive side of the ledger, the idea of "active forest management" has gained traction in ongoing discussions of "paradigm shifts" in forest management. Although definitions differ, active forest management would include many activities that the reforestation and ecosystem restoration sector is positioned to implement, including prescribed burning, forest fire recovery reforestation, wildfire fuels management, native plant propagation and installation, and tree thinning, to name some. One of the Project's purposes is to support the sector in this transition.

Although our federal government wound down its 2-Billion-Tree Program in its Budget 2025, it honoured existing agreements, including BC's Forest Investment Program (FIP). That joint agreement accounts for 40-50 million seedlings annually until 2029. Our federal government's pending revision of its Nature Strategy may include investments in nature-based solutions, creating renewed demand for restoration and reforestation services.

PROJECT TRAINING GOES LIVE

Chainsaw Operating training fills a training gap for saw activities outside the BC Falling Training Regulation.

2025 was the first year to introduce our online training into the main workflow of the field season: that being the window from January to April, as employers hire, train, and marshal their seasonal crews. To promote wildfire awareness, we brought content writer Collen Ross to Victoria to workshop with the WFCA Conference attendees on the purpose and relevancy of the training. On the day before the conference, Flavio Caron delivered the first in-person pilot of the *Working Effectively with Indigenous Peoples*. At the conference, we used that session to leverage attention to the available online Indigenous Awareness training.

One of the Project deliverables under climate adaptation is the *Silviculture Chainsaw Operator Training Curriculum* as described above. In 2025, we contracted the west coast brushing contractor and silviculture chainsaw trainer, Paul Nimmon, to develop a training curriculum for evaluating and instructing brushers, tree thinners, and wildfire fuels management chainsaw operators. Mr. Nimmon, after completing the instruction manual, began piloting it with licensee forestry crews on Vancouver Island. His work is ongoing.

Type of Training	Registered	Completed 80% of the course or more	% Completion
Wildfire Safety Awareness Training for Forestry Workers (Tier 1)	146	55	38%
Wildfire Safety Awareness Training for Forestry Supervisors (Tier 2)	144	26	18%
Wildfire Safety Awareness Training for Forestry Crews (Tier 3)	144	13	9%
Power Saw Operation for Forestry Workers Training	45	45	100%
Indigenous Awareness Training	94	61	65%
Working Effectively with Indigenous Peoples	54	54	100%

Completions as of March 2026 (WFCA data)

There have been 627 registrations to date for our online and in-person training pilots. Survey respondents who completed the training rated the training highly. They reported that the training was relevant and they would recommend it. Completion rates averaged 50%. To date, the uptake has been modest but promising given the favorable ratings. Respondents felt the Project had to do a better job at communicating the value and availability of the training.

2025 was the first year many employers had seen the training; there was little time to incorporate the Project's pilots into their own internal orientation and training systems. In the compressed time of the short preseason hiring process, bandwidth is scarce. Nevertheless, with recognition of the value of the training, more early adopters will participate, as we are beginning to see.

Both sets of training modules are novel compared to the training and education currently in the sector. Like any change, the inertia of the status quo must be overcome. The Wildfire Training addresses a gap or liability that operators may not be aware of in their operations. Reconciling with Indigenous Peoples may not seem relevant until students have been educated. This paradox is inherent in changing people's beliefs in how things work.

In terms of value, the psychology of offering training for free, as is the case with the pilots, can reduce participation. This might account in part for the low completion rates. In the future, the Project will have to look at ways to motivate participants, possibly through some fees. Some participants mentioned that the internal lesson reviewing and testing were too rigorous, which may have discouraged completions. Adjustments were made to improve the presentation, so they didn't inadvertently test the patience of the participants.

It is noteworthy that the in-person training by Mr. Caron and Mr. Nimmon was the most successful in terms of completion and satisfaction. The favorable reputations they have established through our pilots make them promising candidates for future training.

ADAPTING TO CHANGES IN THINKING ABOUT EDI

Even at the beginning of the Project, we could see attitudes shifting regarding Equity, Diversity, and Inclusivity. This guided our decision to launch our EDI work later in the work plan. This also gave us a chance to partner with Forestry Together, a national effort to make the Canadian forest sector more diverse and inclusive. Our EDI program, the Compass Respectful Workplace Program, is aligned with this national initiative.

Diversity programs can fail to achieve their goal of eliminating bias in the workplace if they contain negative messaging or force workers and managers into compliance. As studies have shown, improper approaches to diversity training can actually increase discrimination and foster resistance to EDI.

The same research found people are more likely to be motivated if participation is voluntary, and if they are engaged in a way that makes them feel they have a stake in fostering diversity in their workplace.

Most of our target audience comprises small and medium-sized enterprises. These firms are unlikely to have formal HR departments or front-office administrative staff, and operational sophistication varies widely across the sector. Because these are hands-on, agile, operationally driven companies, diversity programs must be accessible and demonstrate practical value.

The first stage of the Compass Respectful Workplace Program is a *conversion process*: helping participants see that having a diversity program is worth something—and that it is achievable for them.

The Compass Program aims to elevate health and safety among B.C. Forestry Contractors by meeting them where they are at.

Market research and direct audience feedback show this audience is often:

1. resistant to additional 'training',
2. under-resourced and over-burdened by HR topics, and
3. sensitive to the divisiveness in EDI discourse.

These attributes have directly informed the design of the Compass Program, which takes a utility-driven approach, emphasizing operational value over compliance.

Contractors have an extremely low appetite for more training. They are already inundated with cyclical, mandatory industry training that drains resources like time and money.

So, the Compass Program intentionally avoids *looking or feeling* like "training." Instead, it provides:

- tools and templates that solve real, repeatable operational problems,
- generated through a guided, interview-style question flow,
- where heuristic learning and culture shifts happen *inside* the process, not as the explicit sell.

In short: *The Compass Program delivers the insights of a high-impact training program—without competing with field time or feeling like training at all.*

The system runs asynchronously and low-touch, generating outputs in the background, including:

- workplace policies, crew agreements, safety statements, and partner-facing trust signals,
- stored in a dataset tied to each company,
- viewable and downloadable anytime from the dashboard.

The dashboard then becomes a re-usable resource library of contractor-specific templates that can be referenced and used year after year—with no added staffing or admin hours each season.

To make engagement fast, non-threatening, and ownership-building, questions are framed in plain language that is:

- non-judgmental, conversational, affirming, and strength-first,
- asking first *what already works*, such as "What makes your workplace respectful and safe today?"

This avoids discouragement and reinforces participant agencies.

We have leveraged OpenAI's Large Language Model (LLM) API not as a chatbot, but as an analysis and drafting engine.

Specifically:

- user answers remain brief and unstructured,
- those entries are summarized via the LLM API,
- and written back to the user as polished, actionable drafts, surfaced in the UI as one-click operational tools.

This allows contractors to input minimal text and receive “ready-for-use” outputs at the click of a button—saving administrative hours, increasing ownership, and supporting higher workplace safety and trust across B.C. Forestry operations.

RECRUITMENT, RETENTION AND ROLES IN THE RESTORATION ECONOMY

Managing Wildfire fuels adjacent to communities is an important activity of the restoration economy.

Our initial scan of occupational and career paths in the restoration economy found more than two dozen distinct activities across the span of restoring forests, lands, and water, and responding to natural disasters in B.C. As we continue gathering more information from employers, institutions, and

practitioners, this number will likely increase. There is a lot of work to be done in this field. One of the goals of this project is to help workers already in the sector—and those looking in—see clearer paths into long-term careers in the restoration-forward economy.

Our Pathfinder Tool and Career Pathways Project is designed to:

1. Define the industry with restoration-forward role descriptions,
2. Create transparency for new workers entering the sector, and
3. Bring clarity for existing workers exploring career mobility.

To ensure engagement for both existing and new workers, it was important that we make a resource that feels meaningful at the individual level. By leveraging OpenAI's Large Language Model (LLM), we were able to produce "The Pathfinder"—a tool that:

- asks anonymous users calibrated, interview-style questions about their goals, values, and history,
- identifies trends and themes in their responses,
- scans the pre-defined Role Directory, and
- outputs a custom, printable career-fit report that highlights their strengths, values, goals, and the top three matched roles in the restoration sector.

It draws in part on personality assessment and inventory principles—frameworks that are generally popular, particularly with younger audiences. Considering the young workers, we hope to attract them from inside and outside the sector. Our intention is to make the tone of the tool and the project feel engaging and authentic to the lived experience of restoration work in B.C.

This same feel is carried into the Role Directory component of the Project. In the directory, occupations are written primarily in the second person, so the candidate can *experience*:

- what a real workday feels like,
- the rewards and challenges of the work,
- the skills needed and gained, and
- the career prospects and mobility that follow.

The "personal experience" piece is an intentional feature, not a side effect. It makes the work more real, immediate, and easier to self-locate inside of.

The Pathfinder Report and Role Directory may also link users to the active Job Board listings if relevant positions are open based on their matched roles. The Role Directory itself will also exist as a public catalogue, so anyone visiting the platform can explore occupations and career pathways at their own pace.

TARGETED COMMUNICATION CAMPAIGNS

As mentioned above, users feel we have to be more effective in promoting the Project's products. Here's how to do that:

- Use WFCA's established communication channels, i.e. The Cache, the RoundUpDate, conferences and social media to highlight the availability and value of the training modules.
- Craft clear and concise messaging to emphasize the importance of regulatory alignment, safety benefits, and efficiency gains that training supports.
- Recommend the training in terms of its relevance, compelling presentation and ease of engagement.

Seasonal timing of promotion

- Focus outreach efforts during the pre-season period when seasonal employees and employers are preparing for their upcoming work. A concerted effort will be required during the pre-season target window in the first quarter of the year to effectively reach the intended audience.
- Synchronize promotion with the annual WFCA conference early in the new year to reach employers.

Employer engagement and incentives

- Work directly with contractors and licensees to integrate training modules into existing orientation processes.
- Implement training recognition programs or certifications to encourage employers to adopt training as a standard requirement.

Prescribed burning is a restoration economy activity that is expanding to restore ecosystem resilience to forest lands.

SUSTAINABILITY FRAMEWORK FOR CONTINUING THE LABOUR FORCE STRATEGY

Given the timeliness, relevance, and positive, constructive feedback to date, all elements of the Project will be maintained. The Project's Governance Committee will disband, but some members will be invited to join the BC SAFE Forestry Program Strategic Advisory Committee (SAC) as subject matter experts on the Project's safety training components and respectful workplace elements. The WFCA Board of Directors' Labour Force Sub-Committee will manage the Project's recruitment and retention elements.

The online *Indigenous Awareness* training (see Appendix E) adapted for the silviculture sector is under an ICT license in perpetuity and will continue to be offered at no cost to WFCA members from our online academy located on the WFCA-hosted social media website, The Cache.

Working Effectively with Indigenous Peoples, taught in person by ICT Flavio Caron, has been very popular, according to polling. Continuing to offer this professional development training will depend on our assessment of future demand from our members and the requirements of clients and First Nations partners. Fees will likely be needed to cover costs for these sessions.

The Chainsaw Operator Training for Silviculture (See Appendix A), developed in cooperation with the BC SAFE Forestry Program and independent chainsaw brushing instructor and content developer Paul Nimmon, continues to be tested on west coast brushing crews on Vancouver Island. In January, Mr. Nimmon proposed the BC SAFE Forestry Program (BCSFP) fund to continue visiting brushing crews using the training curriculum as a standard for assessing the competency of experienced operators, along with instructing them and new trainees accordingly. This year's BCSFP work plan includes a budget for Mr. Nimmon to support working crews on the coast. Depending on the response from employees and employers to that coast pilot, the plan is to extend the chainsaw assessment and training program to the Interior.

So far, we have the support of BC SAFE Forestry Program and BC Forest Safety, and the interests of major licensees on the coast and in the Interior, including Mosaic Forest Management and West Fraser Timber Co.

The three online *WFCA Wildfire Safety Awareness Training for Crews and Supervisors* modules (see Appendix F) will continue to be offered for free to our sector from the learning academy on The Cache. Any maintenance costs for the site will be covered by the BC SAFE Forestry Program's annual work plan going forward.

The registration program has been streamlined based on feedback from users. We will continue to promote this due diligence training to employers, employees, BCTS and licensees through our BC SAFE Forestry Advocate and the WFCA. At the same time, we will continue to partner with BC Forest Safety, BC Wildfire Service, WorkSafeBC and Thompson Rivers University Institute for Wildfire Science, Adaptation and Resiliency to modify and adapt the training as may be needed.

This *Compass Respectful Workplace Program* (see Appendix D), which supports small and medium-sized employers and their staff in eliminating prejudice, harassment, and violence from our sector's workplace, will remain available on The Cache. It will be promoted through the WFCA communication strategy and the BC SAFE Forestry Program, including field visits from the BC SAFE Forestry Advocate. BC Forest Safety has an interest in the product along with the national organization Forestry Together.

The *Compass Career Pathways and Role Directory* recruitment and retention resources (see Appendix K and Appendix L) for the reforestation and ecosystem restoration sector will remain on The Cache. To keep up with changes in the kinds of skills needed in the emerging restoration economy, the site will require ongoing attention and development. That will be accomplished, in part, with WFCA support. Other sources include partnering with the Forest Products Association of Canada, which recently received federal support for a five-year national workforce program. The national Talent Pipeline (TPM) pilot for the forest sector, funded by Employment and Social Development Canada for the Sectoral Workforce Development Program (SWSP). That pilot has various objectives aligning with the Project's work, particularly in describing restoration economy activities, occupations, and career opportunities.

Financial support for sustaining the Project's pilots will come from the BC SAFE Forestry Program annual budget under the aegis of the BC Forest Safety Council. The WFCA will also contribute funding through its annual budget. As has always been the case, in-kind contributions volunteered from our members will also sustain the work. There may be opportunities to leverage our alignment with Forestry Together and other partners for support. As the merits and value of the various resources and training become better known, there may be opportunities to commercialize The Cache through advertising. The BC SAFE Forestry Ombudsman will continue to contribute to The Cache and promote elements of the Project through social media work and field visits. As well, many of the relationships built with partners during the three-year course of the Project will be maintained, including the skilled consultants who have contributed to the Project. They will be able to provide guidance, moral support, and expertise.

The biggest risk, which is always the case with introducing new things, will be convincing our sector of the value of the outputs the Project has developed. We are confident that the products will succeed on their own merits. But as we have found, our products, in some cases, may have to compete for bandwidth within an organization's already crowded internal orientation and human resource systems. The current downturn and tariff turbulence, if it persists, will turn operators towards survival rather than the kinds of value creation and development the Project's work supports. But even that dire prospect will be offset by the ineluctable course of climate change and its consequences. There will be a rising demand to restore ecosystems and reforest lands to mitigate and recover from the effects of climate change.

OUR PARTNERS

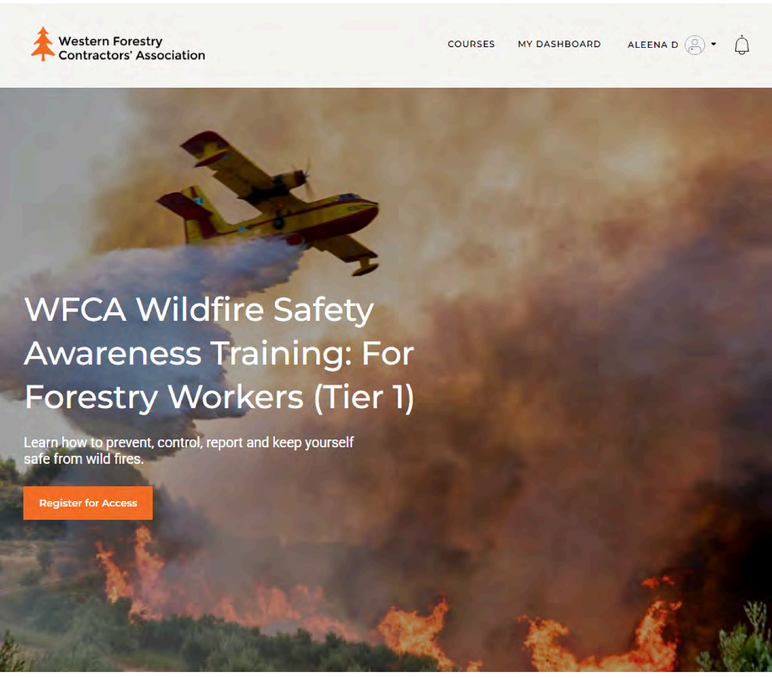
In imagining and implementing the scope of the Project, we built relationships with other groups and organizations. These partners served as expert advisers, moral supporters, and allies. They still do.

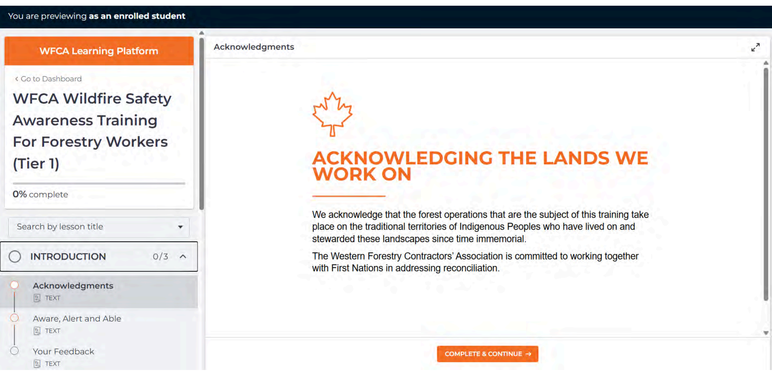
Organization	Contribution to the Project
BC Continuing Education and Training Association	A consortium of community colleges from across B.C. with an interest in developing and delivering training in land restoration skills, e.g. a course in native plant propagation, is now in development.
BC Forest Safety Council	The Health and Safety Association for the BC Forest Industry supported our Wildfire Safety Training Modules, Chainsaw Operator for Silviculture Training and our Respectful Workplace Program.
The Oil & Gas Research and Innovation Society	This non-profit research helped us understand and describe restoration activities in the oil and gas sector.
The Thompson Rivers Wildfire Centre of Excellence	This college department has an interest in our wildfire awareness training and the career possibilities for workers in our sector in the field of wildfire science and practice.
BC First Nations Forestry Council	Their work with human resources and Indigenous career development set examples for our Project.
First Nations Emergency Services Society	Their work in proactive wildfire management and Indigenous land management helped us map the restoration sector.

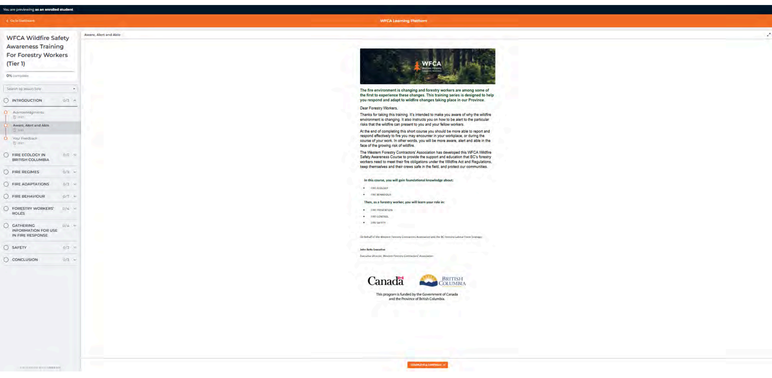
Ministry of Forests, *Reforestation and Restoration Service Supply Chain Committee*	This working group supports the development of the ecosystem restoration and reforestation sector, e.g. coordinating practitioners in the propagation and installation of native plants.
BC Wildfire Service	This all-hazards emergency response agency supports the development of proficiency and awareness in wildfire response, hazard reduction and landscape recovery activities.

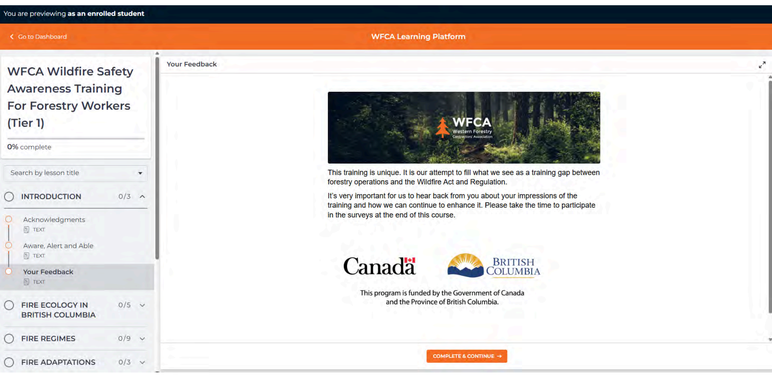
APPENDIX A – Wildfire Awareness Training Course Curricula

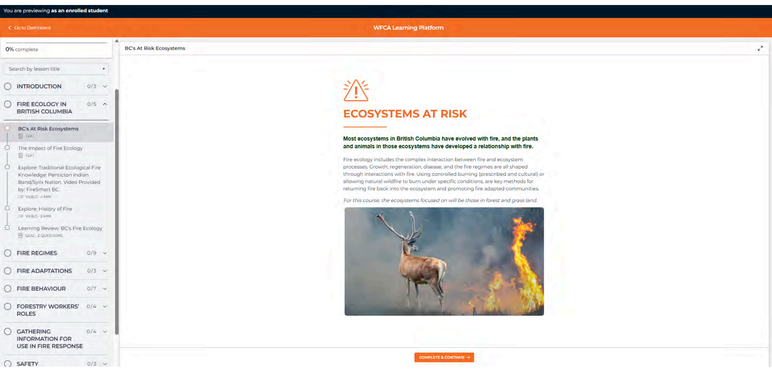
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)











You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
  - BC's At Risk Ecosystems (1)(A)
  - The Impact of Fire Ecology (1)(A)
  - Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC. (2) VIDEO · 4 MIN
  - Explore: History of Fire (2) VIDEO · 2 MIN
  - Learning Review: BC's Fire Ecology QUIZ · 2 QUESTIONS
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

The Impact of Fire Ecology

THE IMPACT OF FIRE ECOLOGY

Fire ecology encompasses fire regimes, the fire interactions in those regimes, and the creation of ecological patterns and processes fire creates.

Most places you would find yourself working in British Columbia have probably been affected by fire. Today, we recognize that both anthropogenic and natural fires shape fire regimes.

Take a moment to understand that the fire history where you live, work, or play may have shaped your surrounding environment. You can confirm this by asking the community, long-time residents of the area, and those who work on the land, or by doing general online and offline research. You might find that there is a tragic history of wildfire impacting communities.

Still, other histories may be happy memories of lighting meadows at a young age

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
  - BC's At Risk Ecosystems (1)(A)
  - The Impact of Fire Ecology (1)(A)
  - Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC. (2) VIDEO · 4 MIN
  - Explore: History of Fire (2) VIDEO · 2 MIN
  - Learning Review: BC's Fire Ecology QUIZ · 2 QUESTIONS
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC.

More videos on fire history, fuels management and controlled burning can be found on the Cultural Burning and Prescribed Fire website

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
  - BC's At Risk Ecosystems (1)(A)
  - The Impact of Fire Ecology (1)(A)
  - Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC. (2) VIDEO · 4 MIN
  - Explore: History of Fire (2) VIDEO · 2 MIN
  - Learning Review: BC's Fire Ecology QUIZ · 2 QUESTIONS
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Explore: History of Fire

More videos on fire history, fuels management and controlled burning can be found on the Cultural Burning and Prescribed Fire website

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
  - BC's At Risk Ecosystems (1)(A)
  - The Impact of Fire Ecology (1)(A)
  - Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC. (2) VIDEO · 4 MIN
  - Explore: History of Fire (2) VIDEO · 2 MIN
  - Learning Review: BC's Fire Ecology QUIZ · 2 QUESTIONS
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Learning Review: BC's Fire Ecology

QUESTION 1 OF 2

Select the correct answers: In some areas of forests and grasslands in BC, wildfire suppression has caused...

Choose ALL answers that apply.

- A Significant build up of forest fuels
- B Tree encroachment on grasslands
- C Infilling of dry forests
- D Increased risk of devastating forest fires
- E Negatively impacted biodiversity in some areas

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
  - BC's At Risk Ecosystems (1)(A)
  - The Impact of Fire Ecology (1)(A)
  - Explore: Traditional Ecological Fire Knowledge: Penticton Indian Band/Syilx Nation. Video Provided by: FireSmart BC. (2) VIDEO · 4 MIN
  - Explore: History of Fire (2) VIDEO · 2 MIN
  - Learning Review: BC's Fire Ecology QUIZ · 2 QUESTIONS
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Learning Review: BC's Fire Ecology

QUESTION 2 OF 2

Check all that apply: Fuel modification (e.g., manual thinning, using fire), may...

Choose ALL answers that apply.

- A Create fire breaks
- B Aid in making forests healthier
- C Remove invasive vegetation
- D Cause wildfires to be more extreme
- E Create more damage to the ecosystem
- F Create more open forests for grasses and shrubs to return

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? (1)(A)
  - Seasonality (1)(A)
  - Size (1)(A)
  - Frequency (1)(A)
  - Intensity (1)(A)
  - Severity (1)(A)
  - Cause (1)(A)
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4

What are Fire Regimes?

FIRE REGIMES

Fire regimes are defined by patterns of fire seasonality, fire frequency, fire size, intensity, severity, complexity, type (crown fire, surface fire), weather, and cause.

Many of these attributes change over time with changing climate, land management activities, changing plant communities, and absence of fire. Knowing what fire regime you work in, will provide you with some clues to the type of fire that the ecosystem has experienced historically and how a fire may look today.

The Natural Disturbance Types used in British Columbia forestry overlap well with fire regimes.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Seasonality

SEASONALITY

What time of year does fire usually occur?

In boreal forests, fire is stand-renewing with most fires happening from May to August, peaking late June/early July. This season is followed by stand-maintaining forests that have more ponderosa pine or interior Douglas-fir where the season peaks in late July and August.

Regimes are also affected by human ignitions. For example, Indigenous communities in the East Kootenays would apply light intensity burns to the valley bottoms in the spring and fall, encouraging plant production for medicines, and food for themselves and animals.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Size

SIZE

If left to burn naturally, how large can fires grow?

The answer to size greatly depends on fuels, weather, and topography.

Some ecosystems such as even aged closed canopy stands (e.g., lodgepole pine) will burn much larger naturally than uneven aged open canopy forests (e.g., interior Douglas-fir and larch). Fuel modifications used in hazard fuel reduction programs affect fire size by creating a break in the continuous fuel layer to slow down the rate of spread. This concept is also used when constructing fireguard.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Frequency

FREQUENCY

Fire frequency refers to the number of times that fires occur within a defined area and time.

The two popular methods of determining frequency are by extracting soil core samples and looking for ash layers left behind from past fires, or using dendrochronology techniques that examine tree rings for char.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Intensity

INTENSITY

Intensity is the heat from the fire.

It is measured in kilowatts per meter (heat over a distance) by fireproof instruments and by observing the flame length. The longer the flame length, the more intense the fire. One goal in fuels reduction projects is removing dead surface fuels to decrease the fuel loading that contributes to surface fire intensity.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Severity

SEVERITY

Severity is the degree to which a site has been altered or disrupted by fire (how much fuel the fire consumed).

It is the product of fire intensity (how hot the fire is) and residence time (how long the fire is hanging out in one area). A fire can be high intensity-low severity, high intensity-high severity, and other combinations. They are not directly proportional to each other because of other factors like the residence time.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
  - What are Fire Regimes? TEXT
  - Seasonality TEXT
  - Size TEXT
  - Frequency TEXT
  - Intensity TEXT
  - Severity TEXT
  - Cause TEXT
  - Fire Regime Examples PRESENTATION
  - Learning Review: Fire Regimes QUIZ · 2 QUESTIONS
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLE 0/4

Cause

CAUSE

Cause is primarily categorized into 'human' and 'lightning'.

Over the past decade in Canada cause has shifted from majority ignitions caused by lighting to about 50/50 human/lightning.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

FIRE REGIMES 0/9

What are Fire Regimes? TEXT

Seasonality TEXT

Size TEXT

Frequency TEXT

Intensity TEXT

Severity TEXT

Cause TEXT

Fire Regime Examples PRESENTATION

Learning Review: Fire Regimes QUIZ · 2 QUESTIONS

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Fire Regime Examples

FIRE REGIME EXAMPLES

These examples are simplified, and you may imagine factors that go into changing some of the fire regime components that were covered. *(If you are already doing this, then you are now thinking like a fire practitioner.)*

PREV NEXT 1 / 2

COMPLETE & CONTINUE →

0:04 / 0:17

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

FIRE REGIMES 0/9

What are Fire Regimes? TEXT

Seasonality TEXT

Size TEXT

Frequency TEXT

Intensity TEXT

Severity TEXT

Cause TEXT

Fire Regime Examples PRESENTATION

Learning Review: Fire Regimes QUIZ · 2 QUESTIONS

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

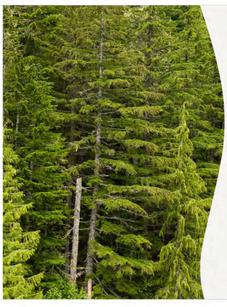
FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Fire Regime Examples



Douglas-fir Forest

A coastal Douglas-fir forest with a good mix of cedar and hemlock could be its own fire regime where every 200-300 years there could be a small fire that burns. These are referred to as rare-stand initiating fires.

The fire can cause isolated torching and some crown fire, but most fire stays as a surface fire. Most of the year, weather is cooler and temperate, therefor fires would occur in the peak of the summer when fuels on the ground have dried up, and weather is warmer and drier. There are always exceptions, but for the concept of fire regimes, this example would describe the majority of the ecosystems on the West Coast, giving it its own fire regime.

This is a contrast to interior Douglas-fir where the fire return interval is about 4-50 years. Fires are frequent stand-maintaining. Climate factors into this; it is much warmer and drier for longer in the summers of interior North America than on the coast.

PREV NEXT 2 / 2

COMPLETE & CONTINUE →

0:02 / 1:03

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

FIRE REGIMES 0/9

What are Fire Regimes? TEXT

Seasonality TEXT

Size TEXT

Frequency TEXT

Intensity TEXT

Severity TEXT

Cause TEXT

Fire Regime Examples PRESENTATION

Learning Review: Fire Regimes QUIZ · 2 QUESTIONS

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

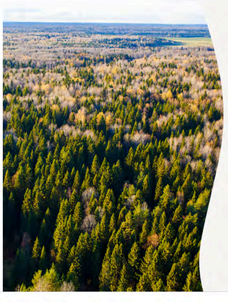
FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Fire Regime Examples



Lodgepole Pine Forest

Another example is a lodgepole pine forest. These forests have evolved with large, frequent, stand-initiating fires. Natural fire in lodgepole pine forests is a stand replacing event that can burn up to tens of thousands of hectares, often driven by wind.

Depending on where you are in latitude, the stand replacement fires can be 80-400 years, but can also be as frequent as 15 years if conditions are hot and dry, and it is windy enough for that area. It all depends on the fuels, weather, and topography for that area.

PREV NEXT 2 / 2

COMPLETE & CONTINUE →

0:02 / 0:34

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

FIRE REGIMES 0/9

What are Fire Regimes? TEXT

Seasonality TEXT

Size TEXT

Frequency TEXT

Intensity TEXT

Severity TEXT

Cause TEXT

Fire Regime Examples PRESENTATION

Learning Review: Fire Regimes QUIZ · 2 QUESTIONS

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

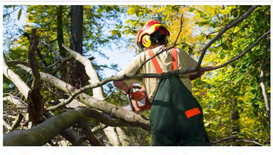
FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Learning Review: Fire Regimes



Fuel modifications aim to change these fire regime attributes:

Choose ALL answers that apply.

A Intensity

B Cause

C Season

D Size

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

INTRODUCTION 0/3

FIRE ECOLOGY IN BRITISH COLUMBIA 0/5

FIRE REGIMES 0/9

What are Fire Regimes? TEXT

Seasonality TEXT

Size TEXT

Frequency TEXT

Intensity TEXT

Severity TEXT

Cause TEXT

Fire Regime Examples PRESENTATION

Learning Review: Fire Regimes QUIZ · 2 QUESTIONS

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

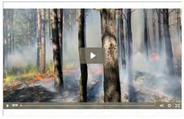
FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Learning Review: Fire Regimes



Check the attributes that give an ecosystem its own fire regime:

Choose ALL answers that apply.

A Seasonality

B Size

C Frequency

D Activities

E Intensity

F Severity

G Fire Control

H Spotting Potential

I Cause

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

FIRE REGIMES 0/9

FIRE ADAPTATIONS 0/3

Fire Adaptations PRESENTATION

Explore: Ecosystems & Adaptation DOWNLOADS

Learning Review: Adaptations QUIZ · 3 QUESTIONS

FIRE BEHAVIOUR 0/7

FORESTRY WORKERS' ROLES 0/4

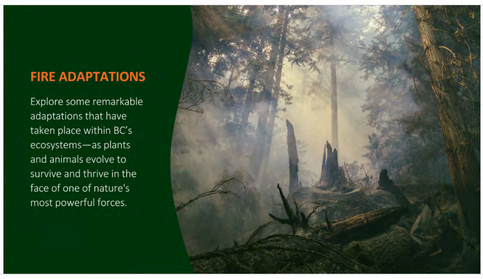
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations



FIRE ADAPTATIONS

Explore some remarkable adaptations that have taken place within BC's ecosystems—as plants and animals evolve to survive and thrive in the face of one of nature's most powerful forces.

PREV NEXT 1 / 7

COMPLETE & CONTINUE →

0:14 / 0:19

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations

Grass

Grass that grows in bunches can insulate inner stems by forming a dense layer around them—acting as a barrier, and limiting the spread of flames towards the inner stems and roots of the plant.

This growth pattern also helps the grass retain moisture more effectively, as the dense bunches create a microclimate that traps moisture around the base of the plant.

PREV NEXT 2 / 7 COMPLETE & CONTINUE → 0:01 / 0:23

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations

Bitterroot

Some plants, like bitterroot, have adapted to wildfire seasons by going dormant during times of heightened fire risk.

These plants typically grow during periods of cooler and wetter weather, such as spring and fall, when the risk of wildfires is lower. By going dormant during the hot and dry fire season, these plants reduce their vulnerability to fire damage.

This adaptation allows them to survive and thrive in fire-prone ecosystems by avoiding the most dangerous times for wildfires while taking advantage of favorable growing conditions.

PREV NEXT 3 / 7 COMPLETE & CONTINUE → 0:01 / 0:32

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations

American Badger

Underground animals, like the American badger, adapt to wildfire threats by digging multiple holes, creating a network of burrows.

These burrows serve as escape routes during fires, allowing the animals to quickly retreat underground to safety. Additionally, the interconnected tunnels provide airflow, reducing the risk of suffocation due to smoke inhalation.

This adaptation enables the badgers to survive wildfires by providing them with shelter and ventilation underground.

PREV NEXT 4 / 7 COMPLETE & CONTINUE → 0:01 / 0:28

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations

Saskatoon Berry

Plants like the Saskatoon berry adapt to wildfire by growing thick roots and rhizomes deep underground.

These underground structures allow the plant to store nutrients and water safely below the surface, reducing their vulnerability to wildfires. Additionally, the soil acts as insulation, shielding the roots and rhizomes from the intense heat of fires above ground.

This adaptation helps the Saskatoon berry and similar plants survive wildfires by ensuring their vital underground structures remain intact, enabling them to regenerate and resprout after the fire has passed.

PREV NEXT 5 / 7 COMPLETE & CONTINUE → 0:01 / 0:35

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations

Charred Bark

Thick bark insulates the sapwood, the living tissue responsible for transporting nutrients, from the intense heat of wildfires.

This insulation helps prevent damage to the vital vascular system of the tree, allowing it to survive and regenerate after the fire.

Additionally, charred bark can act as a barrier against flames, reducing the likelihood of the fire reaching the sensitive inner layers of the tree.

PREV NEXT 6 / 7 COMPLETE & CONTINUE → 0:02 / 0:25

You are previewing **as an enrolled student**

Go to Dashboard

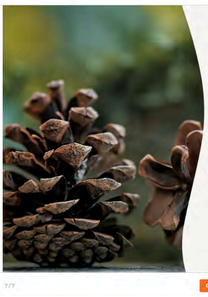
WFCA Learning Platform

BRITISH COLUMBIA

- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Fire Adaptations



Pinecones

Serotinous pinecones are sealed closed with resin that open with heat from fire. This resin acts as a protective coating, keeping the seeds inside the cone safe from environmental factors until they are ready to be released.

When exposed to heat from a fire, the resin melts, causing the cones to open and release their seeds.

This adaptation allows the seeds to take advantage of the nutrient-rich soil created by the fire, increasing their chances of germination and successful growth in the post-fire environment.

PREV NEXT 7 / 7 COMPLETE & CONTINUE → 0:02 / 0:33

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

BRITISH COLUMBIA

FIRE REGIMES 0/9

FIRE ADAPTATIONS 0/3

- Fire Adaptations — PRESENTATION
- Explore: Ecosystems & Adaptation — DOWNLOADS
- Learning Review: Adaptations — QUIZ · 3 QUESTIONS

FIRE BEHAVIOUR 0/7

FORESTRY WORKERS' ROLES 0/4

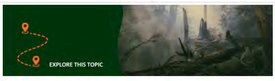
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Explore: Ecosystems & Adaptation



Learn more about fire ecology

Learn more about fire ecology and fire effects using the Fire Effects Information System (FEIS) hosted by the USFS. You can enter most plants and animals from reindeer lichen to the red-tailed hawk and learn about its fire ecology.

https://www.feis-crs.org/feis/

Download the Prescribed Fire and Invasive Plants

In order to learn more about fire and invasive plants, then this reference guide and manual of best practices is a good place to begin. In many environments, high severity surface fire (consuming the litter and duff down to mineral soil) creates the ideal opportunity for successful establishment of invasive plants post-fire.

Prescribed Fire and Invasive Plants.pdf DOWNLOAD

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Learning Review: Adaptations

QUESTION 1 OF 3

Cheatgrass is an invasive plant in British Columbia. Select all the attributes that are considered fire adaptations:

Choose ALL answers that apply.

- A. It stores seeds are stored in the soil and can withstand high intensities
- B. It cures (becomes dry) earlier than native grasses, going dormant before fire season
- C. Animals can carry the seeds in their feces and hooves

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

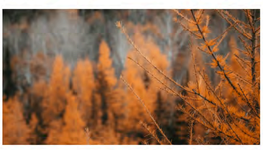
Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Learning Review: Adaptations

QUESTION 2 OF 3



Western larch is the most fire-resistant tree in British Columbia. Without fire, it will not regenerate successfully and eventually it will be replaced by more shade-tolerant trees like Douglas-fir. Select all the attributes that are considered fire adaptations:

Choose ALL answers that apply.

- A. Its leaves turn colour in autumn and shed
- B. It self-prunes, shedding its lower branches to minimize ladder fuels and crown fire
- C. It has very thick bark

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Learning Review: Adaptations

QUESTION 3 OF 3

Wild asparagus is a treat when found. Low intensity, controlled burns can help it establish and grow by cleaning up dead fuel, matted grasses, and encroaching plants. Select all the attributes that are considered fire adaptations:

Choose ALL answers that apply.

- A. Roots are hearty and stable
- B. It is an evergreen

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
  - Fire Adaptations — PRESENTATION
  - Explore: Ecosystems & Adaptation — DOWNLOADS
  - Learning Review: Adaptations — QUIZ · 3 QUESTIONS
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

Changing Fire Regimes

CHANGING FIRE REGIMES

Fire regimes in British Columbia are changing.

Fire regimes in British Columbia are changing because of changing climate; decades of aggressive fire suppression; and our wildland urban interface interaction, but these are not the only contributing factors to this complex situation (some were covered earlier). Changing fire regimes can lead to an increase in fire intensity and severity leading to negative impacts on plants, animals, and humans.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — QUIZ
  - The Fire Behaviour Triangle — TEXT
  - Fuels — TEXT
  - Weather — TEXT
  - Topography — TEXT
  - Explore: Fire Behaviour — TEXT
  - Learning Review: Fire Behaviour — QUIZ · 5 QUESTIONS
- FORESTRY WORKERS' ROLES 0/4

TEACH ONLINE WITH THINKIFIC

The Fire Behaviour Triangle

THE FIRE BEHAVIOUR TRIANGLE

Fire behaviour or the way a fire burns, depends on three variables: fuels, weather, and topography.

Together they make up the **Fire Behaviour Triangle** and can be used to predict where and how fast a fire will spread and at what intensity and severity.

Understanding fuels, weather and topography can support planning strategies and tactics in fire ignition and fire control as well as support the creation of effective fuels management and controlled burning prescriptions.

It also helps with the understanding of fire regimes and fire ecology.

COMPLETE & CONTINUE →

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/3
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Fuels

FUELS

Fuels can be anything that ignites and burns.

The drier the fuels, the more probable the fire will ignite. The arrangement of the fuels both horizontally (surface fuels, trees, litter, and duff) and vertically (ladder fuels like lichen and branches) will create the path for fire to spread.

Fuels management programs focus on this part of the fire behaviour triangle. Hazard fuel reduction projects:

- slow the movement of surface fire by removing surface and ladder fuels,
- lower fire intensity by removing fuel loading, and
- reduce the risk of isolated torching and crown fire by pruning limbs and spacing the crown.

By managing fuels, firefighter access to fight fires quickly and effectively, is also created. A fireguard is a manually or mechanically constructed barrier intended to stop or slow the fire rate of spread. The purpose of constructing fuel free areas and fireguards is to manipulate the fuel variable of the fire behaviour triangle.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Weather

WEATHER

Weather includes wind, temperature, relative humidity, and precipitation.

This is the most difficult variable to predict and influence. An important concept to remember is that on a dry day (no precipitation), as the temperature increases, then the relative humidity decreases.

Weather also affects the dryness of the dead and live fuels. Long-term patterns in the weather for a particular area (tracked for at least 30 years) define climate and since the climate is changing across British Columbia, so will this variable of the fire behaviour triangle.

Spring rains will determine how long a forest will be in its spring dry stage. Spring dip refers to the period in spring when trees and shrubs have their lowest foliar moisture content (leaves, needles, fine branches). This means they are dry and will burn easily.

Fire regimes like those in the Boreal or northern parts of British Columbia often see their peak annual wildfire activity during the spring dip. The spring dip should not be underestimated for how easily fires can be ignited.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Topography

TOPOGRAPHY

See the topography around you as not just where the fire is currently burning but also where the fire could go.

Elevation can determine tree vegetation that is growing. For example, as you move up a mountain starting at sea level, you can transition from grasses to shrubs then timber to tundra, and perhaps snow at the highest point.

The **aspect** is also important where the north often has higher fuel moisture, lower average temperatures, later curing of fuels (i.e., drying out), and later snow melt. Contrast this to the south where fuel moisture tends to be lower, temperatures higher, earlier curing and earlier snowmelt. If you imagined that a faster rate of spread or higher intensities would be found on southern slopes more than northern, you are correct.

The **slope** will determine rate of spread as well; the steeper the slope, the faster the fire will move up it as the fire preheats the fuels in front of it. Then there are natural barriers like rocks, roads, water features, and soil burns, all of which can affect how a fire spreads.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Explore: Fire Behaviour

Visit the Canadian National Fires Database (CNFDB) hosted by Natural Resources Canada.

Play around the with the Database to track the number of ignitions and fire size over time.

Canadian National Fire Database

Visit the Canadian Forest Fire Behaviour Prediction (FBP) System.

Play around with the Canadian Forest Fire Behaviour Prediction (FBP) System through Natural Resources Canada.

Natural Resources Canada

Download the Fire Behaviour Cheat Sheet.

The language of fire behaviour is often full of acronyms, numbers and jargon that can seem like a different language. This cheat sheet will help you understand what those numbers are illustrating.

Fire Behaviour Cheat Sheet.pdf

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Learning Review: Fire Behaviour

QUESTION 2 OF 5

Check the variable of the fire behaviour triangle that has the greatest influence for each scenario:

"I am on a steep hillside where fuels can roll down and ignite the below me."

Choose only ONE best answer.

- A Fuels
- B Weather
- C Topography

CHECKING

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Learning Review: Fire Behaviour

QUESTION 2 OF 5

Check the variable of the fire behaviour triangle that has the greatest influence for each scenario:

"The winds are picking up and there are frequent spot fires."

Choose only ONE best answer.

- A Fuels
- B Weather
- C Topography

CHECKING

You are previewing **as an enrolled student**

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/3
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
  - Changing Fire Regimes — Text
  - The Fire Behaviour Triangle — Text
  - Fuels — Text
  - Weather — Text
  - Topography — Text
  - Explore: Fire Behaviour — Text
  - Learning Review: Fire Behaviour — Quiz · 5 questions
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3

Learning Review: Fire Behaviour

QUESTION 5 OF 5

Check the variable of the fire behaviour triangle that has the greatest influence for each scenario:

"Fire is consuming most of the slash as it moves through the block, even though it is early in the morning."

Choose only ONE, best answer:

A. Fuels

B. Weather

C. Topography

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

INTRODUCTION 0/3

FIRE ECOLOGY IN BRITISH COLUMBIA 0/3

FIRE REGIMES 0/9

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

Changing Fire Regimes — Text

The Fire Behaviour Triangle — Text

Fuels — Text

Weather — Text

Topography — Text

Explore: Fire Behaviour — Text

Learning Review: Fire Behaviour — Quiz · 5 questions

FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

Learning Review: Fire Behaviour

QUESTION 5 OF 5

Check the variable of the fire behaviour triangle that has the greatest influence for each scenario:

"Fire has changed its direction of spread."

Choose only ONE, best answer:

A. Fuels

B. Weather

C. Topography

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

INTRODUCTION 0/3

FIRE ECOLOGY IN BRITISH COLUMBIA 0/5

FIRE REGIMES 0/9

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

Changing Fire Regimes — Text

The Fire Behaviour Triangle — Text

Fuels — Text

Weather — Text

Topography — Text

Explore: Fire Behaviour — Text

Learning Review: Fire Behaviour — Quiz · 5 questions

FORESTRY WORKERS' ROLES 0/4

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

Learning Review: Fire Behaviour

QUESTION 5 OF 5

Check the variable of the fire behaviour triangle that has the greatest influence for each scenario:

"The vegetation on the south side of this ridge is much drier than the north."

Choose only ONE, best answer:

A. Fuels

B. Weather

C. Topography

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

For Forestry Workers (Tier 1)

0% complete

Search by lesson title

INTRODUCTION 0/3

FIRE ECOLOGY IN BRITISH COLUMBIA 0/5

FIRE REGIMES 0/9

FIRE ADAPTATIONS 0/3

FIRE BEHAVIOUR 0/7

FORESTRY WORKERS' ROLES 0/4

- Important Safety Message — Text
- Prevention — Text
- Fire Response — Text
- Learning Review: Fire Response — Quiz · 5 questions

GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4

SAFETY 0/3

CONCLUSION 0/3

Important Safety Message

SAFETY CONSIDERATIONS

This course does not give you the training required for fighting a forest fire.

Workers in a forestry operation who fight a forest fire must be trained in their fire fighting duties in accordance with a standard acceptable to the Board. (Occupational Health and Safety Regulation 26.33). The 2 Minutes to Fire Awareness workbook training program, developed by BC Wildfire Service, is considered an acceptable WorkSafeBC standard.

Except under emergency conditions, anyone who is fighting a forest fire must wear long pants and a long-sleeved shirt made of cotton, wool, denim, or flame-resistant material or other protective clothing appropriate to the hazards to which the worker may be exposed.

Download the Canadian Wildland Fire Management Glossary

The Canadian Wildland Fire Management Glossary to learn more about terms and jargon used in wildfire management and controlled burning activities.

Canadian Wildland Fire Management Glossary.pdf

Download the WorkSafeBC Wildfire Smoke FAQ Guide

This resource provides responses to frequently asked questions about smoke during wildfire season.

Worksafe BC Wildfire Smoke FAQ.pdf

I HAVE ATTENDED & CONTINUED

You are previewing **as an enrolled student**

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Important Safety Message

PREVENTION

Fire Response

FIRE RESPONSE

Fire response includes carrying out fire control or supporting fire control or fire suppression.

To read the rating a workpack water pump (wood down a smoldering stump or hosing guide all ranches from the ground).

Fire response is a dangerous activity and is primarily an indirectly involved with the normal use as an example a workpack, to the use of other tools when building a Prepared or Soil Areas, know where the safety zones are located to protect you, know what to do if burned over and know the escape routes to get you to those safety zones.

To help you remember this, always remember your "LACES":

- Lookouts
- Alcohol, events
- Communications
- Escape routes
- Safety zones

Watch the video by Orange City Fire Department demonstrating how to use fire fighting hand tools to build a fireguard. These are the same tools you will need in your heavy equipment or work trucks.

Prune should be one hand's length each as a mixed, (fused), or overlayed, water pump. For each person on a site prune shows a run of a fire starting or spreading.

0:00 / 4:47

CONTINUE & CONFIRM

Learning Review: Fire Response

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
  - Important Safety Message
    TEXT
  - Prevention
    TEXT
  - Fire Response
    TEXT
  - Learning Review: Fire Response
    QUIZ, 5 QUESTIONS
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION 1 OF 5

Using the information shared in the video you just watched...in addition to having a backpack water pumps, other tools to keep in your truck or heavy equipment that are useful for constructing fireguard are:

Choose ALL answers that apply.

A. Pulaski
B. Shovel
C. McLeod
D. Rockbar

Continue

Learning Review: Fire Response

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
  - Important Safety Message
    TEXT
  - Prevention
    TEXT
  - Fire Response
    TEXT
  - Learning Review: Fire Response
    QUIZ, 5 QUESTIONS
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION 2 OF 5

As a rule, fireguard should be _____ times the fuel height of the fuel the fire is burning in.

Choose only ONE, best answer.

A. 1x
B. 1.5x
C. 2x
D. 2.5x

Continue

Learning Review: Fire Response

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
  - Important Safety Message
    TEXT
  - Prevention
    TEXT
  - Fire Response
    TEXT
  - Learning Review: Fire Response
    QUIZ, 5 QUESTIONS
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION 3 OF 5

Fireguard should be constructed down to_____

Choose only ONE, best answer.

A. The Fine Needle Layer
B. The Duff Layer
C. Mineral Soil

Continue

Gathering Information in the Field

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field
    TEXT
  - The Initial Fire Report
    TEXT
  - What to Include in Your Report
    VIDEO/AUDIO
  - Learning Review: Reporting a Fire
    QUIZ, 10 QUESTIONS
- SAFETY 0/3
- CONCLUSION 0/3

BE PREPARED

You can play a valuable role in supporting fire fighting.

You can gather maps showing important values, provide a key list of contacts, be a liaison officer for an Incident Management Team, or be designated as the local contact. You may also find yourself in the field and spot a fire or be asked to help gather information for a fire nearby.

In either scenario, **situation awareness** is the foundation of good decision making.

Wherever you find yourself, look up, look down, and look all around continually gathering information, e.g., hazards, escape routes, and changes from the last time you were there. Collecting information through observation, your senses, and communication will ensure that you are able to support fire response efforts safely and effectively.

COMPLETE & CONTINUE →

The Initial Fire Report

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field
    TEXT
  - The Initial Fire Report
    TEXT
  - What to Include in Your Report
    VIDEO/AUDIO
  - Learning Review: Reporting a Fire
    QUIZ, 10 QUESTIONS
- SAFETY 0/3
- CONCLUSION 0/3

SUPPORTING AN INITIAL FIRE REPORT

Be clear and concise with the information you report.

Consider writing down thoughts and even before phoning 1-800-663-5555 or 911 to report a fire.

- If you spot a possible fire the after 1200, or use the BC Wildfire phone app or radio to let know who can on your behalf.
- Tell the dispatcher that you can see the fire and that you have information that might be helpful when you contact Initial Fire Report.
- Make sure you can answer the questions below. Have visual information if needed. If you are in a safe location stay and take photos and videos until the fire crews show up.

All this information can be used to help with the initial attack and the Fire Cause and Investigation team.

Download the FS 250 Initial Fire Report Form

This form FS 250 Initial Fire Report created by the Ministry of Forests can be used as a supplemental tool of some valuable information to be can used in fire response.
FS 250 Initial Fire Report PDF ↓

Download the Beaufort Wind Scale

The Beaufort scale is used to estimate wind strengths. The scale starts with 0 and goes to a force of 12.
Beaufort Wind Scale.jpg ↓

Download the BC Forest Safety Helicopter Passenger Safety Guidepdf ↓

This document provides basic information for helicopter passengers and is intended to be used as a guide only. It is not a substitute for the training required for any planning personnel or a pilot's training. There is not enough information contained in this guide to qualify anyone to be a helicopter manager (HMGB), or transport. Canada for more info.
BC Forest Safety Helicopter Passenger Safety Guidepdf ↓

COMPLETE & CONTINUE →

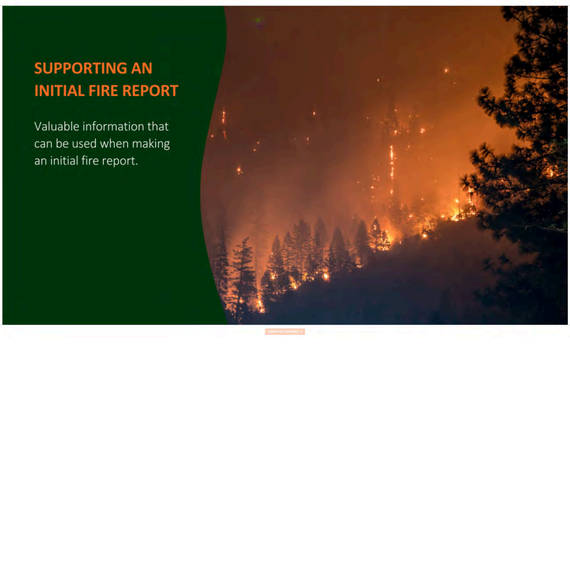
What to Include in Your Report

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field
    TEXT
  - The Initial Fire Report
    TEXT
  - What to Include in Your Report
    VIDEO/AUDIO
  - Learning Review: Reporting a Fire
    QUIZ, 10 QUESTIONS
- SAFETY 0/3
- CONCLUSION 0/3



WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
Gathering Information in the Field 10 min
The Initial Fire Report 10 min
What to Include in Your Report 10 resources
Learning Review: Reporting a Fire quiz 4 questions
SAFETY 0/3
CONCLUSION 0/3

Geographic Location

Gather coordinates, geographic (e.g., north side of Green Lake), access.

For example, take Gold Creek FSR and then the first fork to the left onto Gold Creek South. We are 22 km on Gold Creek South. We are 2 km to the east of Eagle Ridge.

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Size

Describe the exact size or something most people would be able to compare.

A hectare is roughly equal to 2 tennis courts or 2 soccer fields. Using the size of a car or truck is also a popular description.

PREV NEXT 5/16
Request Instructor Review

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Rank

Rank is used to describe the fire behaviour in a relative scale. If you do not know the rank, then ask yourself:

- Are trees torching?
- Is it spotting and how far?
- Is the fire staying on the surface and are flame heights less than a meter?

Sending in photos or videos are even better. You can also describe the colour of the smoke, e.g., wispy, white, light grey, brown, dark, thick.

PREV NEXT 6/16
Request Instructor Review

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Fuels and Adjacent Fuels

Described what the fire is burning/using for fuel. If the fire is moving towards a different fuel source, then describe that too.

For example: the fire is burning at the edge of the tree line and is moving into cedar slash, or the fire started in logs on the back of the truck parked beside a dry meadow.

PREV NEXT 7/16
Request Instructor Review

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Values at Risk

Life and property are the most important values at risk and are ranked the highest in prioritizing fire response.

Not all values are known or mapped, neither do response officers have quick access to the information.

If life or property are present, state what and where, e.g., a logging camp is 20 km to the northeast of this fire.

PREV NEXT 8/16
Request Instructor Review

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Wind

You can use the Beaufort Scale, use a real wind reading, or use your best guess.

Are there gusts in the area from a present or passing thunder cell?

If you are flying, the pilots can give you a good indication of wind speed and direction.

Wind direction is always described by the direction it is coming from. A "north wind" means the wind is moving in the direction north to south.

PREV NEXT 9/16
Request Instructor Review

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/5
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
Gathering Information in the Field 1pt
The Initial Fire Report 1pt
What to Include in Your Report 1 resources
Learning Review: Reporting a Fire 2pts · 4 questions
SAFETY 0/3
CONCLUSION 0/1

What to Include in Your Report

Slope, Aspect and Slope Position

If you do not have the equipment to take an accurate slope or aspect, use your best judgement.

For slope position, cut the larger scale landscape into thirds.

For example, this photo shows the fire is on the entire slope from bottom to top but the active part of the fire is in the **middle third of the slope.**

PREV NEXT 14/19

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Access

- What is the closest access to the fire?
- Can you give good directions or send them a pin drop?
- Are you able to easily meet the fire responders and then guide them in?
- Are there large areas to land a helicopter (clean and debris free) or turn around heavy equipment?
- How far away are these locations from the fire?

Access and staging areas are all good things to note on the way to your work site. If you cannot send a pin drop, it may be easier to have someone meet them at a specific kilometer marker or location on a main Forest Service Road and then guide them in.

Another option is to flag the route into the fire.

PREV NEXT 15/19

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
What to Include in Your Report

Available Water

Almost anything works for available water. Helicopters have new technology like Powerfill buckets, that can draw water from the smallest of creeks and the shallowest of ponds.

Where is the water in relation to the fire and how far away is it?

The rest of the information will be gathered by the response crews. You may be asked to help. You may even be asked to do an overview flight to help the crews get the lay of the land and learn about the values. Only participate in what you are comfortable with.

PREV NEXT 16/19

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Learning Review: Reporting a Fire

QUESTION 1 OF 4

Consider this scenario:

"It is May and a thunderstorm with some active lightning has passed over you about two hours ago. It is 1430 in the afternoon, and you are smoke-jaking behind the lines of the storm where lightning was striking earlier. You are in your van and you can see 1000's in report the fire and you take some photos and videos. You confirm you are in a safe place to gather information and you call it in. You have received confirmation that the report was received and you've got more details. You have shared certified smoke-jaking drawn as a response to other wildfire information."

Which module would you find this in your online FLI Report? Click the best choice for each of the following questions, based on the photo.

1. What SIDE fire would you report?

Choose ALL answers that apply.

- A A line of a campfire
- B A line of a building
- C A pair of fit city towns

SUBMIT

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Learning Review: Reporting a Fire

QUESTION 2 OF 4

2. What FIRE RANK would you report?

Choose ALL answers that apply.

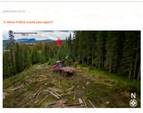
- A Rank 1
- B Rank 4
- C Rank 6

SUBMIT

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Learning Review: Reporting a Fire

QUESTION 3 OF 4

3. What FIELD would you report?



Choose ALL answers that apply.

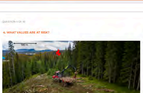
- A Use conifer trees
- B A grass field
- C Overlook with short

SUBMIT

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Learning Review: Reporting a Fire

QUESTION 4 OF 4

4. WHAT VALUES ARE AT RISK?



Choose ALL answers that apply.

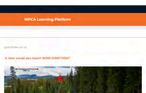
- A Residential homes
- B Logging equipment
- C Communication towers

SUBMIT

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Learning Review: Reporting a Fire

QUESTION 5 OF 4

5. How would you report WIND DIRECTION?



Choose ALL answers that apply.

- A North
- B East
- C South
- D West

SUBMIT

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Reporting a Fire

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

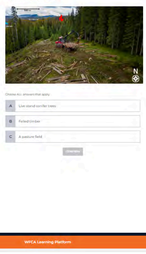
0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field — text
  - The Initial Fire Report — text
  - What to Include in Your Report — interactive
  - Learning Review: Reporting a Fire — quiz · 4 questions
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION #1 OF 4

Q. WHAT ARE YOU ASSESSING FIRST?



Choose ALL answers that apply.

- A. Low-stand conifer trees
- B. Forest timber
- C. A pasture field

Continue

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Reporting a Fire

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field — text
  - The Initial Fire Report — text
  - What to Include in Your Report — interactive
  - Learning Review: Reporting a Fire — quiz · 4 questions
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION #2 OF 4

Q. How would you report the position of this fire in SLOPE?

Choose ALL answers that apply.

- A. Top of a mountain
- B. Mid-slope
- C. Valley bottom

Continue

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Reporting a Fire

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field — text
  - The Initial Fire Report — text
  - What to Include in Your Report — interactive
  - Learning Review: Reporting a Fire — quiz · 4 questions
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION #3 OF 4

Q. How would you report ASPECT?

Choose ALL answers that apply.

- A. East
- B. West
- C. South
- D. North

Continue

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Reporting a Fire

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field — text
  - The Initial Fire Report — text
  - What to Include in Your Report — interactive
  - Learning Review: Reporting a Fire — quiz · 4 questions
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION #4 OF 4

Q. How would you report ACCESS?

Choose ALL answers that apply.

- A. 300 meter South of FSR
- B. 300 kilometer East of FSR
- C. 300 meter West of FSR

Continue

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Reporting a Fire

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
  - Gathering Information in the Field — text
  - The Initial Fire Report — text
  - What to Include in Your Report — interactive
  - Learning Review: Reporting a Fire — quiz · 4 questions
- SAFETY 0/3
- CONCLUSION 0/3

QUESTION #5 OF 4

Q. How would you report AVAILABLE WATER?

Choose ALL answers that apply.

- A. Blue Lake - 1 kilometer West of fire site
- B. Small Creek in the logging block
- C. Ocean 200 meter South of fire site

Continue

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Staying Safe around Wildfires

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — text
  - The 18 Watch Out Situations — interactive
  - Learning Review: Fire Safety — quiz · 4 questions
- CONCLUSION 0/3

YOUR SAFETY IN THE FIELD

Your safety is most important and the priority.

The 18 Watch Out Situations' are best practices that were developed for wildfire safety. In the field, by using these best practices/concepts, you can be mindful when working in and around fire and smoke environments.

Even though you are not a wildfire fighter, these safety practices/concepts, if applied, can help maintain your personal safety while working around fire.

If you find yourself in a situation that is a Watch Out, stop and reassess to put the risk to reduced or eliminated.

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

The 18 Watch Out Situations

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — text
  - The 18 Watch Out Situations — interactive
  - Learning Review: Fire Safety — quiz · 4 questions
- CONCLUSION 0/3

PREV NEXT 1 / 18

COMPLETE & CONTINUE

0:18 / 0:25

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

The 18 Watch Out Situations

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — text
  - The 18 Watch Out Situations — interactive
  - Learning Review: Fire Safety — quiz · 4 questions
- CONCLUSION 0/3

PREV NEXT 2 / 18

COMPLETE & CONTINUE

0:01 / 0:24

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 1/18

COMPLETE & CONTINUE

0:01 / 0:16

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

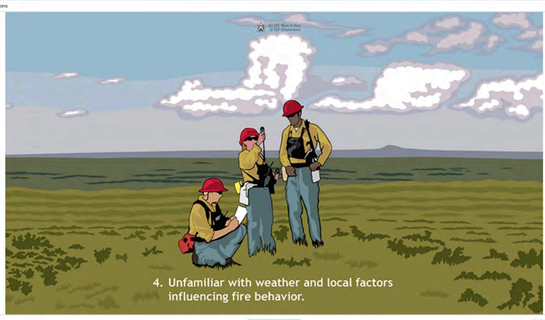
0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations



PREV NEXT 2/18

COMPLETE & CONTINUE

0:00 / 0:21

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 3/18

COMPLETE & CONTINUE

0:01 / 0:32

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 4/18

COMPLETE & CONTINUE

0:00 / 0:21

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 5/18

COMPLETE & CONTINUE

0:01 / 0:28

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

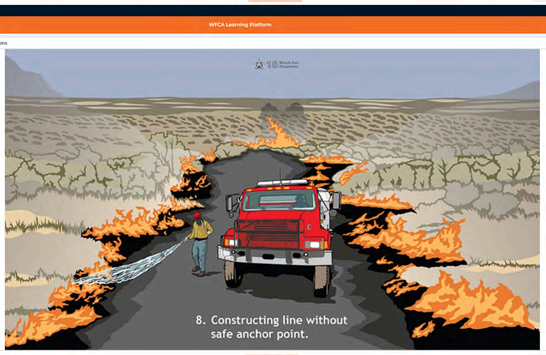
0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations



PREV NEXT 6/18

COMPLETE & CONTINUE

0:00 / 0:01

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

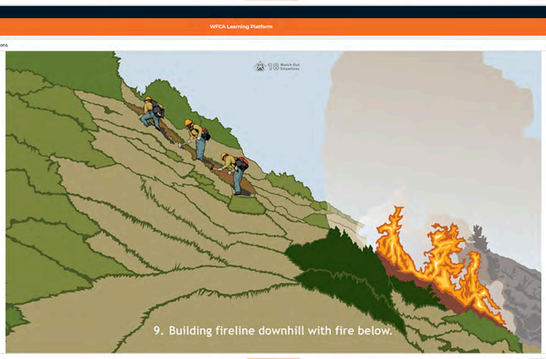
0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations



PREV NEXT 7/18

COMPLETE & CONTINUE

0:01 / 0:28

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

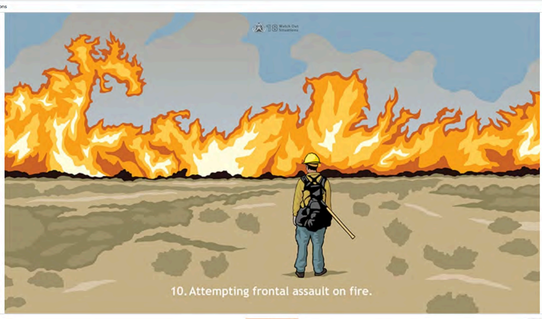
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC



PREV NEXT 11 / 18

LEARNING DASHBOARD

0:02 / 0:14

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

PREV NEXT 12 / 18

LEARNING DASHBOARD

0:00 / 0:33

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

PREV NEXT 13 / 18

LEARNING DASHBOARD

0:00 / 0:33

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

PREV NEXT 14 / 18

LEARNING DASHBOARD

0:00 / 0:19

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

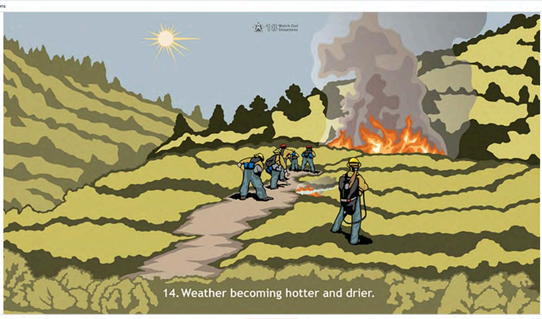
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC



PREV NEXT 15 / 18

LEARNING DASHBOARD

0:00 / 0:13

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

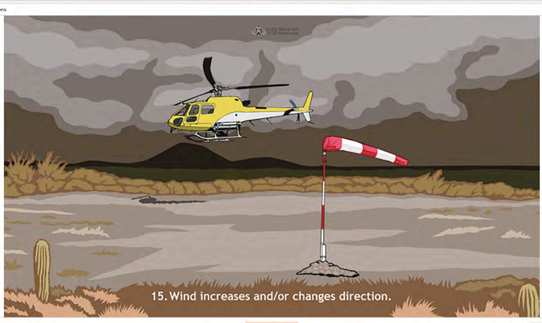
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC



PREV NEXT 16 / 18

LEARNING DASHBOARD

0:01 / 0:12

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform

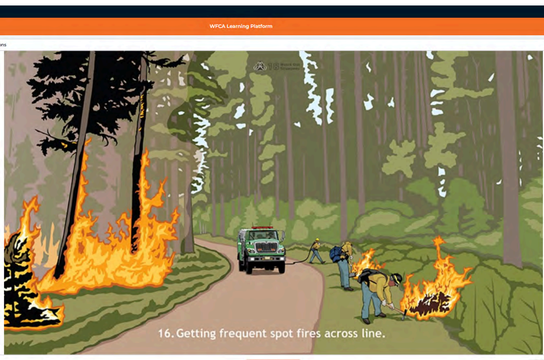
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC



PREV NEXT 17 / 18

LEARNING DASHBOARD

0:01 / 0:15

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 17 / 18

COMPLETE & CONTINUE

0:00 / 0:28

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

TEACH ONLINE WITH THINKIFIC

The 18 Watch Out Situations

PREV NEXT 18 / 18

COMPLETE & CONTINUE

0:01 / 0:06

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

Learning Review: Fire Safety

QUESTION 3 OF 11

A) Consider this scenario:

Choose the ONE most appropriate Watch Out that could apply to the person on the ground in this photo.

Choose ALL answers that apply.

- A Uninformed on strategy, tactics, and hazards.
- B Building fireguard downhill with fire below.
- C Getting frequent spot fires across line.

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

Learning Review: Fire Safety

QUESTION 4 OF 11

B) Consider this scenario:

"You are back at the staging area loading your bags with more seedlings when you smell smoke. You stand up to see a fire has ignited in a pile of boxes and has moved into the very dry slash. The rest of your crew is on the steep hill directly above the fire. What actions would you take? "

Choose ALL answers that apply.

- A Grab the fire extinguisher out of the truck and begin putting out the fire.
- B Grab a radio or someone with a radio to tell the crews to get off the hill side. Once you have communicated with your crew, grab the fire extinguisher.
- C Establish LACES and make sure everyone agrees with the decision.

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

Learning Review: Fire Safety

QUESTION 5 OF 11

The fire extinguisher ran out and you still have fire. What are your next steps?

Choose ALL answers that apply.

- A Loading your crew and leaving the site.
- B Use the fire fighting hand tools (shovel, Pulaski or McLeod) and begin digging guard around the edge of the fire, anchoring into the dirt landing you are staged at.

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

Learning Review: Fire Safety

QUESTION 6 OF 11

You have completed putting guard around the fire and putting it out with the backpack water pump. What is the next step you will take in carrying out fire control?

Choose ALL answers that apply.

- A Patrol the fire an ensure that it is cold and out.
- B Document the situation with notes, photos and video.
- C Follow your company's reporting procedures.

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
  - Staying Safe around Wildfires — TEXT
  - The 18 Watch Out Situations — PRESENTATION
  - Learning Review: Fire Safety — QUIZ · 11 QUESTIONS
- CONCLUSION 0/3

Learning Review: Fire Safety

QUESTION 7 OF 11

C) Consider this scenario:

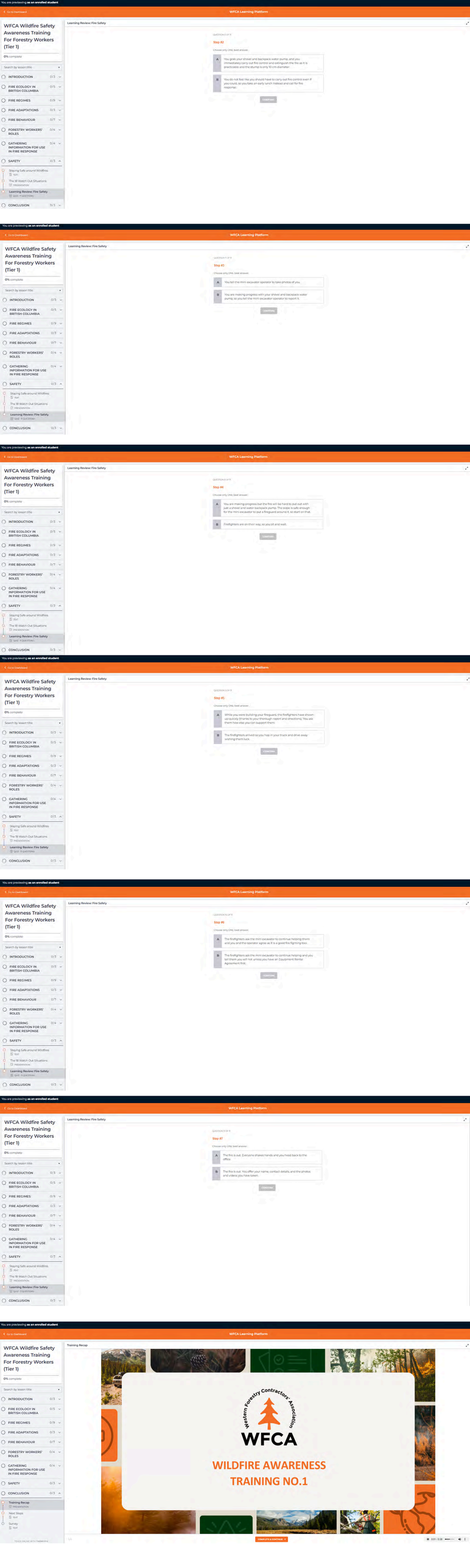
"You and the operator on an excavator are completing forest road rehabilitation. You are working along the top of a slash block and notice an old pile smouldering 200 m below you. It looks like it could be from a burn pile held over from a late winter burning. It is 1100 on a nice, breezy July late morning."

There are 7 steps that you need to take to address the situation. There are TWO choices for each of the 7 steps. Choose ONE option for each step, so that you have a complete 7-step plan.

Choose ALL answers that apply.

- A **Step#1:** You grab your shovel and start fire control.
- B **Step#1:** You establish LACES and ensure the operator of the mini ex is aware.

CONTINUE


You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 1 OF 9
Step #2
Choose only ONE best answer.
A
You grab your shovel and backpack water pump, and you immediately carry out fire control and extinguish the fire as it is practicalass and the stump is only 10 cm diameter.
B
You do not feel like you should have to carry out fire control even if you could, so you take an early lunch instead and call for fire response.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 2 OF 9
Step #3
Choose only ONE best answer.
A
You tell the mini excavator operator to take photos of you.
B
You are making progress with your shovel and backpack water pump, so you tell the mini excavator operator to report it.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 3 OF 9
Step #4
Choose only ONE best answer.
A
You are making progress but the fire will be hard to put out with just a shovel and water backpack pump. The sides is safe enough for the mini excavator to put a fireguard around it, so start on that.
B
Firefighters are on their way, so you sit and wait.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 4 OF 9
Step #5
Choose only ONE best answer.
A
While you were building your fireguard, the firefighters have shown up quickly (thanks to your thorough report and directions). You ask them how else you can support them.
B
The firefighters arrived so you hop in your truck and drive away wishing them luck.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 5 OF 9
Step #6
Choose only ONE best answer.
A
The firefighters ask the mini excavator to continue helping them and you and the operator agree as it is a good fire fighting tool.
B
The firefighters ask the mini excavator to continue helping and you tell them you will not unless you have an Equipment Rental Agreement first.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Learning Review: Fire Safety
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
Staying Safe around Wildfires
The 18 Watch Out Situations
Learning Review: Fire Safety
CONCLUSION 0/3
QUESTION 6 OF 9
Step #7
Choose only ONE best answer.
A
The fire is out. Everyone shakes hands and you head back to the office.
B
The fire is out. You offer your name, contact details, and the photos and videos you have taken.
CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Training Recap
WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)
0% complete
Search by lesson title
INTRODUCTION 0/3
FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
FIRE REGIMES 0/9
FIRE ADAPTATIONS 0/3
FIRE BEHAVIOUR 0/7
FORESTRY WORKERS' ROLES 0/4
GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
SAFETY 0/3
CONCLUSION 0/3
Training Recap
Next Steps
Survey
Western Forestry Contractors' Association
WFCA
WILDFIRE AWARENESS TRAINING NO.1
5/5
COMPLETE & CONTINUE
0:01 / 0:38

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3
  - Training Recap — PRESENTATION
  - Next Steps — TEXT
  - Survey — TEXT

TOUCH ENGINE WITH THEMATIC

Next Steps

KEEP LEARNING

If you are interested in learning more about wildland fire fighting and suppression begin with the following training:

S-100 Basic Fire Suppression and Safety.

"The most common fire training course in B.C. is the S-100, which is considered as basic fire suppression training for contract crews. The S-100 is required to work on a fire crew and is mandated by the Wildland Fire Management Branch of Fighting of B.C.' s Occupational Health and Safety Regulation. The intended audience for this course is forest industry workers and contract fire fighters. The S-100 is a five-day, 16 hour course with both a classroom and a field component."

Basic Fire Suppression and Safety

S-185 Fire Entrapment Avoidance

The S-185 is intended as a general knowledge course on wildfire safety and entrapment avoidance for local governments, contract crews, and First Nations.

Fire Entrapment Avoidance

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

WFCA Wildfire Safety Awareness Training For Forestry Workers (Tier 1)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- FIRE ECOLOGY IN BRITISH COLUMBIA 0/5
- FIRE REGIMES 0/9
- FIRE ADAPTATIONS 0/3
- FIRE BEHAVIOUR 0/7
- FORESTRY WORKERS' ROLES 0/4
- GATHERING INFORMATION FOR USE IN FIRE RESPONSE 0/4
- SAFETY 0/3
- CONCLUSION 0/3
  - Training Recap — PRESENTATION
  - Next Steps — TEXT
  - Survey — TEXT

TOUCH ENGINE WITH THEMATIC

Survey

SURVEY & FEEDBACK

Complete our survey for a chance to win $250 Amazon gift card.

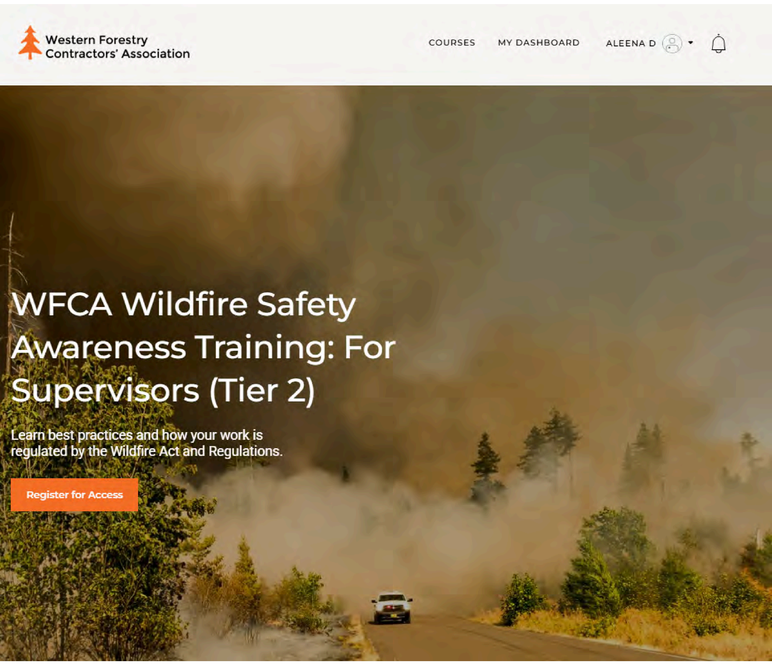
Thank you for completing the course. We want to get your feedback on the course and how we can improve it. We kindly request that you take a few moments to complete a brief survey regarding your experience taking the course. In appreciation for your participation in completing the survey, you will be entered into a quarterly draw for a $250 Amazon gift card.

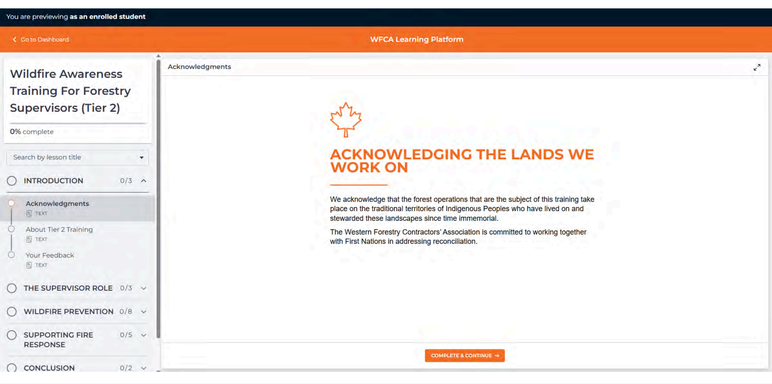
The survey should take less than 10 minutes of your time. Any information you provide will be kept confidential and reported only in a summarized form, alongside responses provided by others.

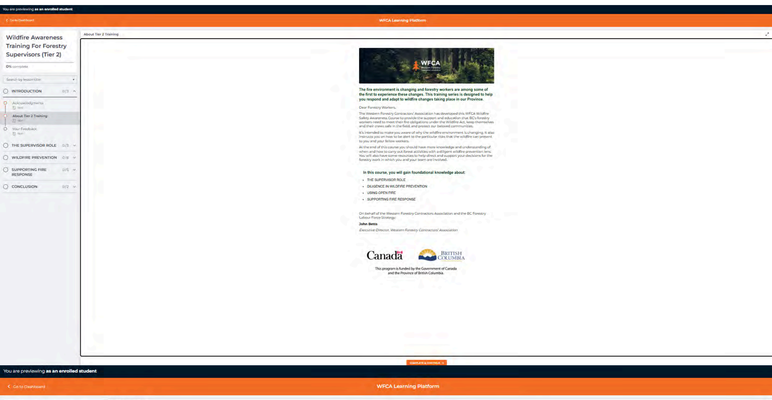
Click here to access the survey

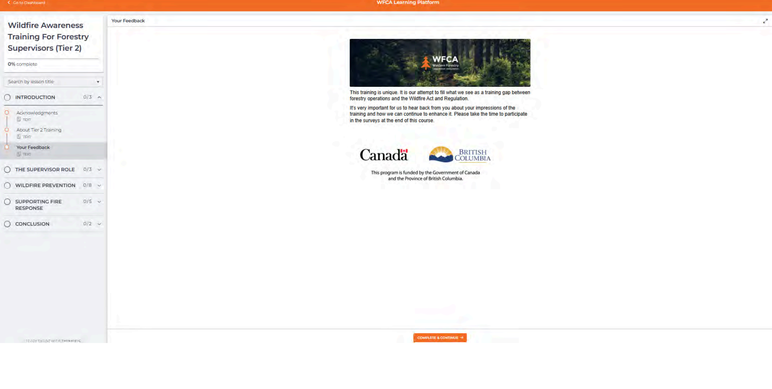
COMPLETE & CONTINUE →

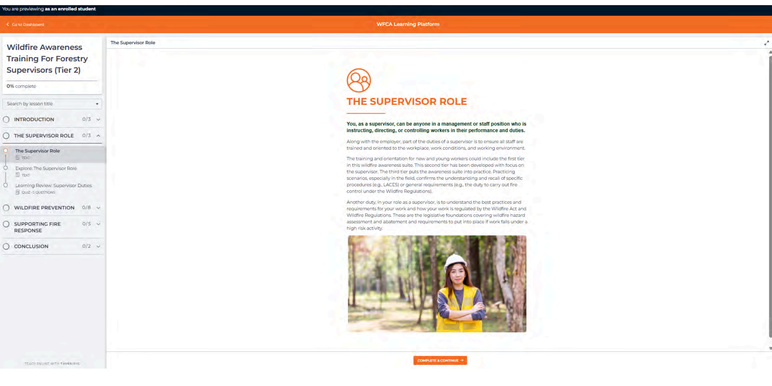
WFCA Wildfire Safety Awareness Training: For Supervisors (Tier 2)











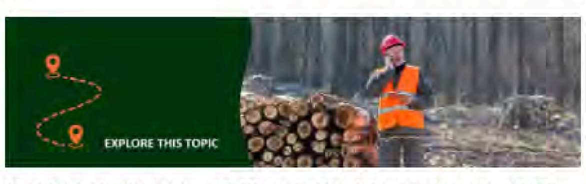
Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Explore: The Supervisor Role



The BC Forest Safety Council's "Describe Regulations and Standards" PDF

Download the BC Forest Safety Council (BCFSC) PDF to learn more about legislation related to General Forestry and OHS Regulations related to General Forestry.

Describe Regulations and Standards Related to General Forestry.pdf

Wildfire Prevention for Industry and Commercial Operators

View the Ministry of Forests website, and unpack their information on how wildfire prevention relates to the forestry industry and commercial operators.

Wildfire prevention for industry and commercial operators

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Learning Review: Supervisor Duties

QUESTION 1 OF 5

Based on the guidance documents from BC Forest Safety Council and the Ministry of Forests, exercising all reasonable care commensurate with the fire hazard is referred to as:

Choose only ONE best answer.

- A Ignoring hazards
- B Due Diligence

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Learning Review: Supervisor Duties

QUESTION 2 OF 5

_____________ is used by a person carrying out industrial activities to assess the risk of a fire caused by each activity, the potential fire behaviour at the site of the industrial activity at the times when fire starts are most likely, the expected response times, and the likely consequences should a wildfire occur.

Choose only ONE best answer.

- A Ignorance
- B Caulk boots
- C Professional reliance

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Learning Review: Supervisor Duties

QUESTION 3 OF 5

You have considered and mitigated the circumstances and conditions, including the fire hazard and the ability to respond (suppression), have taken reasonable steps to extinguish or control the fire to limit fire spread and damage until additional resources have arrived or you are relieved by an official. This is referred to as:

Choose only ONE best answer.

- A "Adequate" and "Sufficient"
- B "Getting it done"
- C "Rising to the occasion"

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Learning Review: Supervisor Duties

QUESTION 4 OF 5

If there is no written agreement identifying the prime contractor then the owner of the worksite is the prime contractor and like the prime contractor, the owner will have overall responsibility for health and safety on a worksite. Employers still retain responsibility for the health and safety of their own workers.

Choose only ONE best answer.

- A True
- B False

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
  - The Supervisor Role — TEXT
  - Explore: The Supervisor Role — TEXT
  - Learning Review: Supervisor Duties — QUIZ · 5 QUESTIONS
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Learning Review: Supervisor Duties

QUESTION 5 OF 5

Interpretation, fire prevention, fire control, permissible open fires, exemptions, and cost recoveries and remedies are the six parts of the:

Choose only ONE best answer.

- A Wildfire Act
- B Wildfire Regulations
- C WorkSafe BC Wildfire Guidelines

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — TEXT
  - Danger Class and the Most Representative Weather Station — TEXT
  - Who Makes a Good Fire Watcher? — TEXT
  - In the Event of an Emergency — TEXT
  - Duty to Report — TEXT
  - Using Open Fire — TEXT
  - Explore Wildfire Prevention — TEXT
  - Learning Review: Wildfire Prevention — QUIZ · 8 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Wildfire Prevention

WILDFIRE PREVENTION

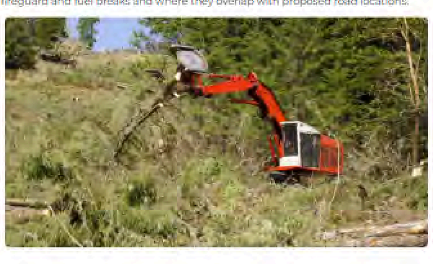
Forestry workers should confirm if their activities fall under "industrial activities" in the Wildfire Regulations and then follow the prevention measures to prevent a fire from igniting as a consequence from that activity.

Industrial activity in forest management includes:

- Land clearing.
- Operating equipment or machinery during road construction, maintenance and deactivation, timber harvesting, log sorting, mechanical modification of forest debris, debris piling, silviculture treatments, or portable wood chipping, milling, processing or manufacturing.
- High-risk activities: mechanical brushing, disk trenching, explosives (use or preparation), using fire- or spark-producing tools (e.g., chain saws, brush saws, other cutting tools), mechanical land clearing and clearing rights of way (includes mowing grass).
- High-risk activities carried out in a cutblock (excludes a road, landing, roadside work area or log sort area in a cutblock): operating a power, mechanical tree felling, woody debris piling or tree processing, including de-limbing, welding; portable wood chipping, milling, processing or manufacturing, skidding logs or log forwarding unless it is improbable that the skidding or forwarding will result in the equipment contacting rock, yarding logs using cable system.

If a fire starts, fire control must be carried out and the fire immediately reported. Depending on the location in relation to the fire and the land holder, you may need to make workers, fire suppression systems (like water tenders) and heavy equipment available to fight fire. Each one of your workers will have their own fire fighting hand tool.

Once fire control is completed, rehabilitation must be also completed. This includes conducting a fire hazard assessment and preparing a site rehabilitation plan which will address minimizing the fire hazard and surface soil erosion. If the government carries out fire control, you will not have to do this, but you can offer to support them and the development of their plan, e.g., you could review locations of fireguard and fuel breaks and where they overlap with proposed road locations.



COMPLETE & CONTINUE →

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 1/1
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/4
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Graded · 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/3

CLOUD VALLEY INTERACTIVE

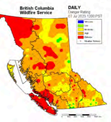
DANGER CLASS & WEATHER STATIONS

If you are involved with high risk activities on or within 300 m of forest or grassland, you may be required to determine the Fire Danger Class for the location of that activity.

This requirement only applies between March 1 and November 1 (unless the area is covered in snow). The Ministry of Forests website provides links to their weather stations, the Danger Class rating, and the information for managing your industry activities (eg., when to hang a fire watcher in place and for how long).

When determining the Danger Class for your worksite, the most representative weather station is the one that is: closest to the worksite, at a similar elevation, and closest/upwind (eg. at the same elevation, valley orientation, aspect, and weather influences (bush, treeless and topography).

Then the location of the weather station's representative of it is in similar fuels, exposed to similar weather, and on similar topography as your work location. You may use a weather station that is not the closest to your worksite, but in this circumstance always rationalize your choices including taking your site weather readings (temperature, relative humidity, wind velocity and conduct a fire to weather stations.



CONTINUE & CONTINUE →

THE FIRE WATCHER

The fire watcher should be someone trained with proven understanding of the role.

They need to be able to see the activity and patrol and watch for smoke. They need to have at least one fire-fighting hand tool and access to any available fire suppression systems. The fire watcher also needs to carry out fire control and extinguish the fire, if practicable. Finally, they need know how to report fires.

COMPLETE & CONTINUE →

EMERGENCY PLANNING

Work site safety plans, field safety plans and check-in plans should incorporate the actions that will take place in the event of a wildfire.

Does your team know their escape routes and safety zones? Do you have contacts with the appropriate resources to gather more information, e.g., the local fire zone or fire department? Are there designated persons at camps who will lead in the event of a wildfire evacuation?

COMPLETE & CONTINUE →

DUTY TO REPORT

If anyone observes an unattended open fire while involved in any industrial activities, or while serving as a fire watcher, or engaged in fire control in a forest or grassland within one kilometer of such areas, then you must report the fire immediately or as soon as practicable.

Tier 1 of the WFCA Wildfire Awareness Training walks through the Initial Fire Report which lists the best information to relay. For detailed guidance on making a fire report, refer back to this module.

At a minimum, providing coordinates and access is extremely useful to fire responses. If it is safe to do so, remain in a place where you can observe the fire and gather useful information and documentation.

COMPLETE & CONTINUE →

USING OPEN FIRE

Burning piles is an effective way of removing fuel in hazard fuel reduction projects and a solution to meeting hazard abatement requirements.

There are some details you need to check if you choose to use open fire for pile burning. Some of the rules are from the Wildfire Regulation, and some are from your team. Unless a solid fuel Part 4 of the Wildfire Regulations and mostly depends on the Category of fire being used.

This list will help ensure you have checked all the requirements:

- You know the Category of your fire (Wildfire Regulations Definitions).
- You have the required fire fighting hand tools.
- You have the required amount of water available.
- You have a way to ignite the fire.
- You checked the smoking rules.
- You established and will maintain a fuel break or mineral break.
- You have the appropriate number of fire fighters on hand.
- You have the appropriate number of fire suppression systems on site during burning.
- You have an adequate fire suppression system available at the burn area.
- You have the required number of workers who are trained to operate the equipment on site for timely action to prevent any fire from spreading beyond the fuel break.
- You have the required number of heavy equipment available for fire control.
- You have the required number of workers who are each equipped with at least one fire-fighting hand tool available for fire control.
- You have the required fire suppression systems available for fire control.
- You submitted a burn plan to an office in advance.
- You obtained a burn registration number.

COMPLETE & CONTINUE →

Explore the Ministry of Forests' weather and fire danger ratings website.

Use the link below to access the BC Ministry of Forests Weather and Fire Danger Ratings website

>> Weather and fire danger ratings

Download the WorkSafe BC Wildfire Evacuation Planning PDF

If you needed to evacuate your crew, would you be ready? Here are some things to consider when incorporating wildfire evacuations into your Emergency Response Plan at remote locations.

WorkSafe BC Wildfire Evacuation Planning.pdf ⇩

Download the WRR Pile Construction and Burning Guidance (2022) Ministry of Forests

Wildfire Risk Reduction Pile Construction and Burning Guidance. This document contains material to assist a person in determining their pre-burn and implementation requirements. This is intended as a guidance document. Users must refer to the Wildfire Act, Regulations, and Open Burning Smoke Control Regulation (OBSCR) for further detailed language in relation to their statutory obligations.

WRR Pile Construction and Burning Guidance.pdf ⇩

COMPLETE & CONTINUE →

QUESTION 1 OF 10

Check the three high risk activities:

Choose ALL answers that apply.

- A — Using an explosive to move a small rock feature
- B — Tree planting
- C — Cable yarding
- D — Timber cruising
- E — Block layout
- F — Limbing trees in a hazard fuel reduction project

SUBMIT

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

© 2020 Only LMS. All Rights Reserved.

Learning Review: Wildfire Prevention

QUESTION 2 OF 10

Check the four high risk activities:

Choose ALL answers that apply.

- A Fire fighting using hand tools
- B Helicopter on standby
- C Operating a chainsaw
- D Acting as a fire watcher
- E Operating an ATV off road

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

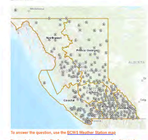
0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 3 OF 10



To answer this question, use the BCWS Weather Station Atlas

You are helping with a FireSmart program which includes brushing and pruning around the Lower Post, Liard Hotsprings and Fort Nelson RCMP detachments. You know that the Liard and Smart Lake weather stations are down but you still have three other choices.

Which weather station is the most representative?

Choose ALL answers that apply.

- A Dawn Lake station.
- B Mclean Lake station. It is the farthest, but it is also on an east aspect, situation is N/E and the fuel and topography in the area are similar. My workdays and the weather are in similar a similar valley with the same aspect and fuel types which means we are more likely to experience similar weather.
- C Young Lake station. It is the wounld closest with an elevation of 1710 and it is at the location (five my work site. It is on a north aspect so this station may experience cooler and more humid weather than my worksite.

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 4 OF 10

Use the Wildfire Regulations to answer the following question: at what Fire Danger Class level is a fire watcher required?

Choose ALL answers that apply.

- A Low
- B Moderate
- C High

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 5 OF 10

Use the Wildfire Regulations to answer the following question: after three consecutive days in Danger Class V (extreme) a fire watcher...

Choose ALL answers that apply.

- A Is not maintained as activity must cease all day.
- B Must be on site after high risk activity ends for a minimum of two hours.
- C Must be on site after high risk activity ends for a minimum of one hour.

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 6 OF 10

Use the Wildfire Regulations to answer the following question: Which of these statements is false in connection with the duties of a fire watcher?

Choose ALL answers that apply.

- A They cannot carry out any other duties unrelated to being the fire watcher
- B They must have at least one fire fighting hand tool and access to a fire suppression system.
- C They should not carry out fire control and extinguish the fire, if practicable, but only report it.

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 7 OF 10

Preparing for emergencies is an important part of your workplace health and safety program and is a legal requirement throughout British Columbia.

Choose ALL answers that apply.

- A True
- B False

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — QUIZ, 10 QUESTIONS
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

Learning Review: Wildfire Prevention

QUESTION 8 OF 10

Using the Wildfire Act and Regulations or the guidance documents already covered, answer the following question:

a person who sees an open fire burning unattended or uncontrolled in forest or grass land or within _____ km of forest land or grass land, must immediately report the fire (see Wildfire Act for exceptions).

Choose ALL answers that apply.

- A 1
- B 2
- C Any

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Wildfire Prevention

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Quiz, 10 questions
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

QUESTION 10 OF 10

Using the Wildfire Act and Regulations or the guidance documents already covered, answer the following question:

You must report the fire to:

Choose ALL answers that apply.

A. An official employed with the ministry, a peace officer, or by calling your supervisor.

B. An official employed with the ministry, a peace officer, or by calling a fire emergency response telephone number.

C. An employed with the ministry, a peace officer, or by calling a fire emergency response telephone number.

Overview

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Wildfire Prevention

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Quiz, 10 questions
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

QUESTION 9 OF 10

Use the Wildfire Regulations and the WRR Pile Construction and Burning Guidance PDF to answer the following question:

Material in one pile not exceeding 2 m in height and 3 m in width is a:

Choose ALL answers that apply.

A. Category 2 fire

B. Category 3 fire

C. Category 4 fire

Overview

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Wildfire Prevention

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Quiz, 10 questions
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

QUESTION 8 OF 10

Use the Wildfire Regulations and the WRR Pile Construction and Burning Guidance PDF to answer the following question:

"A burn registration number is required for a Category 2 fire."

Choose ALL answers that apply.

A. True

B. False

Overview

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Wildfire Prevention

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Quiz, 10 questions
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

QUESTION 10 OF 10

Use the Wildfire Regulations and the WRR Pile Construction and Burning Guidance PDF to answer the following question:

If you are working in an industrial activity and are required to carry out fire control in respect to a _____ fire, you must make available at least the greater of, two pieces of heavy equipment, two fire suppression systems and eleven workers who are each equipped with at least one fire fighting hand tool.

Choose ALL answers that apply.

A. Category 2

B. Category 3

C. Category 4

Overview

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Learning Review: Wildfire Prevention

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
  - Wildfire Prevention — Text
  - Danger Class and the Most Representative Weather Station — Text
  - Who Makes a Good Fire Watcher? — Text
  - In the Event of an Emergency — Text
  - Duty to Report — Text
  - Using Open Fire — Text
  - Explore Wildfire Prevention — Text
  - Learning Review: Wildfire Prevention — Quiz, 10 questions
- SUPPORTING FIRE RESPONSE 0/5
- CONCLUSION 0/2

QUESTION 9 OF 10

Use the Wildfire Regulations and the WRR Pile Construction and Burning Guidance PDF to answer the following question:

"All Category 1, 2, 3 and 4 fires require a fuel break or multiple fuel breaks."

Choose ALL answers that apply.

A. True

B. False

Overview

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Supporting Wildfire Response

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
  - Supporting Wildfire Response — Text
  - Key Support Roles — Presentation
  - Explore Key Support Roles — Text
  - The Chain of Command — Text
  - Learning Review: Incident Management Team — Quiz, 5 questions
- CONCLUSION 0/2

SUPPORT WILDFIRE RESPONSE

Presentation, 5 slides

Beyond the information that is laid out in the Initial Fire Report, forestry workers and representatives to the local forest industry may be called upon to help in an expanded attack and work with Incident Management Teams (IMT).

You may be deployed as a single resource by the IMT, e.g., logistics unit leader, heavy equipment boss, fire locator for heavy equipment to build guard, Danger Tree Faller, etc. You may also be working for a licensee holder, a community forest, or First Nation community who can provide support and information for the response team.

If you are working for an IMT you should obtain a daily briefing, have current operational maps, understand the daily division assignment objectives, use the Incident Action Plan (or have the reporting supervisor briefing on it), know your lookouts, anchor points, communications (including check-in procedures), escape routes and safety zones if applicable and finally, participate in a debrief.

CONNECTED & CONFIDENT

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Key Support Roles

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
  - Supporting Wildfire Response — Text
  - Key Support Roles — Presentation
  - Explore Key Support Roles — Text
  - The Chain of Command — Text
  - Learning Review: Incident Management Team — Quiz, 5 questions
- CONCLUSION 0/2

KEY ROLES

In times of heightened wildfire activity forestry workers and reps from the local forest industry play crucial roles in supporting wildfire response efforts.

Beyond the initial fire report, these individuals may be called to contribute their expertise and resources to combat wildfires effectively.

PREV NEXT 1 / 4

CONNECTED & CONFIDENT

0:00 / 0:18

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

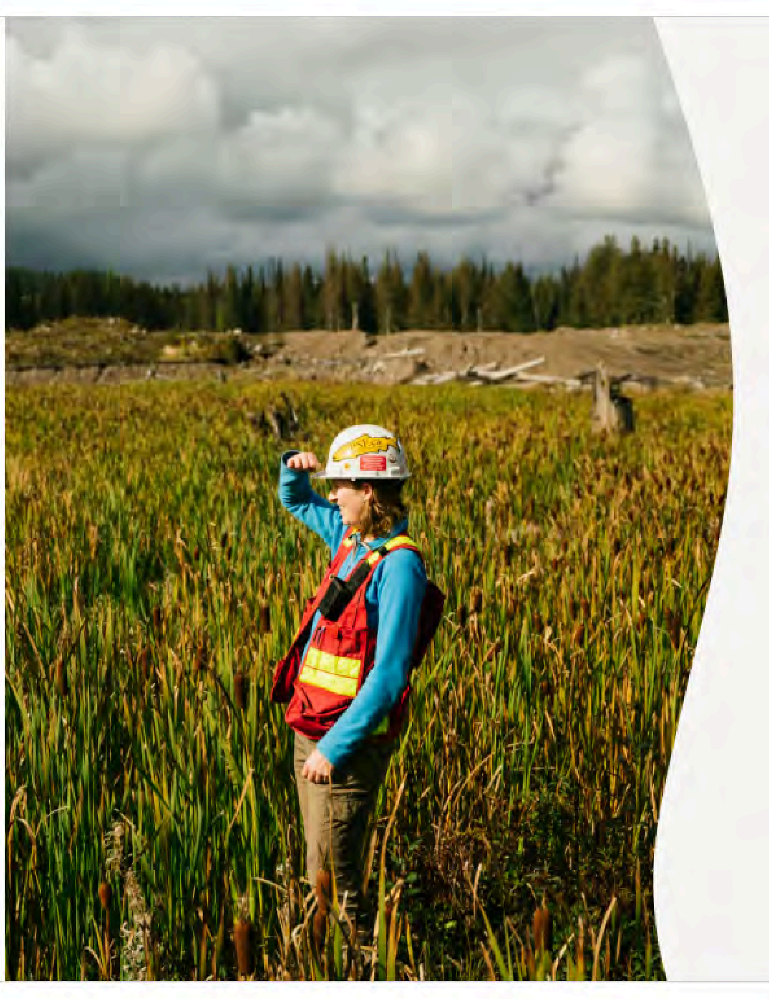
0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/8
- SUPPORTING FIRE RESPONSE 0/5
  - Supporting Wildfire Response — TEXT
  - Key Support Roles — PRESENTATION
  - Explore: Key Support Roles — TEXT
  - The Chain of Command — PDF
  - Learning Review: Incident Management Team — QUIZ · 6 QUESTIONS
- CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Key Support Roles



Liaison Officer

A Liaison Officer (LOFR) is someone who takes the lead and is the point of contact for assisting and cooperating with the IMT on behalf of their company or multiple companies, community, or agency.

PREV NEXT 2/4 COMPLETE & CONTINUE → 0:01 / 0:24

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Key Support Roles

Agency Representative

An Agency Representative (AREP) is someone who facilitates coordinates, cooperates, and has dialogue between the Incident Management Team (IMT) and their agency.

For example, if most of your heavy equipment has been pulled into fire response or all your workers, then you may lead the group as the Agency Rep.

PREV NEXT 3/4 COMPLETE & CONTINUE → 0:02 / 0:23

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Key Support Roles

Heavy Equipment Boss, Equipment Group Supervisor and Equipment Branch Director

The Heavy Equipment Boss (or Heavy Equipment Group Supervisor) is filled by someone who has a lot of experience working with various pieces of heavy equipment.

They have the knowledge of their capabilities, limitations, and safety.

PREV NEXT 4/4 COMPLETE & CONTINUE → 0:01 / 0:22

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

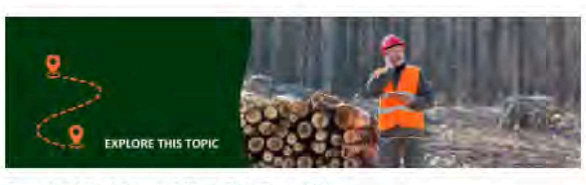
0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

TEACH ONLINE WITH THINKIFIC

Explore: Key Support Roles



Download the Liaison Officer Role Description

A Liaison Officer (LOFR) is assigned by the IMT to act as a point of contact to assist and cooperate with a company or multiple companies, community, or agency.

Liaison Officer.pdf

Download the Agency Representative Role Description

An Agency Representative (AREP) is someone who facilitates coordinates, cooperates, and has dialogue between the Incident Management Team (IMT) and their agency. For example, if most of your heavy equipment has been pulled into fire response or all your workers, then you may lead the group as the Agency Rep.

Agency Rep.pdf

Download the Heavy Equipment Boss / Equipment Group Supervisor / Equipment Branch Director Role Description

The Heavy Equipment Boss (or Heavy Equipment Group Supervisor) is filled by someone who has much experience working with various pieces of heavy equipment. They have the knowledge of their capabilities, limitations, and safety.

Heavy Equipment Boss.pdf

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

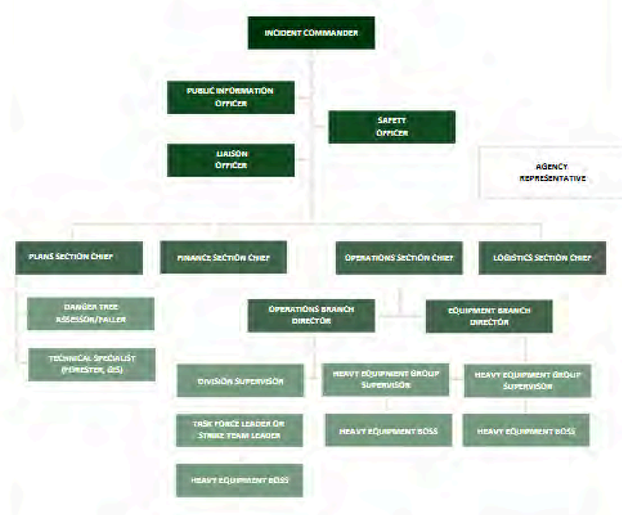
TEACH ONLINE WITH THINKIFIC

The Chain of Command

1 of 1 — 50%

Incident Organization Chart

Illustration of possible equipment section chain of command



COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

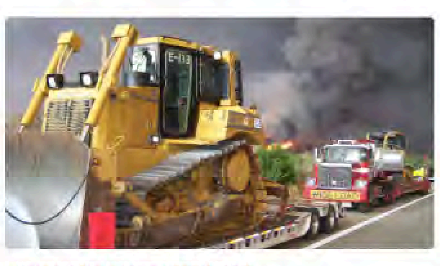
0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

Learning Review: Incident Management Team

QUESTION 1 OF 6



1. Download the: Incident Action Plan.pdf

Incident Action Plans (IAPs) are used to provide information on tactics, resources, contacts, weather and fire behaviour for the operational period and assignments. It is good to practice navigating IAPs ahead of being required to use one.

2. Consider this scenario:

"You are an employee of Forest Bros. Ltd. and you see an unattended fire near a group of cut blocks where you are ribboning out forest road and doing road construction. Along with the equipment pushing in road, there are also a few pieces of heavy equipment contracted to Forest Bros. Ltd heavy in the area that are starting harvesting.

You were able to report the fire with useful information found in the IFR which you keep in your truck. Initial attack resources were quickly dispatched. Winds picked up and the weather got hotter and drier that afternoon. The fire took a large run across a dried slash block into some standing timber.

It is now two days later and Day 1 for you filling your role as the Heavy Equipment Boss (HEQB). You were the best person; you know the area, you know the roads, you work with some of the operators, and you understand the equipment. You are handed an Incident Action Plan with a map and are told that you have been assigned to Division Alpha and required to attend the morning operations briefing at 0600.

If you haven't seen an Incident Action Plan or have but you need more practice finding information in the various forms, this is the exercise for you."

Using this standard Incident Action Plan, answer the following question: in this scenario, who are you reporting to?

Choose only ONE best answer.

- A. Joe Shmoe, the Helicopter Coordinator (HLCO)
- B. Pat Patterson, the Branch Director
- C. Fanny Fall, the Operations Section Chief

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

INTRODUCTION 0/3 · THE SUPERVISOR ROLE 0/3 · WILDFIRE PREVENTION 0/8 · SUPPORTING FIRE RESPONSE 0/5 · Supporting Wildfire Response TEXT · Key Support Roles PRESENTATION · Explore: Key Support Roles TEXT · The Chain of Command PDF · Learning Review: Incident Management Team QUIZ · 6 QUESTIONS · CONCLUSION 0/2

Learning Review: Incident Management Team

QUESTION 2 OF 6

How many pieces of heavy equipment are you supervising?

Choose only ONE best answer.

- A. 7
- B. 12
- C. 5

CONFIRM

Wildfire Awareness Training For Forestry Supervisors (Tier 2)

0% complete

Search by lesson title

- INTRODUCTION 0/3
- THE SUPERVISOR ROLE 0/3
- WILDFIRE PREVENTION 0/6
- SUPPORTING FIRE RESPONSE 0/5
  - Supporting Wildfire Response — Text
  - Key Support Roles — Interactive
  - Explore: Key Support Roles — Text
  - The Chain of Command — PDF
  - Learning Review: Incident Management Team — Quiz · 5 questions
- CONCLUSION 0/2

Learning Review: Incident Management Team

QUESTION 3 OF 5

What hazards do you need watch out for?

Choose only ONE, best answer:

A Power lines, wild horses, low flying helicopters

B Radio dead zones, long line and bucketing, powerlines

C Slope, air tankers, snakes

CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Supervisors (Tier 2)
0% complete
Search by lesson title
INTRODUCTION 0/3
THE SUPERVISOR ROLE 0/3
WILDFIRE PREVENTION 0/6
SUPPORTING FIRE RESPONSE 0/5
Supporting Wildfire Response — Text
Key Support Roles — Interactive
Explore: Key Support Roles — Text
The Chain of Command — PDF
Learning Review: Incident Management Team — Quiz · 5 questions
CONCLUSION 0/2
Learning Review: Incident Management Team

QUESTION 4 OF 5

Longpoints zone fuel types will see running crown fire between 1100 and 2000 with very high intensity (over 10,000 KW/m, very long flame lengths). When intensities are this high, this is called _____ in the Fire Behaviour Forecast.

Choose only ONE, best answer:

A An intermittent crown fire

B A fire weather summary

C An Extreme Fire Behaviour Warning

CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Supervisors (Tier 2)
0% complete
Search by lesson title
INTRODUCTION 0/3
THE SUPERVISOR ROLE 0/3
WILDFIRE PREVENTION 0/6
SUPPORTING FIRE RESPONSE 0/5
Supporting Wildfire Response — Text
Key Support Roles — Interactive
Explore: Key Support Roles — Text
The Chain of Command — PDF
Learning Review: Incident Management Team — Quiz · 5 questions
CONCLUSION 0/2
Learning Review: Incident Management Team

QUESTION 5 OF 5

If there was a medical emergency, who do contact over the radio for medic response?

Choose only ONE, best answer:

A Red 300

B NFO 9

C 123 ILCO

CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Supervisors (Tier 2)
0% complete
Search by lesson title
INTRODUCTION 0/3
THE SUPERVISOR ROLE 0/3
WILDFIRE PREVENTION 0/6
SUPPORTING FIRE RESPONSE 0/5
Supporting Wildfire Response — Text
Key Support Roles — Interactive
Explore: Key Support Roles — Text
The Chain of Command — PDF
Learning Review: Incident Management Team — Quiz · 5 questions
CONCLUSION 0/2
Learning Review: Incident Management Team

QUESTION 6 OF 5

What channel will you use to communicate with your equipment operators?

Choose only ONE, best answer:

A Silver

B 98-LO 2

C A2 75

CONFIRM

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Supervisors (Tier 2)
0% complete
Search by lesson title
INTRODUCTION 0/3
THE SUPERVISOR ROLE 0/3
WILDFIRE PREVENTION 0/6
SUPPORTING FIRE RESPONSE 0/5
CONCLUSION 0/2
Training Recap — Interactive
Survey — Text

Training Recap

1/3

COMPLETE & CONTINUE →

0:00 / 0:24

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Supervisors (Tier 2)
0% complete
Search by lesson title
INTRODUCTION 0/3
THE SUPERVISOR ROLE 0/3
WILDFIRE PREVENTION 0/6
SUPPORTING FIRE RESPONSE 0/5
CONCLUSION 0/2
Training Recap — Interactive
Survey — Text

Survey

SURVEY & FEEDBACK

Complete our survey for a chance to win $250 Amazon gift card.

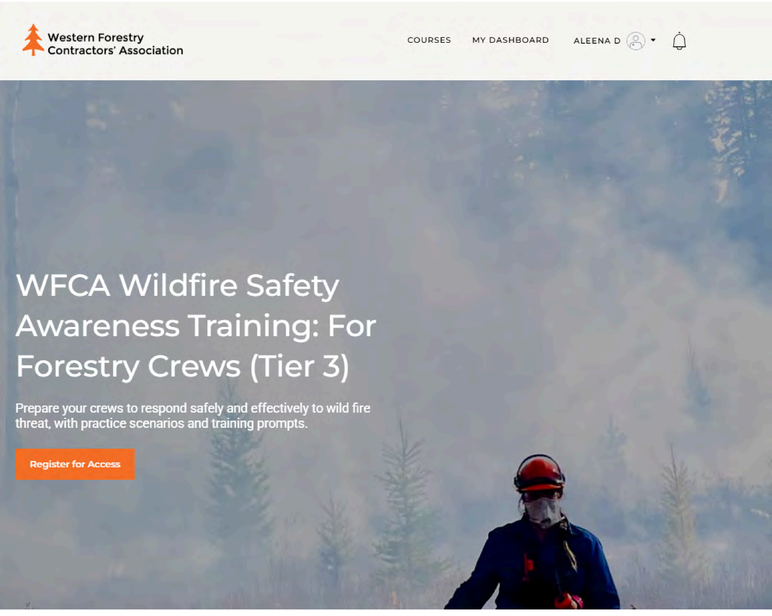
Thank you for completing the course. We want to get your feedback on the course and how we can improve it. We kindly request that you take a few moments to complete a brief survey regarding your experience taking the course as a gesture of our appreciation, upon completion of the survey you will be entered into a quarterly draw for a $250 Amazon gift card.

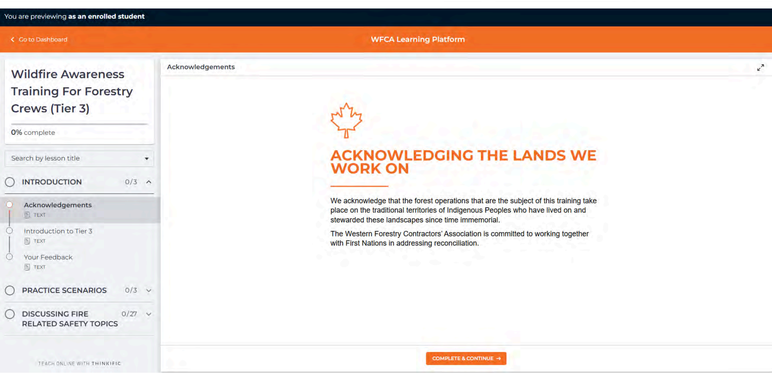
The survey should take less than 10 minutes of your time. Any information you provide will be kept confidential and reported only in a summarized form, alongside responses provided by others.

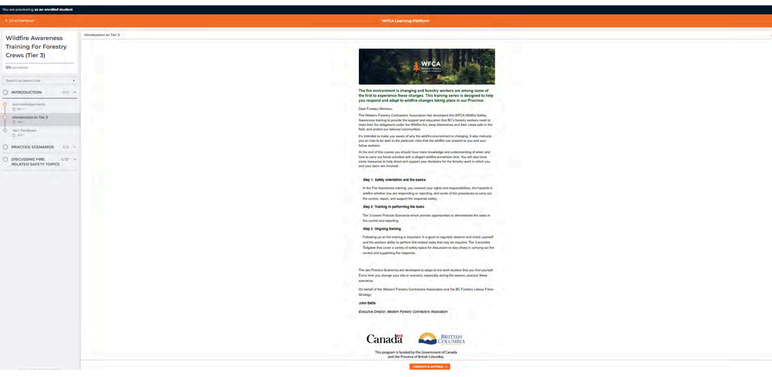
↗ Click here to access the survey

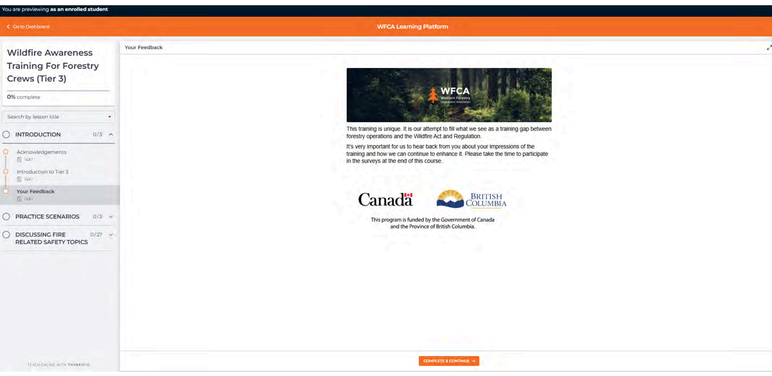
COMPLETE & CONTINUE →

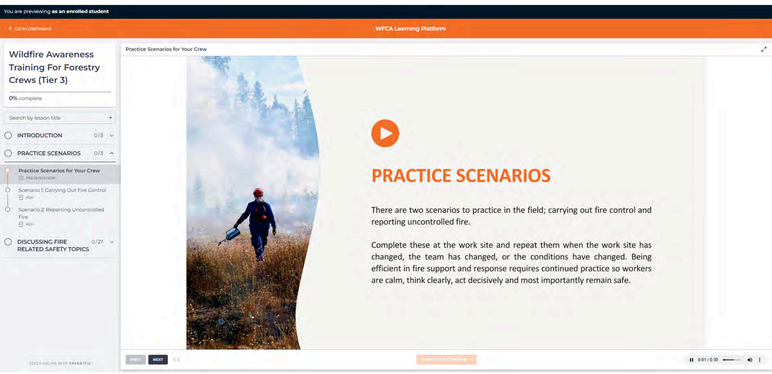
Wildfire Awareness Training For Forestry Crews (Tier 3)











Practice Scenarios for Your Crew

CARRYING OUT FIRE CONTROL

A safety zone is a location where a threatened firefighter can find adequate refuge from an approaching fire. After completing this exercise, workers should be efficient in carrying out fire control and keep themselves safe with the 5 steps in the LACES acronym: Lookouts, Anchor Points, Communications, Escape Routes, and Safety Zones.

1. Choose a situation relevant to your work (e.g., planter boxes catch fire, stump hold over in cut block, unattended campfire escape, ATV causes grass fire, debris pile at landing starts to smoke, etc.)

2. Mark an area that will represent the fire (with paint, flagging) and practice carrying out fire control.

You should cover:

- Notifying the people around you for awareness and support
- LACES
- Mobilizing the hand tools, fire suppression systems, heavy equipment
- Practicing anchoring and carrying out fire control
- Extinguishment
- Reporting
- Debriefing

PREV NEXT 2/3 0:01 / 0:59

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete
Search by lesson title
INTRODUCTION 0/3
PRACTICE SCENARIOS 0/3
Practice Scenarios for Your Crew
PRESENTATION
Scenario 1: Carrying Out Fire Control
PDF
Scenario 2: Reporting Uncontrolled Fire
PDF
DISCUSSING FIRE RELATED SAFETY TOPICS 0/27
TEACH ONLINE WITH THINKIFIC
Practice Scenarios for Your Crew

REPORTING UNCONTROLLED FIRE

Workers should be able to prove safety (LACES) and deliver information in the Initial Fire Report based on the location of this exercise.

It is May and you are driving by a fuels management block where piles were burned at the end of March when snow was still on the ground. The drought code was in the 300s and has not decreased since then.

One pile had a few stumps where the roots were burning (ground fire) and it went unnoticed. Now the area is snow free and the fire is noticeable.

This fire is already a quarter hectare in size and beyond your resources.

How would you respond and what would you report?

PREV NEXT 3/3 COMPLETE & CONTINUE → 0:01 / 0:49

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete

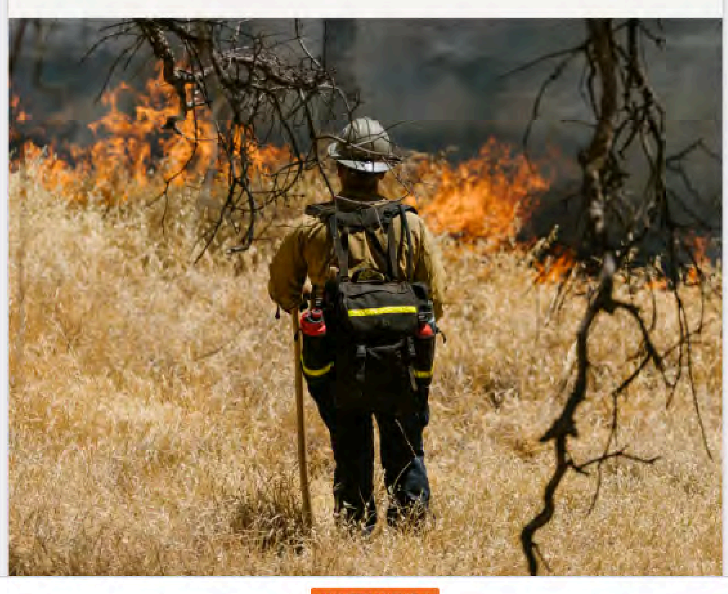
Scenario 1: Carrying Out Fire Control

1 of 13 70%

WILDFIRE AWARENESS
TRAINING NO. 3

WFCA

PRACTICE SCENARIOS



COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Scenario 1: Carrying Out Fire Control

SCENARIO 1:
Carrying Out Fire Control

Choose a situation relevant to your work, e.g., planter boxes catch fire, stump holdover in a cut block, unattended campfire escape, ATV causes a grass fire, debris pile at a landing starts to smoke, etc.

Use paint of flagging to mark an area that will represent the fire and practice carrying out fire control. You will cover:

- LACES
- Mobilizing the hand tools, fire suppression systems, heavy equipment
- Practicing anchoring and carrying out fire control
- Extinguishment
- Reporting
- After action review

For this scenario, practice by walking through the steps.

Describe LACES

Explore your fire fighting hand tools

Practice communication

What are the Watch Outs for your location?

After action review

WORKERS SHOULD BE ABLE TO PROVE SAFETY (LACES) AND BE EFFICIENT IN CARRYING OUT FIRE CONTROL

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Scenario 1: Carrying Out Fire Control

STEP 1
LACES

The most important factors any person directly or indirectly involved with fire control is to maintain a lookout, tie into an anchor point when building a fireguard or fuel break, know where the safety zones are located to protect you from being burned over, and know the escape routes to get you to those safety zones. These all need to be communicated and understood. Lookouts, anchor points, communications, escape routes, and safety zones are referred to as LACES.

LOOKOUTS

Lookouts are often best situated to notice changes of fire behaviour. Post lookouts when there is possible danger.
- Discuss why you believe a lookout should be always posted.

What are you looking for when you are selecting a lookout location?
- Choose a good vantage point, preferably with a good overview of the entire area where the people carrying out fire control or firefighting are located, including escape routes and safety zones.
- Never rely exclusively on aircraft as your lookout.

What are the desired qualities, capabilities, knowledge, and responsibilities of a lookout?
- Experienced.
- Solid knowledge of fire behaviour and the ability to recognize and monitor other environmental hazards.
- Knowledge of fire resource locations, escape and safety locations, and trigger points.
- Good communicator.
- Knowledge of weather patterns, and signs of incoming weather changes.
- Advises the fire resources of fire behaviour changes, and tracks weather trends and relays the information.
- Monitors and accounts for all individuals within the assigned area always, and notifies others if breaks are needed.

You may not have anyone who is willing or can be a lookout. Choose the person who will give you good notice if the fire changes direction, starts spotting or the winds start increasing or changing direction. They need to be able to see you and the fire. If you are not comfortable with any of this, do not proceed and document your decision. Responder safety is first!

What is the necessary equipment for a lookout?
- Personal protective equipment (PPE), radio with extra batteries, compass, binoculars, weather aids, the plan (like an Incident Action Plan or Field Safety Plan), map, food, water, and watch.

Western Forestry Contractors' Association

You are previewing as an enrolled student
WFCA Learning Platform
Scenario 1: Carrying Out Fire Control

STEP 1
LACES *(CONTINUED)*

ANCHOR POINT

When deciding where to build fire guard or a fuel break some considerations must be weighed.

An anchor point is an advantageous location, usually a barrier to fire spread, from which to begin constructing a fireguard. This is an important concept to understand, that without any natural or human made guard around the fire, it will find a way to spread where fuel allows it.

Anchor points can be rocks, roads, water, well burned area (will not burn again aka "the black"). It is something that fire cannot not burn through. An anchor point should be one of the first things to establish when carrying out fire control.

- *Can you develop your starting point into an anchor point?* List some effective anchor points around you, e.g., rock, a dirt path, a stream, a road. Describe how you would develop your starting point into an anchor point.
- *Can you hold the guard or break so fire does not cross over it?* How do you do so and ensure your safety if there is a danger of the fire hooking under/around you?
- *To reduce risk, evaluate several locations before deciding.* Talk about fires where you have had to relocate the fire guard or fuel break because your anchor point did not hold the fire.

COMMUNICATIONS

Effective communication is a critical component to any safe and successful operations. Known radio frequencies and channels can enable instant communication within and between fire control resources.

Discuss the factors that can affect radio communication at the incident.
- Confirm knowledge of the radio issued to the individuals. Take the time to learn how to use your communication devices, if you have them.
- Do you have any line-of-sight restrictions, e.g., separated by ridge?Point those out to each other and discuss how you may overcome them, e.g. posting a lookout of human repeater.
- Minimize noise interference.
- Discuss unfamiliar local jargon, e.g., negative, copy, 10-4.How will you communicate so it's clear and concise?

If you are not using radios, walk through the same points with your other communication devices, e.g., satellite phone, Garmin inReach, cellular phone.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Scenario 1: Carrying Out Fire Control

STEP 1
LACES *(CONTINUED)*

How can you mitigate potential problems?
- Implement effective communication procedures. Be brief, use clear text and to-the-point messages.
- Practice giving a good comprehensive briefing.
- Confirm that relayed information is received and understood.
- Keep a continuous information flow, e.g., updates on weather, fire behaviour, work progress, changes in strategy/tactics, arrival of additional resources, solicitation of feedback.
- Establish emergency check-in procedures.

You must constantly ask yourself the following questions as situations change during fire control:

Can communication(s) be established?
- Talk about how communications are going to be set up in our scenario, including the variables that must be considered.
- Review situations where communications were a problem (does not need to be a fire scenario). Discuss what was done to fix the problem.

Is the communication triangle complete?
- The communication triangle is speaker, message, and audience. Are you sending the message clearly so the person who is receiving it understands? Practice sending and receiving messages so they are clear and concise.
- Discuss ways that you can maintain the communication triangle, e.g., using the same radio terminology, more practice with radios, more practice talking to each other.

How can we reduce the risks?
- If the situation is complex, wait until communications are in place.
- Discuss scenarios in which communications could be disrupted. What are some possible solutions?

The Five Communication Responsibilities for all firefighters:
- Brief others as needed.
- Debrief your actions.
- Communicate hazards to others.
- Acknowledge messages.
- Ask if you don't know.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 1
LACES *(CONTINUED)*

ESCAPE ROUTES

Escape routes are routes that you can take from your current location when exposed to danger to an area free from danger. There should always be more than one escape route available. Their effectiveness changes continuously. As you work along the fire perimeter, fatigue and spatial separation can increase the time required to reach the safety zone.

The most common escape routes (or part of an escape route) include the fire guard or fuel break. Unless safety zones have been identified ahead, as well as behind, a firefighters' retreat may not be possible.

- Discuss how you would judge the effectiveness of an escape route. Have you ever timed yourself using an escape route?
- Describe an instance when you were uncomfortably distant from your escape routes.
- Describe a method you have used to communicate the location of an escape route to your crews including identifying, e.g., flagging tape, signs, mapped.

A primary objective of every operational fire plan is to keep firefighters out of entrapment situations. However, firefighters must always be prepared to escape quickly to a safety zone or deployment area. Consider the following while discussing escape from possible entrapment.

Have a plan that includes trigger points.
- Trigger Point: An observable event that triggers a pre-determined action, e.g., if there starts to get spots across the guard the crew will follow the established escape route to the safety zone.
- For your scenario, what trigger points will you come up with?

Reassess escape routes throughout the operational period.
- Does access to escape routes become more difficult as the day progresses?
- Do you have more than one escape route?
- Are all escape routes clearly marked?
- Is everyone on site familiar with the escape routes?

During an escape, time will be short. Describe considerations in this situation such as:
- Maintain all critical equipment such as personal protective equipment (PPE) and radio. Discard gear that will not aid in your escape (like your tool, backpack).
- Maintain contact with others.

You should always know the location of your escape routes leading to safety zones and deployment areas.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 1
LACES *(CONTINUED)*

SAFETY ZONES

A safety zone is a location where a threatened firefighter can find adequate refuge from an approaching fire.

How do you identify a good safety zone?
- Area of a safety zone on flat ground and calm winds: 8 X Vegetation Height.
- Go bigger where wind and slope can be a factor: 8 X Vegetation Height X Slope Wind Factor.
- Consider the distance from the escaped fire as well as topography, winds, fire behaviour, and fuels in the area and your slowest person.
- The best locations are usually in the black (areas where everything has been burned), have with a minimum of, or are devoid of, ground/aerial vegetation, or are large bodies of water.
- Go scout and mark your safety zone well for visibility at all times.
- Think about when you may need to change the location. Always reassess the safety zone in relation to line work progress, fatigue, changes in fire behaviour, and arrival of additional resources.
- For radiant heat only, the distance separation between the firefighter and the flames must be at least four times the maximum flame height. This distance must be maintained on all sides if the fire has ability to burn completely around the safety zone. Convective heat from wind and/or terrain influences will increase this distance requirement.
- Take advantage of heat barriers such as lee side of ridges, large rocks, or solid structures.

What should you avoid in selecting a safety zone?
- Locations that are downwind from the fire.
- Locations that are in chimneys, saddles, or narrow canyons.
- Locations that require a steep uphill escape route.

STOP

STOP HERE AND DISCUSS WHAT YOU WOULD DO IF YOU CANNOT ESTABLISH LACES. IF YOU DECIDE YOU ARE NOT GOING TO CARRY OUT FIRE CONTROL, DOCUMENT THE DECISION (NOTES, PHOTOS, VIDEOS).

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 2
Mobilize hand tools, fire suppression systems, and heavy equipment

If a fire starts, fire control must be carried out and the fire immediately reported. Depending on the location in relation to the fire and the land holder, you may need to make workers, fire suppression systems (like water tenders) and heavy equipment available to fight fire. Each one of your workers will have their own fire fighting hand tool. This is an opportunity for you and your colleagues to practice retrieving the tools needed to carry out fire control and understand their capabilities and limitations.

What if you are by yourself or a fire watcher? This practice scenario is still for you. The fire watcher should be someone trained with proven understanding of the role. They need to be able to see the activity and patrol and watch for smoke. They need to have at least one fire fighting hand tool and access to any available fire suppression systems. The fire watcher also needs to carry out fire control and extinguish the fire, if practicable.

Where are your tools located and are they in good shape to carry out fire control?
- Make sure they are sturdy and sharp.
- Check that fire extinguishers are up to date.
- Make sure fire control and fire suppression systems (like backpack water pumps aka hand tank pumps), fire extinguishers and/or fire fighting hand tools are in working order.
- Can anyone easily access them?
- If there is a pump, can everyone start it?
- Do you have to be trained or have special permissions to use them, e.g., dozer?

Practice carrying out fire control.
- Pick the persons who will be in charge and give commands.
- Determine how you will organize yourself, e.g., tool order.
- Practice using various tools.
- Give a safety briefing about the equipment if applicable, e.g., working around a skidder with tank, swinging a Pulaski, operating a fire extinguisher.

Take the time to go from accessing the tools to using them now, so you are efficient in case of a real event.

Western Forestry Contractors' Association

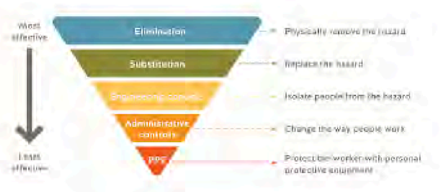
COMPLETE & CONTINUE →

STEP 2
Mobilize hand tools, fire suppression systems, and heavy equipment *(CONTINUED)*

Now that you had time to get into your scenario, pause and list some possible Watch Outs
1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behaviour.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments not clear.
7. No communication link between crew members and supervisors.
8. Constructing line without safe anchor point.
9. Building line downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather gets hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain or fuels make escape to safety zones difficult.
18. Feel like taking a nap near fireline.

STOP

STOP HERE AND DISCUSS WHAT YOU WOULD DO IF YOU THERE IS A WATCHOUT AND FOLLOW THE WORKSAFE BC HIERARCHY OF CONTROLS (DIAGRAM BELOW). KEEP CLEAR DOCUMENTATION OF YOUR RISK ASSESSMENT AND THE CONTROL MEASURES YOU PUT IN PLACE. THIS DOCUMENTATION CAN HELP YOU MONITOR WHEN YOUR CONTROL MEASURES NEED TO BE MODIFIED. IT IS ALSO AN IMPORTANT STEP IN SHOWING DUE DILIGENCE.



Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 3
Extinguish

After you practice building fireguard/fuel breaks to keep your scenario fire under control, move into the mop up (extinguishment) phase.

Where hot spots (i.e., fire is still active) are located, use both tools and water (if available) to open the sources up and extinguish. Spraying water alone may only achieve cooling down the surface.

A good method of ensuring a fire is extinguished is by cold trailing. This is done by carefully using the back of your bare hand and hovering it over the surface of the fuels to check for heat. Do not touch the fuels directly, as you may get burned.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 4
Report

If a fire starts, fire control must be carried out and the fire immediately reported.
- While you are working in any industrial activities and see unattended open fire, or you are filling in as a fire watcher or carrying out fire control in forest or grass land, or are within one kilometer of the same, you must report fire uncontrolled or fire you are controlling immediately or as soon as practicable.
- Though Reporting has been left to Step 4, it should be done as soon as you're safe to do so. You could report it on the way to the fire, someone could be reporting it while you start on LACES, you could also report it while you get your tools ready. For future scenarios, practice reporting the fire while you do Step 1.

How are you going to report a fire?
- You must report this fire to an official employer with the ministry, a peace officer, by calling a fire emergency response telephone number (like *5555) or using the BC Wildfire Service App.

Reporting the fire
Make sure everyone knows how they can report a fire and demonstrate giving some minimum information in reporting, based on your scenario. The person taking the information may help you with this.
- *Where:* practice getting coordinates and using a map.
- *Fire status:* out of control, currenting carrying out fire control (describe how), controlled and extinguished.
- *Size:* Describe the exact size or something most people would be able to compare. If you can't determine a hectare, you may be asked to give the size a comparison to something known; a hectare is roughly equal to 2 tennis courts or 2 soccer fields, or using the size of a car or truck is also a popular description.
- *Contact.*

Document your actions with notes, photos and video.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 5
After action review

Take the time to reflect on the scenario together with an After Action Review (AAR). The AAR is a time to provide feedback, note evaluation and improve cohesion. Choose someone to facilitate the discussion, pay attention to the time and participation. Encourage openness, equal ownership by everyone, focus on improving performance and keep the discussion confidential. End on a positive note!

A popular method is the "Chainsaw" approach. Start by going over what was planned and why, e.g., we practiced a scenario in fire control where we learned how to implement LACES, use our tools, extinguish and report. The facilitator will then carry on the discussion with these four questions:

What went well during this practice scenario?
What didn't go well?
What could we have done differently next time?
What is one thing you learned from this practice scenario?

Encourage everyone to have a chance to speak and share one thing for each question.Place a time limit per person per question (30 seconds). Avoid unnecessary discussion and note the comments for future scenarios.

SCENARIO COMPLETED
WELL DONE!

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete
Search by lesson title
INTRODUCTION 0/3
PRACTICE SCENARIOS 0/3
Practice Scenarios for Your Crew
PRESENTATION
Scenario 1: Carrying Out Fire Control
PDF
Scenario 2: Reporting Uncontrolled Fire
PDF
DISCUSSING FIRE RELATED SAFETY TOPICS 0/27

Scenario 1: Carrying Out Fire Control

HIGHLIGHTED TERMS

FROM THE CANADIAN WILDLAND FIRE GLOSSARY (click here to view the full glossary)

Anchor Point An advantageous location, usually a barrier to fire spread, from which to start or finish construction of a control line. Used to minimize the chance of being flanked (or outflanked) by the fire while the line is being constructed See LACES.

Backpack Pump A portable water container, equipped with carrying straps, discharge hose and hand pump carried on the back; used for applying water in suppression and mop-up operations. These are classified as a)collapsible (usually rubber) to reduce space required for storage and transportation or b) rigid (hard plastic or metal container).

Check-in Process in which all responders, regardless of agency affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander.

Cold Trailing A method of determining whether or not a fire is still burning, involving careful inspection and feeling with the hand, or by use of a hand-held infrared scanner, to detect any heat source.

Communications The concept by which all personnel assigned to an incident must have a quick, reliable, and tested way to communicate with others. This may be by direct radio contact, or through a lookout or other relay point. See LACES.

Escape Route A pre-determined route that can be used by anyone in the event that a fire begins an unexpected run that will jeopardize the safety of crews or anyone else on the fire line. The escape route will take everyone to another pre-determined location (safety zone).

Fireguard A strategically planned barrier, either manually or mechanically constructed, intended to stop or retard the rate of spread of a fire, and from which suppression action is carried out to control a fire. It is the constructed portion of a control line.

Fuelbreak An existing barrier or change in fuel type (to one that is less flammable than that surrounding it), or a wide strip of land on which the native vegetation has been modified or cleared (fireguard), that acts as a buffer to fire spread so that fires burning into them can be more readily controlled. Often selected or constructed to protect a high value area from fire. In the event of fire, may serve as a control line from which to carry out suppressive operations.

LACES A safety system used by wildland firefighters to protect themselves from entrapment in free-burning wildfires and other fireline hazards. Stands for Lookouts, Anchor points, Communications, Escape routes, and Safety zones.

Lookout A competent and trusted person located in an advantageous position who has the responsibility of watching for changes in fire behaviour that risk entrapment and relaying them to their supervisor. See LACES.

Risk Broadly The effect of uncertainty on objectives. Risk is often expressed in terms of a combination of the consequences of an event and the associated likelihood of occurrence.

Safety Zone A location clear of fuels and of sufficient size to allow for safe shelter during the passage of the fire front.

Slope Equivalent Wind Speed An approach used in the FBP System whereby the effect of slope on fire spread with zero wind is given a value in units of wind speed.

Spotting A fire producing firebrands carried by the surface wind, a fire whirl, and/or convection column that fall beyond the main fire perimeter and result in spot fires.

Spot Fire A fire ignited by firebrands that are carried outside the main fire perimeter by air currents, gravity, and/or fire whirls.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete
INTRODUCTION 0/3
PRACTICE SCENARIOS 0/3
Practice Scenarios for Your Crew
Scenario 1: Carrying Out Fire Control
Scenario 2: Reporting Uncontrolled Fire
DISCUSSING FIRE RELATED SAFETY TOPICS 0/27

Scenario 2: Reporting Uncontrolled Fire

WILDFIRE AWARENESS TRAINING NO. 3

WFCA

PRACTICE SCENARIOS

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
Scenario 2: Reporting Uncontrolled Fire

SCENARIO 2:
Reporting Uncontrolled Fire

It is May and you are driving by a fuels management block where piles were burned at the end of March while snow was still on the ground. The drought code was very high and has not decreased since then. One pile had a few stumps where the roots were burning (ground fire) and it went unnoticed, but now the area is snow free and the smoldering stumps are noticeable.

This fire is already a quarter hectare in size, and no fire is climbing up and into the trees, but it is beyond your resources. How would you proceed and what would you report?

Use the Initial Fire Report attached to help your reporting.

- Describe LACES
- What should you document?
- Review the Initial Fire Report
- What are the Watch Outs for your location?
- After action review

WORKERS SHOULD BE ABLE TO PROVE SAFETY (LACES) AND DELIVER INFORMATION IN THE INITIAL FIRE REPORT BASED ON THE LOCATION OF THIS EXERCISE

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
Scenario 2: Reporting Uncontrolled Fire

Ministry of Forests, Lands and Natural Resource Operations

INITIAL FIRE REPORT

INCIDENT NUMBER
REPORTED BY | DATE YY MM DD | TIME
GEOGRAPHIC LOCATION
CO-ORDINATES LAT | LONG | ELEVATION M/ft

ALPHA – SIZE
- 1. Single Tree
- 2. Spot ____ m X ____ m
- 3. 0.1 - 0.2
- 4. 0.3 - 0.5
- 5. 0.6 - 1.0
- 6. 1.1 - 2.0
- 7. 2.1 - 4.0
- 8. 4.1 - 8.0
- 9. Other ____ ha

BRAVO – FIRE RANK
- 1. Rank 1, Smoldering Ground Fire
- 2. Rank 2, Open Flame, No Spread
- 3. Rank 3, Vigorous Surface Fire, Moderate Spread, May See Candling
- 4. Rank 4, Moderate to Fast Spread Short Aerial Bursts, Spotting
- 5. Rank 5, Continuous Crown Fire, Spotting, dist. ____ m
- 6. Rank 6, Continuous Crown, Blow up

CHARLIE – FUELS
- 1. Grass
- 2. Brush
- 3. Deciduous
- 4. Slash
- 5. Reproduction
- 6. Open Timber
- 7. Heavy Timber
- 8. Other ____
- 9. FBP Type ____

DELTA – VALUES AT RISK (Immediately Threatened)
- 1. Life/Property
- 2. Timber (Forest)Resources (Includes Reproduction)
- 3. Other Special Values (Watersheds, Parks)
- 4. Distance ____ m N S E W of the fire

ECHO – WIND
- 1. Calm
- 2. Speed ____ kph
- 3. Direction N S E W

FOXTROT – ADJACENT FUELS
- 1. Grass
- 2. Brush
- 3. Deciduous
- 4. Slash
- 5. Reproduction
- 6. Open Timber
- 7. Heavy Timber
- 8. Other ____
- 9. FBP Type ____

GOLF – SLOPE
- 1. Flat/Rolling
- 2. Moderate < 30%
- 3. Steep >30% < 60%
- 4. Extreme >60%

HOTEL – ASPECT
- 1. North
- 2. South
- 3. East
- 4. West

INDIA – SLOPE POSITION
- 1. Bottom
- 2. Lower Third
- 3. Middle Third
- 4. Upper Third
- 5. Top

JULIET – ACCESS
- 1. Road ____ m
- 2. Helipad ____ m
- 3. Hover Exit ____ m
- 4. Other ____ m
- 5. N S E W of the fire

KILO – AVAILABLE WATER
- 1. None
- 2. Adjacent
- 3. ____ m N S E W of the fire

LIMA – PAPER TRAILED 1. Yes 2. No
MIKE – PHOTOS 1. Yes 2. No
NOVEMBER – SUSPECTED FIRE CAUSE 1. Human 2. Lighting

ACTION TAKEN/RECOMMENDED

PROBABILITY OF SUCCESS: LOW ____ MED ____ HIGH ____
RECEIVED BY: | ESTIMATED COST OF CONTROL: $
FS 260 HPR 2012/04

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
Scenario 2: Reporting Uncontrolled Fire

STEP 1
LACES

Review Scenario 1 Fire Control and the pieces about Lookouts, Anchor Points, Communication, Escape Routes and Safety Zones (LACES). You are going to carry out fire control in this situation, but Safety Zones and Escape Routes are still important for you and everyone in the area.

Your safety is first. Do not proceed until you are in a safe location to start reporting.

STEP 2
REPORTING A FIRE

While you are working in any industrial activities and see unattended open fire, or you are filling in as a fire watcher or carrying out fire control in forest or grass land, or are within one kilometer of the same, you must report fire uncontrolled or fire you are controlling immediately or as soon as practicable.

How are you going to report a fire?
You must report this fire to an official employer with the ministry, a peace officer, by calling a fire emergency response telephone number (like *5555) or using the BC Wildfire Service App. Taking photos and video is extremely helpful for the response team and you can upload photos to the BC Wildfire Service App.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

You are previewing as an enrolled student
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
Scenario 2: Reporting Uncontrolled Fire

STEP 3
USING THE IFR

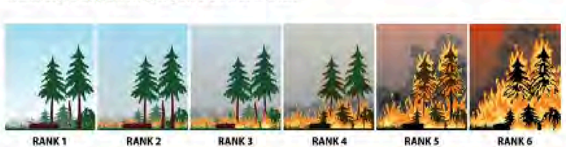
Initial attack fire response is more efficient when decisions can be made with good information. This is where you may be able to help with prompts from the Initial Fire Report (IFR). Using the IFR as a guide is an organized way to gather this information, so you are clear and concise with your reporting communications. If you use the IFR, let the receiver of your report know that you have some information from the BCWS Initial Fire Report that might help them.

Go through each section of the IFR and see what you come up with.

Geographic Location
Gather coordinates, geographic (e.g., north side of Green Lake), access. For example, take Gold Creek FSR and then the first fork to the left onto Gold Creek South. We are 22 km on Gold Creek South. We are 2 km to the east of Eagle Ridge.

Alpha - Size
Describe the exact size or something most people would be able to compare. If you cannot determine a hectare, you can or use some other recognizable visual comparison like the size of a car, a tennis court, a soccer field etc. A soccer field is just over a half hectare (.62 hectares)

Bravo - Rank
Rank is used to describe the fire behaviour in a relative scale. If you do not know the rank, then ask yourself: Are trees torching? Is it spotting and how far? Is the fire staying on the surface and flames heights less than a meter? Sending photos or videos is even better. You can also describe the color of the smoke, e.g., wispy, white, light grey, brown, dark, thick.



For this scenario the rank could be described as Rank 1, 2 or 3 as fire is not getting into the trees and remaining as a surface fire.

Western Forestry Contractors' Association

You are previewing as an enrolled student
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
Scenario 2: Reporting Uncontrolled Fire

STEP 3
USING THE IFR (CONTINUED)

Charlie - Fuels
Describe what the fire is burning in, e.g., the fire is burning at the edge of the tree line in a fresh cut block it is "4 slash".
- Pick a pretend location for your fire and have each person describe what the fire is burning in. Use the word choices from the IFR.
- "Reproduction" has also be described as "regen" in fire reports.

Delta - Values at Risk
Life and property are the most important values at risk and are ranked the highest in prioritizing fire response. Not all values are known or mapped, neither do response officers have quick access to the information. If life or property are present, state what and where, e.g., a logging camp is 20 km to the northeast of this fire.

Echo - Wind
You can use the Beaufort Scale (covered in Tier 1 with a download), use a real wind reading, or use your best guess. Are there gusts in the area from a present or passing thunder cell? If you are flying, the pilots can give you a good indication of wind speed and direction. Wind direction is always described by the direction it is coming from. A "north wind" means the wind is moving in the direction north to south.

Foxtrot - Adjacent Fuels
Describe what the fire is moving into and surrounded by (adjacent fuels), e.g., if the fire is in a cut block surrounded by trees it could be 3. Deciduous, 6. Open Timber, or 7. Heavy Timber.
- Pick a pretend location for your fire and have each person describe the location immediately surrounding the fire. Use the word choices from the IFR.

Golf - Slope
If you do not have the equipment to take an accurate slope, make your best judgement using the IFR as a guide. The steepness of the slope will determine decisions like heavy equipment use, access and rate of spread.
- Practice taking slope and calibrating the eye to steepness with any tools (like a clinometer) that you may have on hand. Even slope apps on your phone are close enough for the choices in the IFR.

Hotel - Aspect
If you do not have the equipment to take a slope aspect, use your best judgement. The coordinates/location you gathered earlier will help the response team determine the aspect by transposing it onto their maps.
- Where is the sun rising (east) and setting (west). Determine your aspect from this.
- Practice using the compass to get aspect.
- Practice using a map to get aspect.

Western Forestry Contractors' Association

COMPLETE & CONTINUE →

STEP 3
USING THE IFR *(CONTINUED)*

India - Slope Position
For slope position, cut the larger scale landscape into thirds. For example, this photo shows the fire is on the entire slope from bottom to top but the active part of the fire is in the middle third of the slope.
- Where is the fire in relation to the slope it is on? Look only at the immediate area.
- Discuss how you would break the slope up into thirds.
- If you are on flat ground for kilometers around, report "flat".

Juliet - Access
What is the closest access to the fire? Can you give good directions or send them a pin drop? Are you able to easily meet the fire resources and then guide them in? Are there large areas to land a helicopter (clean and debris free) or turn around heavy equipment? How far away are these locations from the fire? Access and staging areas are all good things to note on the way to your work site. If you cannot send a pin drop, it may be easier to have someone meet them at a specific kilometer marker or location on a main Forest Service Road and then guide them in. Another option is to flag the route into the fire.
- Have each person practice describing how to get to your location.
- Do you have time to flag a route to the fire?
- Can you or someone else meet the response crew at a strategic location to be guided?

Available Water
This could be water used to fill a water tender, to place a pump for using hoses, used by airtankers (large, long lakes) or filling helicopter buckets.
- Where is the water in relation to the fire and how far away is it?
- Is it a stream, lake, pond?
- Is there a road accessing it?

Document
This covers Lima, Mike and your own decision making.
- Discuss with your crew what you would like to document including why you chose not to carry out fire control.
- Document hazards in the area that could be shared with the response personnel.
- Determine what information your employer needs for documentation.

Any or all the information in the IFR is helpful and often the person receiving the information or someone who is part of the response personnel may guide you with finding the answers if you are in a good position to provide this. The rest of the information will be gathered by the response crews (fire cause, action taken, probability of success, estimated cost of control). When the response crew arrives, you may be asked to help, including line location, or doing an overview flight to orient the crews to the lay of the land and values. Only participate in what you are comfortable with.

Western Forestry Contractors' Association

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete
Scenario 2: Reporting Uncontrolled Fire

Western Forestry Contractors' Association

HIGHLIGHTED TERMS
FROM THE CANADIAN WILDLAND FIRE GLOSSARY (click here to view the full glossary)

Airtanker Fixed-wing aircraft fitted with tanks and equipment for dropping suppressants or retardants on fires. They are divided into two categories, land-based and skimmer.

Aspect The direction that a slope is facing.

Birddog Aircraft An aircraft carrying the person (Air Attack Officer) directing the fire bombing action on the fire.

Communications The concept by which all personnel assigned to an incident must have a quick, reliable, and tested way to communicate with others. This may be by direct radio contact, or through a lookout or other relay point. See LACES.

Crown Fire A fire that advances through the crown fuel layer (e.g., canopy of the trees), usually in conjunction with a surface fire.

Drought Code (DC) A numerical rating of the average moisture content of deep, compact organic layers. This code indicates seasonal drought effects on forest fuels, and the amount of smoldering in deep duff layers and large logs.

Escape Route A pre-determined route that can be used by anyone in the event that a fire begins an unexpected run that will jeopardize the safety of crews or anyone else on the fire line. The escape route will take everyone to another pre-determined location (safety zone).

Fire Report An official report of a fire, generally including information on cause, location, action taken, damage, and costs from start of the fire until completion of suppression action. The report is usually accompanied by a map of the burn. These reports vary in form and detail from agency to agency.

Ground Fire A fire that burns in the ground fuel layer.

Ground Fuels All combustible materials below the litter layer of the forest floor that normally supports smoldering or glowing combustion associated with ground fires (e.g. duff, roots, buried punky wood, peat).

Holdover Fire A fire that remains dormant and undetected for a considerable amount of time after it starts (particularly lightning-caused fires).

Intermittent Crown Fire A moderate to high-intensity crown fire with crown fraction burned greater than 10 percent and less than 90 percent.

LACES A safety system used by wildland firefighters to protect themselves from entrapment in free-burning wildfires and other fireline hazards. Stands for Lookouts, Anchor points, Communications, Escape routes, and Safety zones.

Lookout A competent and trusted person located in an advantageous position who has the responsibility of watching for changes in fire behaviour that risk entrapment and relaying them to their supervisor. See LACES.

Safety Zone A location clear of fuels and of sufficient size to allow for safe shelter during the passage of the fire front.

Slash Debris left as a result of forest and other vegetation being altered by forestry practices and other land use activities (e.g. timber harvesting, thinning and pruning, road construction, seismic line clearing). Slash includes material such as logs, splinters or chips, tree branches and tops, uprooted stumps, and broken or uprooted trees and shrubs.

Slope The upward or downward inclination of the earth's surface (i.e. the deviation in terrain from level or flat ground). Most commonly expressed as a percentage. Numerically, it is equal to the vertical rise or fall in elevation divided by the horizontal.

Spot Fire A fire ignited by firebrands that are carried outside the main fire perimeter by air currents, gravity, and/or fire whirls.

Surface Fire A fire that burns in the surface fuel layer, excluding the crowns of the trees.

Values at Risk The specific or collective set of natural resources and man-made improvements/ developments that have measurable or intrinsic worth and that could of may be destroyed or otherwise altered by fire in any given area.

Western Forestry Contractors' Association

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)
0% complete

INTRODUCTION 0/3
PRACTICE SCENARIOS 0/3
DISCUSSING FIRE RELATED SAFETY TOPICS 0/27
How to Use the Fire Related Safety Topics (Presentation)
Anchor Point (PDF)
Attempting Frontal Assault (PDF)
Communications (PDF)
Escape Routes (PDF)
Safety Zones (PDF)
Fire Below You (PDF)
Fire Not Scouted or Sized Up (PDF)
Frequent Spot Fires Across The Guard (PDF)
Heavy Equipment Operations (PDF)
Helicopter Bucketing (PDF)
In Country Not Seen in Daylight (PDF)
Instructions and Assignments Not Clear (PDF)
Lookouts (PDF)
No Communication Link (PDF)
On a Hillside (PDF)
Extreme Fire Behaviour (Part I) (PDF)

How to Use the Fire Related Safety Topics

FIRE RELATED SAFETY TOPICS FOR DISCUSSION

The following fire related awareness training topics are discussion points that can be modified and adapted for your crew and worksite.

There is also a template to create your own scenario as personal experiences or new or known hazards are worth sharing.

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)

Anchor Point

ANCHOR POINTS

When deciding where to build fire guard or a fuel break, the following considerations must be weighed:

- Can you hold the guard or break? How do you do so and ensure your safety if there is a danger of the fire hooking under/around you?
- Are there adequate safety zones and escape routes? Review what constitutes an adequate safety zone and escape route. Who has the responsibility to designate them and monitor their continued suitability?
- Can you develop your starting point into an anchor point? List some effective anchor points. Describe how you would develop your starting point into an anchor point.
- Have you posted lookouts? Where should they be posted? Can they see the main fire? Describe the qualities of a skilled lookout?
- Do you have effective communications? Who do you need to be in contact with? If there are problems with communications, what can you do to improve them?
- To reduce risk, evaluate several locations before deciding. Talk about fires where you have had to relocate the fire guard or fuel break because your anchor point did not hold the fire.

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)

Attempting Frontal Assault

ATTEMPTING FRONTAL ASSAULT

Attempting a frontal assault on a fire is Watch Out Situation #10.
It is a potentially dangerous tactic.

If your tactics include a frontal assault, adequately address the following before engaging the fire:

- Has the fire been scouted and sized up?
- Is your position defensible? List what makes a firefighter's position defensible (anchor points, safety zones, escape routes, etc.).
- Are escape routes and safety zones adequate? Review what constitutes an adequate safety zone and escape route.
- Do you have an anchor point? How would you establish an anchor point for a frontal assault?
- Do you have adequate resources to complete the assault? Discuss things you need to consider. For example, if the frontal assault fails, do you have backup?
- Are you informed on strategy, tactics, and hazards? Consider what could happen if someone has implemented a different approach; for example, the Incident Commander (IC) has a burnout operation planned while you are attempting frontal assault.
- Is the terrain favorable to holding the fire? Discuss ways the terrain will influence where you will make a stand.
- Are you relying on aircraft to support the operation? Any operation, especially frontal assault, should not need air resources to be completed safely.

To reduce the risks, reassess your tactics, post lookouts, and identify situations in which fire resources may be enticed to attempt frontal assault on a fire. Review why this may or may not be a good idea.

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)

Communications

EFFECTIVE COMMUNICATION

Effective communication is a critical component of safe and successful operations.

Discuss the factors that can affect radio communication at the incident.
- Knowledge of the radio issued to the individuals.
- Line-of-sight restrictions, e.g., separated by ridge.
- Minimizing noise interference.
- Unfamiliar local jargon, e.g., negative, copy.

How can you mitigate potential problems?
- Implement effective communication procedures—be brief, use clear text and to-the-point messages.
- Give a good comprehensive briefing.
- Confirm that relayed information is received and understood.
- Keep a continuous information flow, e.g., updates on weather, fire behavior, work progress, changes in strategy/tactics, arrival of additional resources, solicitation of feedback.
- Establish emergency check-in procedures.

The Five Communication Responsibilities for all firefighters:
1. Brief others as needed.
2. Debrief your actions.
3. Communicate hazards to others.
4. Acknowledge messages.
5. Ask if you don't know.

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Wildfire Awareness Training For Forestry Crews (Tier 3)

Escape Routes

ESCAPE ROUTES

Escape routes are routes that you can take from your current location when exposed to danger to an area free from danger. There should always be more than one escape route available. Their effectiveness changes continuously. As you work along the fire perimeter, fatigue and spatial separation can increase the time required to reach the safety zone.

The most common escape routes (or part of an escape route) include the fire guard or fuel break. Unless safety zones have been identified ahead, as well as behind, a firefighters' retreat may not be possible.
- Discuss how you would judge the effectiveness of an escape route. Have you ever timed yourself using an escape route?
- Describe an instance when you were uncomfortably distant from your escape routes.
- Describe a method you have used to communicate the location of an escape route to your crews including identifying, e.g., flagging tape, signs, mapped.

A primary objective of every operational fire plan is to keep firefighters out of entrapment situations. However, firefighters must always be prepared to escape quickly to a safety zone or deployment area. Consider the following while discussing escape from possible entrapment.

Have a plan that includes trigger points.
- Trigger Point: An observable event that triggers a pre-determined action, e.g., if there starts to get spots across the guard the crew will follow the established escape route to the safety zone.
- For your scenario, what trigger points will you come up with?

Reassess escape routes throughout the operational period.
- Does access to escape routes become more difficult as the day progresses?
- Do you have more than one escape route?
- Are all escape routes clearly marked?
- Is everyone on site familiar with the escape routes?

During an escape, time will be short. Describe considerations in this situation such as:
- Does access to escape routes become more difficult as the day progresses?
- Do you have more than one escape route?
- Are all escape routes clearly marked?
- Is everyone on site familiar with the escape routes?

You should always know the location of your escape routes leading to safety zones and deployment areas.

You are previewing as an enrolled student

Go to Dashboard | WFCA Learning Platform

Wildfire Awareness Training For Forestry Crews (Tier 3)

0% complete

Search by lesson title

INTRODUCTION 0/3

PRACTICE SCENARIOS 0/3

DISCUSSING FIRE RELATED SAFETY TOPICS 0/27

How to Use the Fire Related Safety Topics
Anchor Point
Attempting Frontal Assault
Communications
Escape Routes
Safety Zones
Fire Below You
Fire Not Scouted or Sized Up
Frequent Spot Fires Across The Guard
Heavy Equipment Operations
Helicopter Bucketing
In Country Not Seen in Daylight
Instructions and Assignments Not Clear
Lookouts
No Communication Link
On a Hillside
Extreme Fire Behaviour (Part 1)

Safety Zones

SAFETY ZONES

A safety zone is a location where a threatened firefighter can find adequate refuge from an approaching fire.

How do you identify a good safety zone?

- Consider the distance from the escaped fire as well as topography, winds, fire behavior, and fuels in the area and your slowest person.
- The best locations are usually in the black, have with a minimum of, or are devoid of, ground/aerial vegetation, or are large bodies of water.
- Location is scouted and marked well for visibility at all times.
- Location has been reassessed in relation to line work progress, fatigue, changes in fire behavior, and arrival of additional resources.
- For radiant heat only, the distance separation between the firefighter and the flames must be at least four times the maximum flame height. This distance must be maintained on all sides if the fire has ability to burn completely around the safety zone. Convective heat from wind and/or terrain influences will increase this distance requirement.
- Take advantage of heat barriers such as lee side of ridges, large rocks, or solid structures.

What should you avoid in selecting a safety zone?

- Locations that are downwind from the fire.
- Locations that are in chimneys, saddles, or narrow canyons.
- Locations that require a steep uphill escape route.

COMPLETE & CONTINUE →

You are previewing as an enrolled student

Fire Below You

BUILDING FIRE GUARD WITH FIRE BELOW YOU

As a rule, construct line moving uphill. Many fire resources have lost their lives attacking wildland fires from above. If there is no practical alternative to constructing line downhill, proceed only after weighing the following considerations:

- Has the area been scouted for fire perimeter and behavior? Discuss what you need to know about the fire perimeter and fire behavior before building fire guard and fuel breaks downhill with fire below.
- Will the wind direction be at your back? Will it stay at your back? Talk about how winds can change when you are on a slope, e.g., time of day, upslope, and downslope breezes.
- Is the area free of chimneys and gullies?
- Are there adequate safety zones and escape routes? How do you maintain adequate safety zones and escape routes as you progress downhill?
- Have lookouts been posted? What should they be monitoring?
- Have you established good communications? Describe the benefits of maintaining good communications.
- Can the line be completed and burned out before the fire reaches it? Discuss how this would affect where you locate the line.
- Do you have adequate resources to complete the assignment?
- Is aerial support available if needed? What benefits can aerial resources provide? What might be an added danger from aerial resources in this type of situation?
- Has everyone been briefed on the assignment, fire behavior, weather, communications, escape routes and safety zones, hazards, and tactics? Discuss who might provide this briefing, where they would receive their information, and where and when it might occur.

COMPLETE & CONTINUE →

You are previewing as an enrolled student

Fire Not Scouted or Sized Up

FIRE NOT SCOUTED OR SIZED UP

Before acting on the fire of carrying out fire control, address the following:

- Can you personally observe the fire, or should you use scouts? Describe ways you can scout and size up a fire or using aerial resources to help.
- Do you know the location of the fire perimeter? Discuss situations when the fire perimeter may not be obvious (unburned sections due to spot fires, etc.).
- Do you know the direction of fire spread? When isn't the direction of fire spread obvious (wind shifts, spot fires, etc.)?
- Does the direction of fire spread increase the risk? Talk about situations where you may have to approach the head of the fire (hiking down from a helispot, approaching from an existing road, erratic winds, etc.).
- Do you know the fuels and their condition? Are they dry, will they cause spotting?
- Do topographic hazards exist? Discuss your terrain.
- Does enough information exist begin fire control?
- Do other dangers exist? E.g., hunters in the vicinity, drought conditions, snag patches, etc.?

To reduce the risks:

- Post lookouts until the fire is sized up and escape routes and safety zones are established.
- Retreat if the situation is too complex.

COMPLETE & CONTINUE →

You are previewing as an enrolled student

Frequent Spot Fires Across The Guard

FREQUENT SPOT FIRES ACROSS THE GUARD

This watch-out situation clearly indicates how much potential a fire has for rapid, uncontrolled growth. Consider the following questions if you are getting spot fires across your line:

- Can you handle increased spotting?
- List some ways you can keep ahead of spot fires gridding the green, lookouts.
- What is your Fine Fuel Moisture Code?
- Do you have a plan for long-range spotting? In what fuel type and under what conditions is it likely?
- Is help available if necessary?
- If fire behaviour increases, is your position still defensible? Discuss what type of action you might take if a spot fire takes off.
- Do you have more than one safety zone in case access to one is cut off? Describe how you might utilize multiple safety zones.
- Do the primary lookouts have a good view of the situation? Discuss who might be acting as a lookout and how you will get accurate information from that person. Are you relying on an air attack that is busy with airtankers?
- Where are you in the burning period? Talk about how your tactics for finding spot fires early in the day to later into the evening may vary. Review diurnal changes in temperature, relative humidity, and wind, and what it can tell you about spotting potential.
- To reduce the risk, are you ready to retreat?
- Keep your head up even if spotting has not occurred for a few hours. Review incidents where you have had frequent spot fires and share what you have learned about controlling them.

COMPLETE & CONTINUE →

You are previewing as an enrolled student

Heavy Equipment Operations

HEAVY EQUIPMENT OPERATIONS

Dozers and other heavy equipment provide suppression and support capability for fire operations. When working on or around dozers, it is important to respect the following guidelines:

- Load/unload equipment from the transport in a safe manner on a level, stable surface.
- Park transport in an area free of vegetative fuel. Clear an area if needed to protect parked equipment.
- Do not sit or bed down near equipment. Walk around the equipment before starting or moving it.
- Lower the dozer blade and/or fire plow to the ground when the equipment is idling or stopped.
- Allow only the operator to ride on the equipment.
- Never get on or off equipment while it is moving.
- Provide front and rear lights for equipment working at night or in heavy smoke.
- Provide lights and fluorescent vests to personnel working with heavy equipment.
- Use hand signals for direction and safety.
- Operators will wear required personal protective equipment (PPE) and their equipment the appropriate safety features, e.g., brush guard.
- Be aware of different fuel types, rates of spread, and flammability.
- Watch for wetlands, steep slopes, rocks, ditches, and other obstacles that might stop the equipment.
- Do not get too far ahead of a firing crew during firing operations.
- Anchor the line.
- Anything else?

Western Forestry Contractors' Association | Discussion

COMPLETE & CONTINUE →

You are previewing as an enrolled student

Helicopter Bucketing

HELICOPTER BUCKETING

Consider the following questions when you have a helicopter with a bucket working in your area:

- Is the helicopter a Type 1 (largest type of helicopter used in firefighting, e.g., S61)? For larger helicopters, increase the distance ground personnel must standby from the drop zone.
- How might you use helicopter drops to knock down or secure a fire area that poses a direct threat to escaping control lines or climbing ladder fuels?
- Do you have good communications?
- Does the pilot have a clear understanding of the target?
- Are there trees and/or snags in the drop zone?
- Are ground crews clear of the area?
- How will the winds affect the mission?
- What is the turnaround time for the helicopter from drop zone to fill site?
- Are people on the ground aware of the effects of the helicopter's rotor wash?
- Are you providing feedback to the pilot about drop accuracy if you're required to? Be honest and constructive.
- How can high altitudes and/or high temperatures affect helicopter performance capabilities? Be aware they may be significantly reduced. Performance decreases with hotter temperatures for the same altitude.

COMPLETE & CONTINUE →

You are previewing as an enrolled student

In Country Not Seen in Daylight

IN COUNTRY NOT SEEN IN DAYLIGHT

Before safely carrying out fire control or participating in fire response, answer the following questions:

- Can the resources you are replacing give you a thorough briefing? Identify where you can get information.
- Can you observe the area or use scouts? List ways you could observe the work area including using aerial resources.
- Have escape routes and safety zones been thoroughly scouted and marked for night use? Talk about what constitutes an escape route and a safety zone. Who would identify them and in what ways might they be marked?
- Have potential dangers been located? Can they be mitigated? What are the dangers associated with working in unfamiliar country in the dark? How can they be mitigated?
- Reduce the risks by:
  - Posting lookouts.
  - Checking communications.
  - Retreating if you have doubts about your escape routes or safety zones or the situation becomes too complex.
  - Identifying prominent geographic features.
- Share examples of arriving on a fire after dark or in country never seen before and what was done to allow you to engage safely.

COMPLETE & CONTINUE →

Anchor Point
Attempting Frontal Assault
Communications
Escape Routes
Safety Zones
Fire Below You
Fire Not Scouted or Sized Up
Frequent Spot Fires Across The Guard
Heavy Equipment Operations
Helicopter Bucketing
In Country Not Seen in Daylight
Instructions and Assignments Not Clear
Lookouts
No Communication Link
On a Hillside
Extreme Fire Behaviour (Part 1)
Extreme Fire Behaviour (Part 2)
Retardant and Water Drop Safety
Smoke Exposure
Terrain and Fuels Make Escape to Safety Zones Difficult
Unburned Fuel Between You and the Fire
Uninformed on Strategy, Tactics and Hazards
Weather and Local Factors
Write Your Own

INSTRUCTIONS AND ASSIGNMENTS NOT CLEAR

Everyone will give and receive briefings at some point on the job. Briefings are an effective way to disseminate information that can make your job safer and easier. When giving a briefing, it is important to keep the following questions in mind and remain perceptive to how the audience is receiving the information:

- Did they ask questions? Do you get empty stares? What feedback are you looking for to ensure they understand you?
- Talk with coworkers about what it is like giving a briefing.
- Did they take notes? What kind of information would you like to see people write down?
- Did they repeat information back? What other ways can you identify that your briefing is understood?
- Did you give all the necessary information? How will you ensure that you covered everything necessary?
  - Task
  - Location
  - Communications
  - Hazards

It is also important the person who is receiving instructions to be mindful of the following during the briefing:

- Did you really listen?
- Did you understand the assignment, location, and the nature and location of hazards?
- You must know the location of the assignment and:
  - What is to be done.
  - Who you are to report to and how often to report.
  - Expectations for completing the assignment.
  - Hazards.
  - Communication plan frequencies.
  - Weather and fire behavior.
  - Status of adjoining forces.

LOOKOUTS

Lookouts are often best situated to notice the cumulative changes of fire behaviour. Post lookouts when there is possible danger.
- Discuss why lookouts should be always posted.

What are you looking for when you are selecting a lookout location?
- Choose a good vantage point, preferably with a good overview of the entire area where the people carrying out fire control or firefighting are located, including escape routes and safety zones.
- Never rely exclusively on aircraft as your lookout.

What are the desired qualities, capabilities, knowledge, and responsibilities of a lookout?
- Experienced.
- Solid knowledge of fire behaviour and the ability to recognize and monitor other environmental hazards.
- Knowledge of fire resource locations, escape and safety locations, and trigger points.
- Good communicator.
- Knowledge of weather patterns, and signs of incoming weather changes.
- Advises the fire resources of fire behaviour changes, and tracks weather trends and relays the information.
- Monitors and accounts for all individuals within the assigned area always, and notifies others if breaks are needed.

What is the necessary equipment for a lookout?
- Personal protective equipment (PPE), radio with extra batteries, compass, binoculars, weather aids, an Incident Action Plan (IAP), map, food, water, and watch.

NO COMMUNICATION LINK

You must constantly ask yourself the following questions as situations change on the fireline:

Can communication(s) be established?
- Talk about how communications are set up on fires, including the variables that must be considered.
- Review situations where communications were a problem. Discuss what was done to fix the problem.
- Ask yourself, "Do we need a repeater setup or can an experienced person act as a human repeater?"

Is the communication triangle complete?
- Review the communication triangle: speaker, message, and audience.
- Discuss ways that you can maintain the communication triangle.

How can we reduce the risks?
- If the situation is complex, wait until communications are in place.
- Talk about the situations where fire resources had to leave the line, did not go out on the line, or something negative happened because communications were inadequate. Discuss what was done to establish communications in these situations.
- Discuss scenarios in which communications could be disrupted. What are some possible solutions?

ON A HILLSIDE

When you find themselves in Watch Out Situation #13, on a hillside where rolling material can ignite fuel below, you must answer the following questions:

- Can you locate/construct a guard/break to prevent material from rolling below, e.g., trench.
  - Describe how you would construct this and what factors you would have to consider, e.g., slope, fuels.
- Will you get enough warning of rolling material to prevent being hit by it? Who needs to be watching for rolling material? What kinds of warning systems could you establish?
- Can you see where any material that rolls below you goes and what it does? What can happen when material rolls out of the fire and below you, out of view? What needs to be done to mitigate this danger?
- Is the area free of large amounts of flashy fuels? Is the area free of chimneys, gullies, and steep slopes that draw fire uphill quickly?
- Do you have two escape routes so you can go either way? Talk about where the most likely escape routes and safety zones will be when you are on a hillside where rolling material can ignite fuel below.
- To reduce the risks:
  - Post lookouts.
  - Consider locating guard and fuel breaks in a defensible position.
  - Talk about fires in steep terrain where you had material roll out below you and how you dealt with it.

EXTREME FIRE BEHAVIOUR (PART 1)

You can always expect changes in fire behaviour, even if it is slight. It is critical for you to maintain situation awareness of live and dead fuel moisture conditions, as well as predicted and current weather conditions. As fire behaviour moves from mild to moderate to extreme, it is critical to act decisively regarding the changing situation.

Discuss the following indicators of extreme fire behaviour:
- Relative humidity is less than 15%.
- 1-hour fuel moisture is less than 5% (hard to measure in the field without experience or an instrument).
- Transition from surface to crown fire.
- Smouldering fires that exist in the early part of the day are beginning to burn very actively as the day progresses.
- Approaching thunderheads with dark clouds beneath.
- Presence of dust devils indicating atmospheric instability.
- Increased spotting.
- Sudden calm.
- High clouds moving fast in a direction that is different from surface wind.
- Atmospheric instability.
- Fire whirls.

EXTREME FIRE BEHAVIOUR (PART 2)

You need to maintain situation awareness of live and dead fuel moisture conditions, as well as predicted and current weather conditions. As fire behaviour moves from mild to moderate to extreme, it is critical to respond correctly to the changing situation.

Discuss how the following factors can contribute or lead to extreme fire behaviour:
- Frost kill: late or unusually extensive freezes, high loading of frost-killed fuels.
- Drought Conditions: duff moisture code (DMC), drought code (DC), build up index (BUI), low humidity, high temperatures.
- Slope: increases fire spread uphill, preheats fuels by convection, may channel winds.
- Sea Breeze/Foehn: wind direction may vary throughout the day (diurnal winds), humidity changes may occur, strong wind velocities may drive fire behaviour.

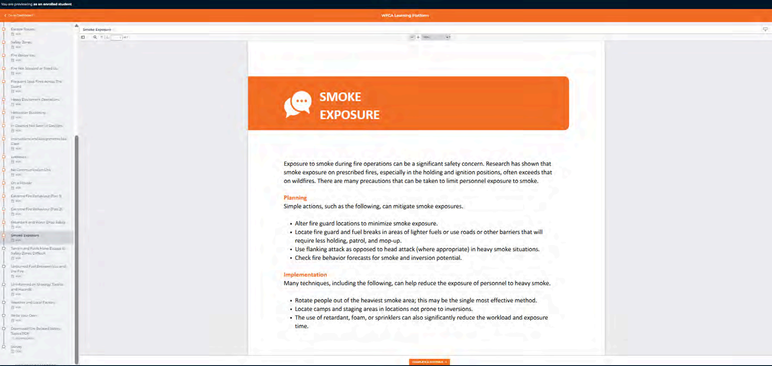
To aid situation awareness:
- Track the Fire Danger and fire behaviour indices using the most representative BCWS/Ministry of Forest Weather Station.
- Take hourly weather observations and track the hourly changes.

RETARDANT AND WATER DROP SAFETY

Retardant (jell, foam), paracargo, and water drops on a fire are routine events. However, there are risks associated with these missions that can pose serious threats to personnel and equipment. Consider the following for all drops you are coordinating:

- Be aware of the location and flight patterns (final approach, drop zone, exit) of aircraft during drop operations.
- Ensure you have positive contact with the pilot before the drop.
  - Clear all persons, vehicles, and animals from the danger zone prior to the arrival of the aircraft.
  - Beware of streamers or parachutes that do not open.
- Personnel can be injured by the impact of material dropped by aircraft. Clear personnel out of the target area before the drop is conducted. If an individual is caught unaware in a drop zone:
  - Hold hand tools away from your body.
  - Lie face down with hardhat in place and head toward the oncoming aircraft.
  - Grasp something firm to prevent being carried or rolled about by dropped liquid.
  - Do not run unless escape is guaranteed.
  - Get clear of dead snags and tree tops.
  - Be aware of rolling debris below the drop site in steep terrain.
- Use caution when working in an area covered by retardant. Surfaces are slippery.
- Wash the retardant off your skin as soon as possible to prevent irritation.

You are previewing as an enrolled student



SMOKE EXPOSURE

Exposure to smoke during fire operations can be a significant safety concern. Research has shown that smoke exposure on prescribed fires, especially in the holding and ignition positions, often exceeds that on wildfires. There are many precautions that can be taken to limit personnel exposure to smoke.

Planning

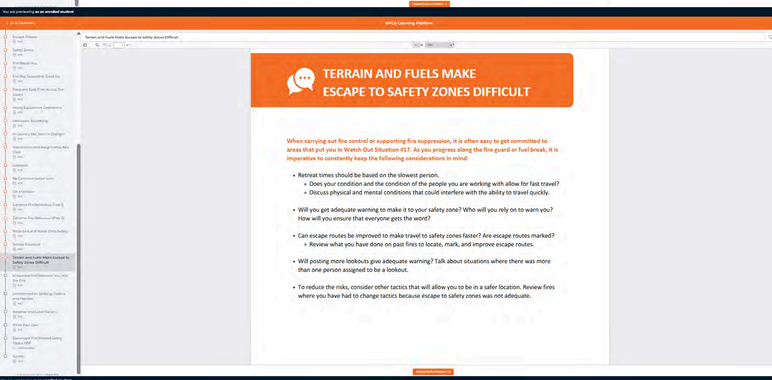
Simple actions, such as the following, can mitigate smoke exposures.

- Alter fire guard locations to minimize smoke exposure.
- Locate fire guard and fuel breaks in areas of lighter fuels or use roads or other barriers that will require less holding, patrol, and mop-up.
- Use flanking attack as opposed to head attack (where appropriate) in heavy smoke situations.
- Check fire behavior forecasts for smoke and inversion potential.

Implementation

Many techniques, including the following, can help reduce the exposure of personnel to heavy smoke.

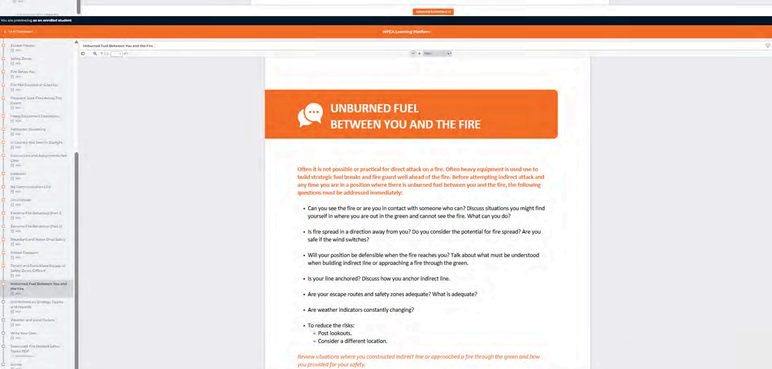
- Rotate people out of the heaviest smoke area; this may be the single most effective method.
- Locate camps and staging areas in locations not prone to inversions.
- The use of retardant, foam, or sprinklers can also significantly reduce the workload and exposure time.



TERRAIN AND FUELS MAKE ESCAPE TO SAFETY ZONES DIFFICULT

When carrying out fire control or supporting fire suppression, it is often easy to get committed to areas that put you in Watch Out Situation #17. As you progress along the fire guard or fuel break, it is imperative to constantly keep the following considerations in mind:

- Retreat times should be based on the slowest person.
  - Does your condition and the condition of the people you are working with allow for fast travel?
  - Discuss physical and mental conditions that could interfere with the ability to travel quickly.
- Will you get adequate warning to make it to your safety zone? Who will you rely on to warn you? How will you ensure that everyone gets the word?
- Can escape routes be improved to make travel to safety zones faster? Are escape routes marked?
  - Review what you have done on past fires to locate, mark, and improve escape routes.
- Will posting more lookouts give adequate warning? Talk about situations where there was more than one person assigned to be a lookout.
- To reduce the risks, consider other tactics that will allow you to be in a safer location. Review fires where you have had to change tactics because escape to safety zones was not adequate.

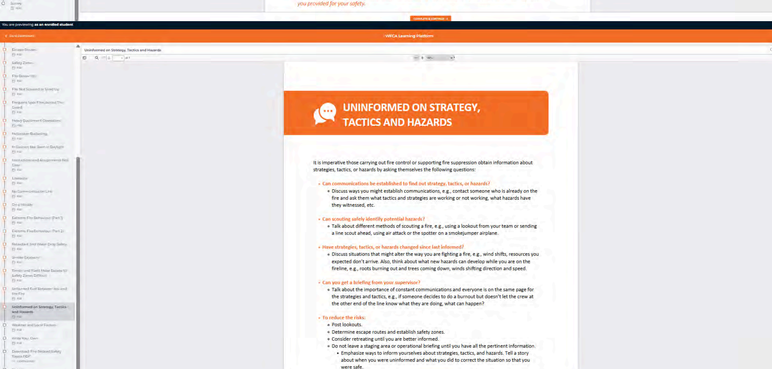


UNBURNED FUEL BETWEEN YOU AND THE FIRE

Often it is not possible or practical for direct attack on a fire. Often heavy equipment is used use to build strategic fuel breaks and fire guard well ahead of the fire. Before attempting indirect attack and any time you are in a position where there is unburned fuel between you and the fire, the following questions must be addressed immediately:

- Can you see the fire or are you in contact with someone who can? Discuss situations you might find yourself in where you are out in the green and cannot see the fire. What can you do?
- Is fire spread in a direction away from you? Do you consider the potential for fire spread? Are you within the wind ellipse?
- Will your position be defensible when the fire reaches you? Talk about what must be understood when building indirect line or approaching a fire through the green.
- Is your line anchored? Discuss how you anchor indirect line.
- Are your escape routes and safety zones adequate? What is adequate?
- Are weather indicators constantly changing?
- To reduce the risks:
  - Post lookouts.
  - Consider a different location.

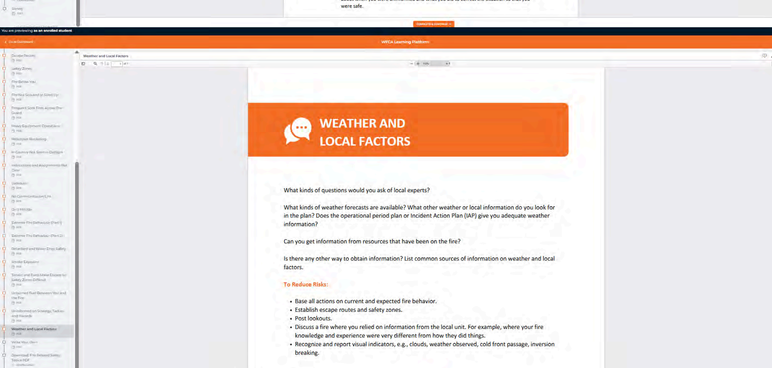
Review situations where you constructed indirect line or approached a fire through the green and how you provided for your safety.



UNINFORMED ON STRATEGY, TACTICS AND HAZARDS

It is imperative those carrying out fire control or supporting fire suppression obtain information about strategies, tactics, or hazards by asking themselves the following questions:

- **Can communications be established to find out strategy, tactics, or hazards?**
  - Discuss ways you might establish communications, e.g., contact someone who is already on the fire and ask them what tactics and strategies are working or not working, what hazards have they witnessed, etc.
- **Can scouting safely identify potential hazards?**
  - Talk about different methods of scouting a fire, e.g., using a lookout from your team or sending a line scout ahead, using air attack or the spotter on a smokejumper airplane.
- **Have strategies, tactics, or hazards changed since last informed?**
  - Discuss situations that might alter the way you are fighting a fire, e.g., wind shifts, resources you expected don't arrive. Also, think about what new hazards can develop while you are on the fireline, e.g., roots burning out and trees coming down, winds shifting direction and speed.
- **Can you get a briefing from your supervisor?**
  - Talk about the importance of constant communications and everyone is on the same page for the strategies and tactics, e.g., if someone decides to do a burnout but doesn't let the crew at the other end of the line know what they are doing, what can happen?
- **To reduce the risks:**
  - Post lookouts.
  - Determine escape routes and establish safety zones.
  - Consider retreating until you are better informed.
  - Do not leave a staging area or operational briefing until you have all the pertinent information.
    - Emphasize ways to inform yourselves about strategies, tactics, and hazards. Tell a story about when you were uninformed and what you did to correct the situation so that you were safe.



WEATHER AND LOCAL FACTORS

What kinds of questions would you ask of local experts?

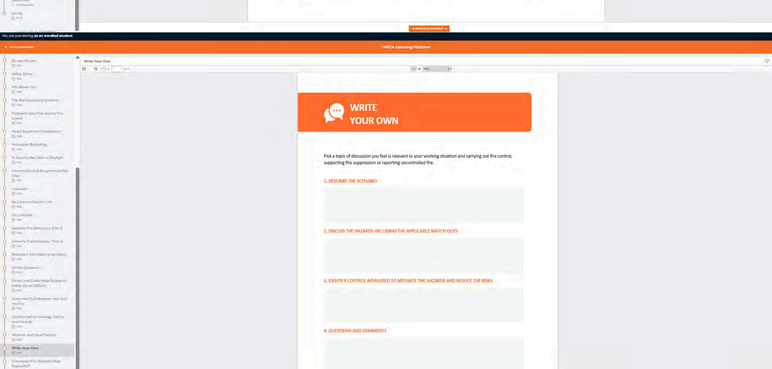
What kinds of weather forecasts are available? What other weather or local information do you look for in the plan? Does the operational period plan or Incident Action Plan (IAP) give you adequate weather information?

Can you get information from resources that have been on the fire?

Is there any other way to obtain information? List common sources of information on weather and local factors.

To Reduce Risks:

- Base all actions on current and expected fire behavior.
- Establish escape routes and safety zones.
- Post lookouts.
- Discuss a fire where you relied on information from the local unit. For example, where your fire knowledge and experience were very different from how did things.
- Recognize and report visual indicators, e.g., clouds, weather observed, cold front passage, inversion breaking.



WRITE YOUR OWN

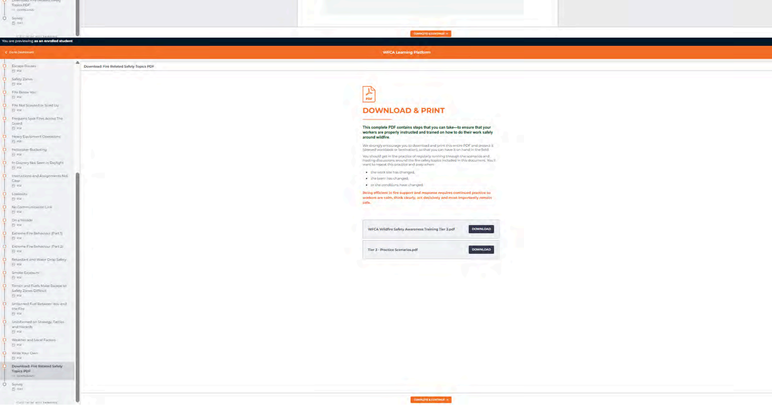
Pick a topic of discussion you feel is relevant to your working situation and carrying out fire control, supporting fire suppression or reporting uncontrolled fire.

1. DESCRIBE THE SCENARIO

2. DISCUSS THE HAZARDS INCLUDING THE APPLICABLE WATCH OUTS

3. IDENTIFY CONTROL MEASURES TO MITIGATE THE HAZARDS AND REDUCE THE RISKS

4. QUESTIONS AND COMMENTS



DOWNLOAD & PRINT

This complete PDF contains steps that you can take—to ensure that your workers are properly instructed and trained on how to do their work safely around wildfire.

We strongly encourage you to download and print this entire PDF and ensure it is delivered and trained in formations, so that you can have fun! Hands-on fun!

Use the table of contents to navigate to the topics you want to discuss. Each heading that points to a section in the safety topics included in this document. You'll want to repeat this practice and every when:

- One week has changed,
- Fire team has changed,
- or the conditions have changed.

Being efficient in the support and response requires continued practice to ensure we are safe, drink liquids, are cautious, and most importantly remain safe.

WFCA Wildfire Safety Awareness Training Tier 3.pdf — DOWNLOAD

Tier 3 - Practice Scenarios.pdf — DOWNLOAD

You are previewing as an enrolled student

Escape Slender
(5) min

Safety Zones
(5) min

Fire Below Hea...
(5) min

Fire Not Sustained on Good Co...
(5) min

Frequent Used Parts Arrive The Quand
(5) min

Heavy Equipment Operations
(5) min

Permission Stationing
(5) min

PI Density Not Seen In Daylight
(5) min

Instructions and Assignments Not Clear
(5) min

Libidinous
(5) min

No Communication Link
(5) min

On a Grade
(5) min

Powered Handle Levers (Part 1)
(5) min

Powered Handle Levers (Part 2)
(5) min

Radiation and Static Drop Safety
(5) min

Scrubs Explosive
(5) min

Servant and Fuels Adds Explosive Safety Zones Difficult
(5) min

Shock and Fuel between Gas and Engine
(5) min

Unbalanced or Sideslip Twists and Hazards
(5) min

Ladyfair and Lewd Posters
(5) min

What You Own
(5) min

Download: Fire Related Safety Topics PDF
(5) min

Survey
(5) min

Privacy Policy and Cookies

SURVEY & FEEDBACK

Complete our survey for a chance to win $250 Amazon gift card.

Thank you for consenting to the course. We want to get your feedback on the course and how it helped you. We will be grateful if you could spare a few minutes to do complete a brief survey regarding your experience taking the course. As a gesture of our appreciation, upon completion of the survey you will be entered into a draw to win a $250 Amazon gift card.

This survey should take less than 10 minutes of your time. Any information you provide will be kept confidential and reported only in a summarized form, alongside responses provided by others.

Click here to access the survey

MARK AS COMPLETE

APPENDIX B – Power Saw Operation for Forestry Workers Training Module

BC SILVICULTURE LABOUR FORCE STRATEGY PROJECT
Climate Change Adaption Skills
Power Saw Operation for Forestry Workers
Training Module

Submitted for the
DRAFT CURRICULUM MATERIALS & HR REPORT
DATE: June 12, 2025

This program is funded by the Government of Canada
and the Province of British Columbia.

Acknowledgments

We acknowledge that in our province the forest operations that are the subject of this report take place on the traditional territories of Indigenous Peoples who lived on and stewarded these landscapes since time immemorial. The Western Forestry Contractors' Association is committed to working with First Nations to address reconciliation.

Paul Lukwa is the primary author of this Power Saw Operation for Forestry Workers training module drawing from his experience as a forestry brushing supervisor and instructor. His work has been supported and developed with contributions from industry falling and chainsaw subject matter experts including David Humphries, Sean Ardiss, Doug Harrison, Jo Graber, Barry Manfield, and Glenn Erickson

No AI has been used in the production of this report.

Contents

Module 1 - Introduction 5

Module 2 - General Site Conditions Found In Silviculture Work 6

2.01 - General Conditions 6

2.02 - Adverse Weather 7

2.03 - Other Extreme Conditions 8

Module 3 - Personal Attributes of the Operator. Physical and Mental Well-Being and Protective Gear. 10

3.01 - The Working-Thinking Power Saw Operator: Hard Work, Skill And Mindfulness 10

3.02 - Skill 14

3.03 - Mindfulness 15

3.04 - Mental Model for Power Saw Work 18

3.05 - Human Factor Elements Which Contribute to Making Mistakes 19

3.06 - Factors that Lead to Mistakes and Injuries 20

3.07 - Body Conditioning Competency 26

3.08 - Personal Strategies To Reduce Injuries Through Fitness 28

3.09 - Musculoskeletal Injury Prevention 31

3.10 - Due Diligence 34

3.11 - Types of Personal Injuries 36

3.12 - PPE 39

3.13 - First Aid 44

Module 4 - The chainsaw and Associated Tools 46

4.01 - Chainsaw Components 46

4.02 - Tools, Accessories and Supplies 52

4.03 - Handling the Chainsaw 56

4.04 - Preventative and Ongoing Maintenance 60

4.05 - Applying Knowledge to Develop Skill 63

4.06 - Chain Maintenance 63

4.07 - Causes and Repairs of Typical Onsite Breakdowns 65

4.08 - Clearing a Flooded Saw 66

Module 5 - The Man-Made Conditions Required To Be Adhered In The Interest Of Carrying Out Safe Work 66

5.01 - Basic Silviculture Applications using Chainsaws 66
5.02 - Interpret Silviculture Prescriptions 68
5.03 - Select the right Saw and Bar Length for the Job 70
Module 6 - The Application Of Personal Attributes, Tools, And Man-Made Written Conditions To Silviculture Work In The Field For Chainsaw Operators 71
6.01 - Wood Structural Properties Determine Safe Cutting Procedures 71
6.02 - Wood Positional Properties Determine Safe Cutting Sequence 75
6.03 - Safe Cutting Procedures 76
6.04 - Bucking (Not Sure We Will Cover This In Brushing Course. Though We Do Have To Be Regularly Bucking While Brushing Slashing) 78
6.05 - Sliding, Rolling and Chain Reactions of Logs 80
6.06 - Boring 85
6.07 - Slashing 85
6.08 - General Considerations For All Slashing Applications Prior To Cutting 87
6.09 - Efficient Cutting Approach to Working the Face 92
6.10 - Productive and Safe Personal Performance on the Site 93
6.11 - Summarizing Brushing/Slashing techniques for Safety 96
Brushing/Slashing Checklist 98
Veteran/Returning Workers 98
Brushing/Slashing Checklist 100
New Workers 100

Module 1 - Introduction

Relating Personal Experiences
Throughout this training, and as time permits, it should be recognized that participants can share their experiences and learning with other class members. It is important that instructors and participants collectively build on their experiences and then consider how they can transfer their learning from this session back into the workplace. However, this must be weighed against the need to cover required topics in a limited time period.

Assessment
The knowledge, skills and attitude of the students will be evaluated during and at the completion of the course. The successful student will be able to demonstrate that they have met the learning outcomes.

The course is covered by six modules as follows:

1. Introduction & context.

2. General site conditions found in silviculture work.

3. Personal attributes of the operator. Physical and mental well-being and protective gear.

4. The chainsaw and associated tools used to carry out specific types of silviculture work.

5. The man-made conditions required to be adhered in the interest of carrying out safe work.

6. The application of personal attributes, tools, and man-made written conditions to silviculture work in the field for chainsaw operators.

Module 2 - General Site Conditions Found In Silviculture Work

2.01 - General Conditions

The correct attitude is to approach every work situation with caution and assess the possible repercussions of each cut.

2.01.1 - Site Assessment for Danger Trees

Prior to starting work, a site assessment for danger trees would likely have been done and any such hazards would have been rendered safe. However, due to weather and other unforeseeable conditions, conditions change, so it is important that the chainsaw operator is aware of conditions immediately surrounding the area to be worked in.

The following are some examples of possible conditions to watch for:

Cut-Up Trees - These are trees that a faller placed one or more cuts into, and subsequently, the faller had to leave the trees unattended, still standing, partially felled or hung up.

Cut-Up Tree Procedure - Strictly follow this procedure.

1. Mark tree or immediate area with bright coloured flagging.

2. Discontinue work in the area.

3. Report to the supervisor immediately.

4. Notify all workers who could possibly enter the area.

5. Barricade and place signage at access routes to the work area. Nobody has the authority to enter without permission from the worker and supervisor.

6. Have the cut-up trees removed by a person qualified to do so prior to any other work being conducted in the area.

Broken Tops - It is important to always be looking up. You may come across a target tree to be slashed that has a broken top from wind or pest damage. There can also be small leaf trees in the prescribed setting where weather damage has created a broken top of hung-up limbs.

Broken Tops Procedure - When you see a broken top or hung up limp hazard, notify your supervisor and create a work plan to correct the situation.

1. If the tree is small enough, you may be able to remove the hazard with help from your supervisor.

2. Create a no-work zone of two tree lengths around hung up tree, or twice the length of the hung-up branch around the drop zone.

3. Get a certified faller to drop the tree if the work in that area must be done.

4. Create a wildlife patch for birds and amphibians

Vining Brush - Such as Blackberry bushes.

If the site has a visible element of blackberry or other vining plants such as honeysuckle, your work site assessment should identify the hazard. Vining plants will change the way your trees fall, as the vines will change the pivot point of the trees.

Hung-Up Trees - Hung-up trees have been pushed or fallen into standing trees or timber by weather conditions, or poor planning, shoddy work practices or loss of control of a tree. Investigations of many fatal accidents have revealed that workers were working under a hang-up tree they created.

When you see a hung-up tree, notify the supervisor of the situation. Do not work within two tree lengths of the trees until the condition has been corrected by a faller certified to do that work.

2.01.2 - Hazards from Road Construction

Leaners, logs stacked against timber, hanging tops or limbs, rocks embedded in trees, loose rocks and stumps are some of the possible hazards which may be found.

1. Use extra caution when working below the road.

2. If construction crews are still available, get qualified people to remove hazard with loader, other machinery or alternate methods such as blasting, before proceeding to work.

3. If it is unsafe to work, stop and report to the supervisor.

4. Notify other workers or remove hazards if qualified to do so and proceed to work.

5. Widening or daylighting below the road is not recommended.

2.02 - Adverse Weather

Weather - Workers must pay attention to wind conditions. It is not safe to work in proximity to larger trees if the wind exceeds 40kph. This is when the upper half of the tree can be observed swaying from side to side. Workers must also dress appropriately to avoid hyper/hypothermia. Workers should move to safe zones in the event of a lightning storm.

Recognize added hazards from weather and environmental conditions; take precautions and ensure your physical well-being.

Visibility - Fog, rain and snow all reduce visibility and muffle sound while working and moving in the work area. Ensure safe distances are maintained. Observe the two-tree lengths rule.

Perform man-check procedures more frequently as cold weather reduces an injured worker's chances of survival.

Fog - If fog does not allow you to see and accurately assess trees and surrounding work areas, stop working until conditions improve. Ensure man-check procedures still function properly.

Wind - Often, dangerous trees are brought down by wind, and overhead hazards dislodge and fall unexpectedly. A gust of wind can also cause a partially cut tree to fall prematurely or sit back. Before the wind creates a problem, move to a protected area or stop work until conditions improve. Avoid cut-up trees.

Lightning - Allow enough time to find and take cover in a safe shelter such as a hard-top vehicle or thick canopy of immature trees.

Stay away from bodies of water and metal objects, such as tools and chainsaws. Turn off radio and communication equipment.

Spread out; do not stand in a group. Stay at least 10 m away from the highest potential conductor. Do not be an isolated tall object by avoiding open areas such as meadows, ridges, and mountain tops. Do not be connected to anything that may be an isolated tall object.

Rain and Unstable Terrain - Heavy rain can impact access to the work area, causing swollen creeks, road washouts, debris torrents, flooding, and landslides in and above the work area. Blowdown also occurs more readily in saturated ground.

Heavy rain makes it difficult to judge the lean of a tree, see overhead hazards, and hear nearby workers and equipment. Heavy rain can also create the hazard of looking through a face shield. In extreme cases work may need to be postponed until rain has let up.

Discuss terrain stability assessment and indicators at the initial safety meeting; know company shutdown and evacuation procedures, and First Aid coverage.

2.03 - Other Extreme Conditions

Avalanches - Be aware of avalanche risks; do not enter gullies, steep slopes and known avalanche chutes over 50% when snow depths exceed 75 cm, especially during warming temperature trends.

Snow and Frozen Conditions - Dehydration, frostbite and hypothermia can threaten your physical well-being and safety; follow safe work procedures. Saws behave differently in frozen conditions. Understanding how your particular saw can be adjusted to work in frozen conditions is important.

Stomping - These practices are used to remove snow, other ground debris, tripping hazards, create escape routes and ensure appropriate stump heights. Stomping is used in shallow snow or when stump height is not a concern.

Snow Loads and Frozen Wood - These conditions make it difficult to space small diameter trees in any other direction but where it is leaning or weighted. Consider this when planning the direction of fall. Snow loads along with frozen brittle wood can cause dangerous trees to fall unexpectedly.

Whiteouts - Whiteouts impair visibility to a point where you cannot see the tree falling. Overhead hazards such as limbs, hung ups, falling heavy clumps of snow and debris throwback are impossible to see. Falling snow can also block escape routes and cause disorientation.

Shutdown Procedures - Everyone must know company shutdown criteria and evacuation procedures. If you are unsure about these details, ask for the procedures at the initial safety meeting. Do not leave your operating area until all workers have been accounted for.

Shut down operation in consultation with supervisor when there is a danger of mud/rockslides or debris torrents.

Shut down operation in consultation with supervisor during heavy wet snow and extreme cold conditions.

Terrain - Is the ground steep or rough, wet, or slippery? Is there a risk of rolling debris? Is some ground simply too treacherous to work upon?

Wildlife - Are there signs of recent wildlife activity such as scat, carcasses, claw markings on trees? Is a particular area typical habitat for wildlife (i.e.: grizzlies like slide-alder, cougar like rocky outcrops).

In alder patches on the coast be particularly aware of cougar claw marks on trees. Learn how to identify if the activity is fresh. In cases where claw markings are fresh and dense, work in pairs, making lots of noise.

Hazards from Mechanical Damage - Tree or root damage from mechanical harvesting or other harvesting methods, or road and skid trail construction, can increase hazards on the ground and overhead as well as root system failure. Damaged leaners and trees on steep slopes may react more dramatically.

When you see an unsafe condition due to mechanical damage, notify the supervisor of the situation. Do not work within two tree lengths of the trees until the condition has been corrected by a faller certified to do that work.

Overhead Powerlines - If working near overhead powerlines, determine if trees can violate limits of approach. If any trees violate limits of approach, stop work and discuss the situation with your supervisor. The local Power Authority may be required to inspect the site. Follow written instructions from the local Power Authority.

Module 3 - Personal Attributes of the Operator. Physical and Mental Well-Being and Protective Gear.

3.01 - The Working-Thinking Power Saw Operator: Hard Work, Skill And Mindfulness

Proficiency:

- Maintain Personal Safety through gaining experience and skill.
- Assess and apply personal physical and mental fitness to the safe work of a power saw operator.

3.01.1 - Instructional Goals and Learning Outcomes

With respect to basic principles, successful participants will be able to:

- Explain the meaning of human factors in relation to workplace injuries.
- Explain the relation between personal performance and situational human factors.
- Describe how aerobic and muscular fitness contribute to work capacity.
- Describe the psychological cycle of concentration that guides the moment-to-moment behaviour of a chain saw operator at work.
- Describe effects of lack of conditioning, fatigue, substance abuse, hypothermia and hyperthermia on attention, productivity and judgment.
- Apply personal performance strategies to reduce and eliminate human factors caused incidents.
- Define motor skill and mental skill.
- Explain why skill and habit are not always the same thing and establish good muscle memory.
- Discuss mindfulness and its relationship to skill and hard work.
- Discuss human error in the workplace, knowledge sharing and best practices.
- Apply a risk and consequence matrix to operating a power saw.
- Describe factors that lead to mistakes operating a power saw.

3.01.02 - Risk, Mistakes and Consequences

Error is the human condition.

Human Factors - Human factors is a broad approach to workplace injuries and loss that looks at why people make mistakes and what we can do to prevent that from happening. It works from two central ideas: that no one intends to injure themselves or others in the workplace; and when workers make a decision that leads to unexpected and often tragic results, it actually makes sense to them at the time.

- Learning opportunity. Safety Share on human error that participants feel lead to an incident. We will revisit the human error shares and discuss root causes that lead to human error.

In order to understand why that worker made that mistake it is critical not only to look at their personal performance, but what in the conditions of their workplace made their disastrous actions seem sensible to them. Rather than chalking up the sad events to "human error" and leaving it at that. HF uses that point to begin to create a deeper understanding of why things turned out the way they did, this can be described as the root cause. Human factors take into consideration psychology, sociology, organizational systems, culture, motivation, leadership, industrial design and all the other elements that come together when humans and human organizations act with purpose in the workplace.

It looks at failure as an opportunity to learn. It also recognizes the importance of looking at what succeeds in order to build better, safer systems.

Risk - Risk is defined as the probability that exposure to a hazard will have a negative consequence. Defined more simply, risk is the idea that something will happen, usually something we don't want. It is the exposure to the chance of injury or loss.

- Can we give examples of risk that we would share with a new/young worker?

Hazard - A hazard is an agent or condition that has the potential to create an unwanted outcome. An unwanted outcome is a realized hazard.

- Can we think of a hazard we may share with a new/young worker?

Exposure - Exposure refers to being in a position to be harmed.

Consequence - Consequence refers to the severity, usually measured in the number of people exposed to the risk, of the unwanted outcome. Besides the quantitative aspects needed for insurance or legal purposes, consequence can also refer to the quality of suffering. Consequences around long term injury and disability.

Mistakes - A mistake is an event or condition that produces a result you didn't intend or expect; usually something incorrect that has a negative or upsetting effect on the undertaking and/or you and others are involved. Have you planned for the most likely mistake/incident or the most tragic? What is the right approach during your pre-work?

Tragic Series of Events - The tragic series of events refers to the theory that an upset doesn't occur with just one mistake but requires a series of mistakes (usually four) that occur in such a way over time and location to create the final unwanted outcome. It implies that error can be tolerated successfully as long as mistakes are noticed and corrected soon enough. It implies that barriers can be put in place to interrupt the series of events. But if mistakes aren't noticed and barriers are not in place mistakes will "line up" and cause things to go wrong.

Introduce Switchback Training

Expectation - Expectation is an outcome that experience, and your intent indicates should happen.

Surprise - Surprise is an event that does not meet your expectations. It is unexpectedly realized. How to create reasonable expectations for workers as a supervisor, different expectations for different workers. How to measure success for expectations.

Decision Making - Decision making refers to a situation in which a worker is presented with two or more explicit courses of action out of which they must select one. Staying engaged by choosing, i.e. should I move the front of the area I am working to create a clean falling edge, therefore giving me a safe evacuation route and allowing for a longer run along said edge?

Panic - Panic is the result of thinking you have run out of options in a crisis. Again, talk about Switchback. Fight or Flight. (I've messed up and rather than ask for help, I will quickly take care of the problem/hazard, so no-one sees). This can create risk as we are not thinking straight.

Risk-Consequence or Cost-Benefit Model - This model considers risk as a relationship between hazard, exposure and consequence. Obviously, there can't be a risk without a hazard and exposure to it. And for the comparison to be meaningful there has to be consequences.

Often this can be thought of as, *risk and our response to it is determined by the probability that something bad will occur compared to the severity or cost of it occurring.* This relationship can be expressed in the commonly used formula Risk (R) = Probability (P) X Severity (S). It can also be expressed in a graphic planning tool matrix comparing the estimated probability of something occurring to its potential consequences.

In any operation involving skilled work, particularly in settings that contain hazards, it is important to think in terms of the relationship between risk and consequence. Assessing risk is more or less a constant in any purposeful work activity. Some of it is done consciously on the strategic level, mostly in the planning stage when time is not as pressing. We do this deliberately too when we are met with a complex or unfamiliar problem and stop and think things through before we act.

Nevertheless, we also risk assessing unconsciously when the task or situation is more familiar and predictable, and time is pressing. We are guided then more or less by what feels safe; a kind of risk assessment on the fly. To better understand how we deal with risk and productivity at work it is first important to appreciate just what it is we are doing when we are working. To do that we need to understand our brain, because it is doing a lot of the work even if we are not thinking about it.

Reference Material

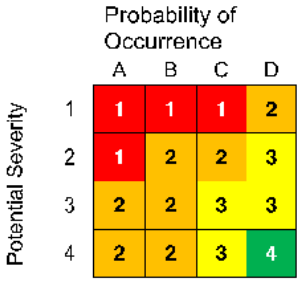
Operation Condition at Time of Occurrence	
Normal:	Normal operating process
Scheduled Maintenance:	Planned and scheduled maintenance
Upset:	An interruption and / or non-routine break in normal operating process. Includes unscheduled maintenance
Date of last SWP Review:	Indicates the most recent date the Safe Work Procedures (also known as JSB, JSA) for the job was reviewed and signed off with a supervisor

Severity Level – Use the following table to determine the severity level of the incident (question 1).

	Severity Level	
1	Level 1	Fatality OR Property Damage Exceeding $500,000
	Level 2	Employee admitted to hospital / probable permanent disability OR property damage between $100,000 and $500,000
	Level 3	Employee not able to perform all of their regular duties OR property damage between $10,000 and $100,000
	Level 4	Employee able to perform all their regular duties OR property damage less than $10,000

Potential Severity Level – Use the Severity Level and Probability of Occurrence grid to determine the potential severity level (question 2).

	Probability Index of Occurrence		Example
2	A	Likely to occur immediate y	Could happen any day
	B	Probable in time	Likely to happen if conditions are repeated
	C	Possible in time	Under the right conditions, the incident might be repeated
	D	Remotely possible	Even under similar conditions. it is unlikely the incident will be repeated



For page 1. Question 2, mark the number that is indicated on the grid above

3.02 - Skill

Before beginning this section, take the time to discuss mental strategies to remain aware and alert at work. *Skill should not be confused with the layering of habits. Muscle memory*

Skill - Skill defined in its broadest sense is the ability to perform with maximum certainty and minimum outlay of energy, or time and energy.

- Skill comprises both learned mental and motor ability. Discuss here about muscle memory.
- Skill allows the performer to maintain control of the situation they are operating in. Experience, how is maintaining control different for new/young workers.
- Skill is perishable. It will decay with lack of practice. It will also deteriorate due to behaviour like complacency, negligence and poor motivation. Return to discussing muscle memory.

Motor Skills - Motor skills reflect well-integrated muscular performance that through practice can be done reliably without much thought when performed in a familiar setting. It generally involves developing strength, dexterity and economy of motion. It takes about 10,000 hours of practice and experience to master this kind of skill also known as muscle memory.

Mental Skills - Mental skills involve decision-making and problem solving associated with tasks involving less familiar or unexpected situations. Depending on how complicated conditions are, skill may basically require recalling rules and acting accordingly. Dealing skilfully with more complex situations needing finer degrees of discretion requires deeper knowledge of the system, including its underlying theory and principles. At this level of mental skill better perception and more thought are required in order to make sense of the situation and adapt performance to the differences encountered. With this kind of skill, because it requires weighing probabilities, there is a greater chance of being wrong. What would you talk about with a new/young worker with regards to mental skills? How as a supervisor do we gauge mental skill in a new worker? When are we comfortable with their mental skills? What kind of check and balances would we create for mental skills?

Acquiring Skills - Acquiring skills, according to some psychological theories, is accomplished in three stages.

1. During the cognitive phase, we think through the task and actively discover new strategies to accomplish it more proficiently. Will sharing of experiences help the cognitive phase?

2. During the second phase, we think and concentrate a little less, make fewer mistakes and continue to become more efficient.

3. By the third and more or less final phase we have become as good as we need to be at the task and are capable of working automatically; as if on autopilot. During this process our reasoning, and conscious brain have become less active and other less conscious parts of the brain take over. This is a good thing. Because if we had to constantly think through a repetitive task it would be so exhausting that we would never be productive. Or able to think of much else for that matter. This can be called the “flow state”. Are there risks with working in our flow state?

But there are some risks involved in relying on the less conscious parts of our brains. In terms of how the brain actually works to achieve efficiency it finds ways to use the least thought to perform activities. It does this by taking mental shortcuts. Some of these include grouping perceived information into sets based on their similarity to past experience. Others use reasoning that arrives at an answer quicker and is usually correct rather than take longer to find a better, more optimal answer. Under this regime, depending on how automatic or unconscious the activity is, or how little attention is being paid, there is a chance that new and significant information can be missed, or oversimplified decisions can be made, or both. The ingenuity of our brain also creates room for error. Can we share some examples of flow state?

The more complexity involved in skilled problem solving and decision making the greater probability of making mistakes. When we come against an upset condition.

Introduce WCB video on Slashing fatality?

Incident Investigation: Tree Barberchairs, Then Strikes Worker | WorkSafeBC

Habits - Habits are repeated patterns of motor and/or mental learned behaviour. Depending on how they are acquired and reinforced, habits may not reflect actual skill. Because of experience and their familiarity, well established, but inappropriate habits may be mistaken for skill. People who seem to exercise bad habits without bad results may just be lucky. Do we as supervisors condone bad habits with veteran workers by not providing feedback? Is this due to lack of confidence with our roles? Do we worry that our pointing out bad habits will lead to confrontation?

3.03 - Mindfulness

In any purposeful activity, such as work, one of the main activities of the brain is to figure out what is going to happen next. It does that by calculating probabilities.

Mindfulness - Mindfulness refers to a worker's vigilant engagement of attitude and concentration; a way of paying attention so that in the midst of the conscious and unconscious routines of work they can remain mindful of their environment, their own condition and what changes in either of those mean.

Mindfulness is sometimes referred to less technically as being "in the zone". It is the opposite of being zoned out or mindless. It is a higher form of paying attention that involves mentally standing back: part overview, part ongoing scrutiny and part detachment. It requires a level of conscious effort and renewal. It is a frame that all the other forms and states of attention and performance fit into.

It is the ability to stand back as you lean into your work and keep track of yourself and your situation.

In complex situations where individuals must depend on each other, such as firefighters, the military and even silviculture crews there can be a collective mindfulness involving cooperation, communication and care based on the same higher level of attention.

Give an example of a crew working a piece together. How do you keep track of where you are working, crew mates are working and how you're working the piece together?

Mindlessness - Mindlessness is the inability to recognize early warning signs of danger or significant changes in the environment and what they mean. In complex situations this mental state results in old routines being maintained in place of more appropriate adaptations to changed circumstances. It means operating on automatic pilot, mislabelling unfamiliar new contexts as old familiar ones and being inflexible. It also means not paying attention.

Anecdotal story of how as a younger worker Paul N would often find that he had multiple close calls in quick succession, and how I still tell workers in cases like that to take a 5- or 10-minute break. Turn off the saw, or go to the cash, and re-focus.

Attitude - Is an aspect of mindfulness, and is the approach we take towards a condition or action in the workplace**.** Both individuals and organizations can have attitudes. How is attitude different when doing piecework compared to day rate? Do you take better care of yourself and your tools on day rate or piece rate?

Attitude is determined by (with some examples):

- Personality - In individual this may include traits such as;
    - Sensation seeking.
    - Impulsiveness.
    - Risk-taking.
    - In a company it might be its organizational culture.
    - Have you ever worked for a company where its personality was high risk attitude? How did that make you feel?
- Motivation - Individuals and organizations both possess motives.
    - Intentions.
    - Peer pressure.
    - Profits/productivity.
    - Deadlines, expectations etc.
    - How does day rate fit in with motivation? What motivates you on day rate?
- Experience - Previous outcomes will affect how we approach current situations and actions.
    - Memory, previous rewards.
    - Familiarity, complacency, confidence.
    - Automaticity, overlearning, skills acquisition etc.
    - As we get more experience, what kind of work environment do we seek? Where do we feel more comfortable? Reward vs Risk

Situation awareness - This, like mindfulness, is the cognitive capacity to perceive elements in the environment within a volume of time and space, comprehend their meaning and project their status in the future. It includes hazard perception; the ability to recognize and predict hazardous situations, including assessing the magnitude of the hazard. What variables can alter your situational awareness?

Metacognition - Metacognition refers to the mindfulness involved in being aware of one's own mental and physical abilities, limits and processes. How would metacognition differ from a new/young worker to a veteran worker?

Attention - Attention is what it takes to read this sentence and understand its meaning. As an example, if there are other people in the room as you read this you may be aware of them. You may be aware some are talking. But to understand what they are actually saying you need to pay attention to them. That is the difference between general perceptual awareness and actually paying attention. Attention is a principal element of mindfulness.

Attention can be understood to mean the mechanism for continuous cognitive processing. As shown in the above example there is some preliminary cognitive processing that can take place with or without paying attention: that is how you know there are people in the room talking as you read this. But through attention you can afford further cognitive processing and listen to and understand what they are saying.

Attention is limited. It is not possible to pay attention to everything going on at once. Although it is not a perfect comparison, attention can be thought of as fuel of which there is only so much available. If you spend it on one thing it is at the expense of being able to pay attention to something else.

A second property of attention is that it is selective. You can direct your mental fuel on one or other cognitive processes as you see fit. The very fact that attention is limited means that it must be selective. Along with selecting what you pay attention to you can exercise some control over how tight the selection of attention is. For instance, if the people talking in the room get louder you can try to shut out that distraction by focusing harder on your reading. Oppositely you may be able to continue reading, but still direct enough attention to the talkers to hear the score in last night's game.

Nevertheless, even if you choose to ignore much of what is going on in order to pay attention to your reading or sawing, that ignored information is still processed to some extent. Otherwise you might not react appropriately if the room you were reading is filled with smoke or your foreman called to you to shut your saw down.

As discussed under skill, tasks require less attention with practice. With enough practice some simple tasks can become automatic requiring no attention.

Even though we can select the focus of our attention, we are not always successful. Attention selection can fail.

When slashing, how do we keep our attention focused? Workers often talk about how slashing days go by quickly because you are always having to stay focused as compared to planting. Do you have tricks to keep focused that you can share with others? What would you tell a new/young worker?

Performance State - Performance State is the optimal result of mindfulness, attention and attitude. It is a condition where the worker, like an athlete, approaches their work as an event that requires their full concentration, best motivation and focused skill. Before starting up the saw, or getting in the driver's seat, the operator takes stock of themselves; their emotional state, their physical state and then consciously directs their faculties to the task at hand. Through that practice they enter and sustain a performance state. Do you have a routine in the morning, at home, in the truck, at the work site, that helps you get into the performance state?

3.04 - Mental Model for Power Saw Work

The human brain accounts for three per cent of the body's total mass but consumes 20 percent of its energy.

What then are power saw operators actually doing? Consider the following exercise. Take a few moments of actual work and break it down into the smallest number of steps and actions you can, taking into account all the things you are busy doing accomplishing this task. If you are experienced this may be harder than you think because you do so much of it without thinking. Organize all these steps and functions until they form a pattern that begins to repeat itself. What you will get is what we could call a neuropsychological model of operating a power saw in a silviculture production setting.

You may find your list begins to organize itself along these lines:

1. Observing:
    a. Basic perception: you have to be awake with your eyes open.

2. Making sense:
    a. Sorting out what you see into what is relevant to your task.
    b. Paying attention to the right information.
    c. Appreciating the meaning of the information.

3. Judging:
    a. More complex evaluation comparing what you see to what you want to accomplish.
    b. Weighing, differentiating information.
    c. Involves thinking ahead to future steps.

4. Deciding:
    a. Choosing next action after considering possibilities.
    b. Projecting effect of action.

5. Acting:
    a. Implementing motor activity.
    b. Positioning, cutting.

6. Observing:
    a. Watching the effects of your action.

Now imagine yourself training a new/young worker on the power saw. How might you emphasize certain parts of the exercise of slashing/brushing in a show and tell situation. When I am training a new worker, the first day in the brush is primarily the supervisor running the saw, doing the work for a set amount of time, turning the saw off and talking about what they were doing, then allowing the new worker to do some cutting and commenting on the steps they are taking or now taking. Now think about the list written above and what you may or may not observe?

This simple neurological model is influenced by all the other elements of hard work discussed so far in this lesson. Fitness, skill and mindfulness all contribute to how smoothly this process operates. Risk, hazards and mistakes also influence the performance of this model and the person operating it. All the variables the individual operator brings to this mechanism make its functioning less predictable in terms of efficiency and productivity. Those factors need to be mixed with contributing conditions on site and even off site that make things even more complicated. Operating a power saw at work then is complex. And in that complexity are chances for success and failure. Fortunately, most of the time, we are successful. But because failure can have such severe consequences in power saw work it is important to understand some of the factors that lead to the breakdown of the complex mental and physical processes involved. Why do we make mistakes?

3.05 - Human Factor Elements Which Contribute to Making Mistakes

From experience, either yours, or some event you know about, recall an actual incident or near miss. Analyze this event from a human factor perspective.

For instance, don't say the truck went off the road because the driver was going too fast to make the curve. What conditions were present in either the driver's mind, or their circumstances, or both that led to them driving too fast to keep the truck from drifting sideways? As we look and talk about root causes, what would be root causes? Ask why the driver felt they had to be driving that fast that day? Or why didn't they recognize the risk involved in their behaviour? If you can, break them into factors that come from the personal performance of the individual and factors that come from the general conditions the worker was in that day. Is it that easy to separate the two?

3.05.01 - Exercise Student Example

From previous exercises like this here are some of the factor's students have identified. Ask students for other examples.

Personal Performance
Fatigue: Physical, Emotional, Psychological
Inexperience
Misunderstanding
Emotional State, Depression, Anger
Distraction
Peer Pressure
Deadlines
Personal Expectations
Drug/Alcohol/Testosterone
Complacency
Unprepared For Unexpected
Rewarded For Risk-Taking
Bad Habits

Immaturity
Following Bad Examples
Thrill-Seeking
Inappropriate Attitude
Not Physically Fit
Systems/Process
Preoccupation with production
Inadequate training
Poor communication practices
Poor supervision
Only token commitment to safety
Owner doesn't care
Deadlines
Expectations of workers
Encouragement of drug/alcohol
Failure to review practices
Overconfident attitude
Rewarded for risk-taking
No one is accountable
Poor internal reporting
Setting bad examples
Ass covering
Poor company attitude
Corporate culture
Resistance to change

It is obvious from this exercise that our ability to perform is affected by things like distraction and impairment. Emotional states and fatigue figure as well. Not only are things like strength and our ability to concentrate interfered with, so are critical functions like perception, judgment and decision-making. It is also apparent from the list that motivation, communication and experience are prime influencers of our behaviour as well. All these factors can come from not only our own personal disposition, but from the broad conditions we find ourselves working in as well. In fact, it may be that our personal condition is in many cases actually created by the larger complex organizational work setting we are part of.

Now looking back on the list above, can you think and share of an example where both a personal performance and a systems breakdown has led to a close call/incident?

3.06 - Factors that Lead to Mistakes and Injuries

3.06.1 - An Example of a List of Factors

If we organize factors, from the physiological to the psychological, that can contribute to workers making mistakes the list might look like this:

1. **Poor physical fitness** can lead to poor performance for many reasons. Our inability to recruit muscle groups quickly enough can lead to loss of balance, joint damage, inflammation etc.

   Low strength and endurance can increase a worker's susceptibility to fatigue as well as overworked joints, muscle and tendons. Poor aerobic capacity means we either don't have or can't use energy efficiently. In terms of fitness our body doesn't wear out with use; it deteriorates with lack of use. Do you have a pre-work routine for stretching, getting our muscles firing for the workday? As a Supervisor do you lead by example? Do you allow time for stretching in the morning before work?

2. **Work capacity**, our ability to work safely and productively, can also be reduced by environmental factors such as **cold, heat and humidity**. These can increase the physiological stress on workers and reduce performance until acclimatization takes place. How does shift schedule come into play? Is there times that shift work should be addressed for work capacity?

3. **Fatigue**, in both the short term from exertion, and the long term from insufficient rest and recovery time, can be as impairing as states brought on by alcohol or drugs.
   Fatigue can also depress your immune system and make you susceptible to respiratory and other infections. Studies have found that silviculture workers should be getting between 8 and 9 hours of sleep a night. Do you get that amount of rest? Does your environment allow for your crew to get that amount of rest (camp hours, quiet time?)

4. **Drugs and alcohol** depress and distract a whole range of elements from reflexes to executive functions such as judgment, all needed to perform properly in the workplace and life in general. How do you talk to new/young workers about drug/alcohol outside of the workplace? What kind of example do you set?

5. **Hypoglycaemia,** or low blood sugar, is strongly linked to poor cognitive function. Our nervous system requires blood glucose for optimal performance. When blood sugar levels drop, from not eating enough of the right food at the right times, attentiveness and decision making suffer. We also respond slower to new events or conditions in the environment. How to address poor nutrition with new workers? Do you make time for a lunch break? Even on a long commute day where production is slowed, it is important to be sure workers are taking care of their nutrition. How does this compare with camp days vs working from home?

6. **Heat stress** as a combination of air temperature, humidity, hard work and protective clothing can lead to **heat cramps, heat exhaustion and heat stroke**. Sweating is the body's defence against heat. But if water and electrolytes (salts) lost this way are not replaced, or if the body ceases to be able to dissipate heat as fast as its muscles produce it, the body's cooling system breaks down. In cases of heat stroke vital organ function is affected. Drinking water is not enough. As a supervisor we should be carrying electrolytes for our crews to add to their water.

7. **Dehydration** can affect our performance at levels of fluid loss as low as two percent of our body mass. It is linked to **heat stress**, **heat cramps** and **heat stroke**. Dehydration and related

conditions all lead to decreased cognitive and physical performance. Dehydration can occur in cold weather as well. Dehydration affects blood circulation, heat dispersal and thinking. PPE in many cases increases our chances of dehydration and heat stress. Did you bring a large water container to be sure no one goes without water? Water bottles can get spilt on the way to work; folks forget their water. How does PPE increase our chance of dehydration? Cut gloves, sleeves?

8. **Cold**, particularly exposure to low temperatures and high winds, can lead to **wind chill, frostbite, hypothermia** and death. Cold causes the body to cut off blood flow to the extremities resulting in increasing discomfort and loss of dexterity. Importance of carrying a variety of work clothes for changing conditions. Do you talk with your crew about this?

9. **Skills and fitness are perishable**. If we do not practice or maintain them, we lose them. In a crisis we tend to revert to whatever is our dominant behaviour, whether it is the right behaviour or not. This can be disastrous. By maintaining discipline around how we practice our skills they become the dominant behaviour. As a result, it is skilled behaviour that we revert to should we lose control of a situation. Just as important, they will be the skills we automatically work with when we are in the familiar and the routine rather than have them decay with complacency. With slashing, we can have long times in the summer/winter where we do not run saws. How as a supervisor do you start off your slashing program? What are some keys to getting our slash legs back?

10. **Limits to our perception** come with being human. This is suggested by our susceptibility to optical illusions. Research involving attention and perception shows we tend to see what we expect to see while ignoring or not recognizing new important patterns, events and conditions in our environment. This tendency is called inattentional blindness: a condition that slows or prohibits us from seeing the unexpected. Think of slashing alder all day long, looking up all the time, and not seeing that broken top or hung up branch. This highlights the importance of slowing down.

Our susceptibility to optical illusion is an example of the limitations of human nature.

3.06.2 - More Factors that Lead to Mistakes and Injuries

Attention - Attention is limited to being able to concentrate on, at most, two or three things simultaneously. Attention is also hindered by stress. Being distracted or having too much on our mind can be a hazard if it takes attention away from what is required to work safely and productively. Think of those close calls where your mind was not on task.

Working Memories - Working memories are limited as well. Most people can reliably remember three or four items at a time. The upper level is five to seven. As a result, we tend to remember information in terms of key words, phrases and pictures, which can lead to an oversimplified view of various models, procedures and situations.

Practice - Practice does not necessarily make perfect. The more skilled we are at something the less attention we need to dedicate to a task. To accomplish this the brain takes perceptual and problem-solving shortcuts. In achieving that efficiency, it leaves room for error. This can lead to missing new information or making over-simplified decisions, or both, if we are not paying sufficient attention. What could be “new information” that we may be exposed to while slashing? How do we talk to new/young

workers about this? Does a new worker, with less practice, focus on new/small information and miss some of the bigger picture?

Experience - Experience is not always the best teacher**.** For example, it is possible to drive for years without wearing a seat belt and still be alive. But that experience should not suggest that not wearing a seat belt is safe. Thinking that you don't need to wear a seatbelt because you have never needed one yet, does not offer the guarantee against harm that simply wearing a seat belt does. The past is not a reliable predictor of the future. And if we have bad work habits that, so far, have not harmed us, experience has likely reinforced them. We may be so misguided that we consider a near-miss as a sign we are doing something right rather than an indicator of our lack of skill.

Experience is not a guarantee of expertise. It may lead us to making a disastrous decision when our luck runs out. The challenge here as supervisors is how do we talk to veterans about the difference of experience vs expertise? Do we talk about how as veterans they need to be setting a safe example for newer/younger workers?

Overestimating our Abilities - We tend to overestimate our ability, and research shows we tend to be blind to our own limitations. We tend to think of others as less able than ourselves. We also blame them when things go wrong. Because we tend to hold a high opinion of ourselves, we can be over-optimistic when more balanced and realistic judgment is required. We are also resistant to evidence that tends to contradict our own worldview.

When we are supervising veterans this is a challenge, because they are overestimating their ability as are we. They may have many years of safe work and can pick away at our teachings pointing out contradictions. Experience tells us as supervisors it is important to listen to vets and acknowledge their experience and different way of doing things, but to still demonstrate the methods or skills you are trying to share. For example, we may say "the way you are working this piece certainly will work, but if you were to cut in this manner, laying all the trees to the south and working this face, then if you are injured we would have an easier time of not only finding you but also in assisting you with an evacuation route.

Emotions - We are susceptible to emotion: anger, embarrassment, social anxiety, pride, the need to belong, etc. This can all inhibit our critical thinking, problem solving and right behaviour. This is another great time to discuss Switchback.

Risk Homeostasis - Risk homeostasis is a theory that states we become used to a certain level of risk and will adjust our behaviour to maintain it. It has also been named the law of conservation of misery because it suggests that we will prefer to work with a possibly greater exposure to disaster because we are used to it, even if it is not in our interest. Worse, we may not be conscious of it. The theory is controversial unless it is understood that training, incentives and mindfulness can mitigate our possible addiction to a certain level of risk. Can more regular and creative ERP drills help mitigate this?

Risks and Rewards - There are rewards to taking risks. Risk taking can be thrilling being it releases strong chemical stimulants that appeal to our basic instincts. Our basic instincts should not be motivating us at work. Nevertheless, we are rewarded for breaking rules. Taking risks can seem like a way to get the job done quicker or to make the task less onerous. The problem with pushing your luck is no one can say

where the line between short term benefit and disaster is drawn. Talk about the WCB video that was viewed with regards to risk and reward

Mindfulness - Mindfulness means beginning each day with a self-assessment of your fitness for work. Consider your level of fatigue, which parts are sore, your mood, what's on your mind and how fit and ready you are for a productive day of work. This pre-work check of yourself is as important as inspecting your power saw and looking over your protective equipment. Make the mental effort to frame the workday as an event you need to focus on: not an extension of the conversation in the truck on the way to work or something to get through before the weekend.

Repeat this process through the day as you get caught up in the routine and repetition of the work. Stop, shut off the saw and take in your situation again. Consider not only yourself but the situation you have worked yourself into. Measure that against what you had planned. Do we put ourselves in the bite as workers by creating un-reasonable plans before the day has even started? How can Supervisors/contractors/licensees help mitigate this? After this assessment, once you're confident everything is as it should be, continue working. If there is something in the situation that needs attention then report it, fix it or adapt accordingly. Keep an eye on your work partners and crew as part of these periodic assessments.

Risk and Consequences - Consider risk and consequences constantly as part of your approach to the task. Measure the cost against the benefit of any action that seems uncertain. Catch yourself before taking some risky short cut by thinking clearly of the potential consequence if it doesn't go right. Is it worth it? This simple mindful exercise may save your life or someone else's. We are all responsible for our own safety as well as those around us. If we take an inappropriate risk, we risk those around us.

Surprises - Expect the unexpected in every situation; even the most ordinary setting in the most routine conditions. Work confidently but consider what would happen if your actions failed and what your response would be. What is in the environment that might surprise you? By disciplining yourself to consider what might go wrong when things are going right you may not have to deal with the unexpected; you will be ready for it should it happen. As leaders, how can we talk about the unexpected at our daily tailgates? Can we share or open discussion to experience similar settings where the unexpected happened?

Dumb, Dangerous or Different - Dumb, dangerous or different are key watchwords to key you into a potential hazard. Anything dumb, dangerous or different needs to be considered. That may mean stopping, adapting your plan or reporting to a supervisor. At a minimum it means thinking through the situation before continuing. Keep these words in your head to trigger you out of the work routine when something doesn't seem right.

Revision - Review your training regularly. Reviewing this manual and your notes will refresh your grasp of key principles and information which otherwise might be forgotten. It will allow you to maintain your technical understanding, which will serve to support both your mental and physical skills. It will also show you how quickly you can lose what you have been taught, reminding you of the constant effort and discipline required to maintain your skills and performance state. As supervisors we need to review training with workers regularly. What should your worker's observation cover, and how often?

Accountability - Look after yourself and your fellow workers. Be responsible for your own actions and keep an eye out for the rest of the crew. Help them when they need it, prevent them from getting in trouble or hurt as you would yourself, and speak up to them when they are not acting in their own or the collective best interest.

3.06.3 - Knowing When You Are Out Of The Performance Zone

These are some symptoms that indicate you are losing your ability to stay in the "zone", the mental performance state necessary to work safely.

Physiological symptoms:

- **Thirst**: means the neurons are not talking to one another proficiently: perception and executive functions are impaired. Are you taking in enough water and electrolytes? By the time you are thirsty, you are already dehydrated! If you walk into your piece with fuel, are you carrying enough water? What is your drinking routine? Do a visual check of your urine during the day and in the evening.
- **Lightheadedness, dizziness, and mood swings** can indicate low blood sugar: again perception, decision making, and judgment are impaired. Eating small amounts throughout the day vs one big lunch?
- **Lightheadedness, dizziness, nausea**, could be heat stress: same impairments: should note that you can adapt to higher levels of heat and humidity over the course of two to three days. Other signs of heat stress? Often on the first hot days of the summer we suffer the most. When as a Supervisor do you look to implement "fire hours" for the crew?
- **Numbness** due to cold and hypothermia means your blood supply is migrating to your vital organs: dexterity, coordination, strength, balance and judgment are all at risk. Hands and feet are particularly vulnerable. Talk here about Supervisors providing disposable rubber liners for hands to keep warm. Not too tight.
- **Exhaustion or undue fatigue** may be the result of poor fitness to begin with, overwork and/or a combination of any or all of the above leading to debility. Can this be addressed with either work shift or planning for different activities during the work week to give the crew a rest. How might this affect a new/young worker? Would you start a new slasher on a 5-day shift?

Psychological and attitudinal symptoms:

- **Fighting it**: hard work is not easy. But when you are struggling and seeming to work against yourself it may be appropriate to time-out and mentally regroup. Teach the 5-minute time out. We ask that workers check in on each other by turning off the saw and listening for their co-worker. If you are fighting it, take some extra time outs, listen for your co-worker, go back for fuel/oil even if you are not tanked out.
- **Distraction**: if you are obviously preoccupied by something other than work, particularly something with emotional weight that is occupying your concentration, you are likely less aware and less able to pay attention to what needs to be paid attention to.
- **Impairment** brought on by pharmaceutical drugs, psychotropic drugs, alcoholic beverages etc. is an obvious indicator you are unfit for work
- **Gambling:** if you find yourself gambling, risking something, rationalizing that you can get away with it, doing something stupid (stupid is doing something you know better than to do), you are

out of your performance state. Under this category a lot of common thinking faults came up. Here are a few:

o **Sunk cost fallacy** is when you work into a jackpot or jam and, even though all the effort you have put in is irretrievable, and will not affect the outcome, you persist. This may mean you ignore the complex tension in the wood, the tight clearance, the poor footing because you feel you have invested so much effort already. This illogical thinking can lead to worsening the situation and putting yourself in jeopardy. It amounts to simply piling more mistakes on to the ones you have already made (see **tragic series of events**). At his point the only thing you should be cutting is your losses. Bring back Switchback.

o **Brinkmanship:** because it is imperative in your mind that things work out, you take a worsening situation and gamble an even greater effort thinking that because you have piled on more risk and put more at stake at that moment it will affect the outcome.

o **Gambler's fallacy:** because a coin turns up heads six times in a row does not mean the next flip will more likely be tails because it is "due" to flip" Chance and circumstances don't work that way. If you start applying this kind of faulty thinking to your saw work, you are in trouble. Just as faulty is thinking "you got away with it last time" so it might work now. The past is not a reliable predictor of the future.

o **Bad habit creep:** If you have disciplined yourself to the point where you habitually do things right, when you slip out of the performance state it will feel uncomfortable.

3.07 - Body Conditioning Competency

You should be able to maintain personal safety enabling skills and maintain physical fitness as well as proper nutrition and hydration.

3.07.1 - Instructional Goals and Learning Outcomes

Participants will be able to:

Understand the importance of fitness routine, how to cater to your particular needs.

- Define hard work.
- Describe proper fitness, nutrition and hydration required for hard work.
- Maintain proper nutrition and hydration when operating a chainsaw.
- Adopt an awake, aware, alert attitude to chainsaw work.
- Execute pre-season and on-going conditioning.
- Define due diligence.
- Apply due diligence as a practice in the workplace.

3.07.2 - Hard Work

In this age there are fewer and fewer people who actually perform physical work for a living. Most physical work is done today by robots or machines. Silviculture is one of the few jobs in forestry that has not been automated and as logging practices have become more automated, in fact our sector has seen

more demanding work due to slash loads and production logging occurring in areas that it never would have in the past.

Hard work is generally considered any physically demanding activity
that requires high energy expenditure, intense muscular effort or a combination of the two. The physical demands of operating a power saw for silviculture also requires other aspects of hard work including vigilance, balance, agility and repetition.

How hard you work is affected by the pace of the work, the duration of the work and the intensity of the exertion involved. With remote settings vs town settings, how might your intensity change? Should it change?

Work capacity is the workers' ability to accomplish production and performance goals without undue fatigue or harming themselves or others.

Hard work generally requires a high level of aerobic and muscular fitness.

In order to work hard the body requires the energy that is released during the metabolism of fat and carbohydrate. This process requires oxygen. The harder the work, the more energy expended, which requires more oxygen.

Aerobic fitness is defined as the ability to take in, transport, and use oxygen. Aerobically fit workers can work at higher levels of exertion for longer periods of time. Aerobic training will improve aerobic fitness, increase work capacity and generate substantial health effects. However, these effects can be lost in three months of inactivity. Training year round will maintain fitness, productivity and health. Most of the decline in aerobic fitness with age is due to increase in body fat. With our annual work schedule as silviculture operators, how does the above statement affect us? Doing multiple activities throughout the year helps with reduction in MSI injuries, but is negative in maintaining targeted muscle groups?

Muscular fitness consists of strength, endurance and power.

- **Strength** is the ability to lift heavy objects. It is usually defined as the maximum force exerted in a single muscle contraction.
- **Endurance** is the ability to repeat muscular activity involving moderate weight or resistance: the ability to persist.
- **Power** is the ability to exert force over a short period of time: usually in a burst of activity or effort. Operating a power saw requires all three aspects of muscular fitness.

Table: Occupational Work Classifications

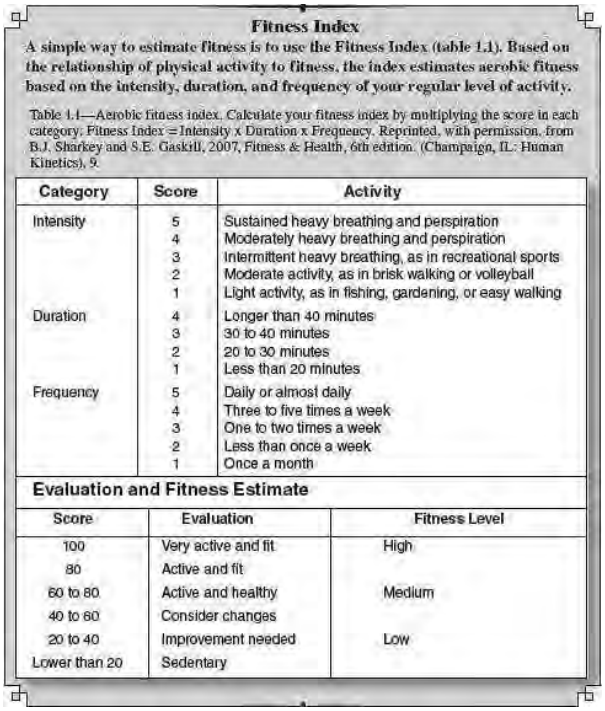
Occupation	Energy Kcal/min	Muscular	Comments
Farm Labour	4.0 – 7.5	Medium	Pick, carry, load
Construction	4.0 – 10	Heavy	Lift, carry, hand tools
Mining	4.0 – 7.5	Light-heavy	Pick, shovel
Rickshaw (2 pass.)	6.0 – 8.0	Heavy	Pull, lift, run

Wildland fire	6.5 –10.0	Heavy very	Dig, haul hose
Treeplanting	6.5 – 8.0	Med. Heavy	Dig, screef, carry
Power saw	6.2 – 7.5	Med. Heavy	Carry, saw
Police	2.5 – 10.0	Light-Heavy	Run, subdue

3.08 - Personal Strategies To Reduce Injuries Through Fitness

Maintain fitness year-round; that will not only improve your work capacity but make your life and how you feel about it better all round. How do you maintain fitness in the off season?

Apply the fitness Index to the right to you:



Fitness Index

A simple way to estimate fitness is to use the Fitness Index (table 1.1). Based on the relationship of physical activity to fitness, the index estimates aerobic fitness based on the intensity, duration, and frequency of your regular level of activity.

Table 1.1—Aerobic fitness index. Calculate your fitness index by multiplying the score in each category: Fitness Index = Intensity x Duration x Frequency. Reprinted, with permission, from B.J. Sharkey and S.E. Gaskill, 2007, Fitness & Health, 6th edition. (Champaign, IL: Human Kinetics), 9.

Category	Score	Activity
Intensity	5	Sustained heavy breathing and perspiration
	4	Moderately heavy breathing and perspiration
	3	Intermittent heavy breathing, as in recreational sports
	2	Moderate activity, as in brisk walking or volleyball
	1	Light activity, as in fishing, gardening, or easy walking
Duration	4	Longer than 40 minutes
	3	30 to 40 minutes
	2	20 to 30 minutes
	1	Less than 20 minutes
Frequency	5	Daily or almost daily
	4	Three to five times a week
	3	One to two times a week
	2	Less than once a week
	1	Once a month

Evaluation and Fitness Estimate

Score	Evaluation	Fitness Level
100	Very active and fit	High
80	Active and fit	
60 to 80	Active and healthy	Medium
40 to 60	Consider changes	
20 to 40	Improvement needed	Low
Lower than 20	Sedentary	

Work hardening occurs on-the-job through work-specific activities. Done gradually it allows muscles and connective tissues to progressively toughen to the point where workers can complete a full day's work without developing sprains, strains, blisters and muscle soreness. A work hardening strategy combined with maintaining general fitness is the optimal way to undertake hard work.

It may be difficult to gradually implement work hardening in a piece work setting. All the more reason to be as fit as possible before you arrive. Nevertheless, when first on the job take frequent rests. As a supervisor, how do you plan the first few weeks of work? Vary the work in terms of intensity and approach. Take an easy day of work for at least every one to three days of hard work.

There are work specific exercises to develop muscle and joint strength, flexibility and reflexes. Moleskins, bag balm and properly fitting boots and gloves can prevent and address hot spots. Pay particular attention to the early signs of tenosynovitis which include tendon soreness and crepitus (creaking tendons). Adjust your technique and equipment to relieve wear and overuse on the aggravated tissues. Taping of tendons for tendonitis can keep workers working rather than taking days off. Many new techniques to deal with tendonitis have been developed over the past 5 years and groups such as Total Physio have been leading the industry in helping workers keep working rather than missing work with tendonitis. Ice and ibuprofen can play an important role in early treatment of tendonitis. Do you keep ice packs in the first aid kit? Do you provide ibuprofen to workers (first aid attendants cannot administer pharmaceuticals)?

Core strength is critical for hard work as it is for competitive sports. Not only does strengthening this critical muscle group improve work performance and reduce the risk of back and other musculoskeletal injuries, it is essential for maintaining balance and providing a foundation for powerful leg and arm movements. Workers should train their core muscles by strengthening their abdominal, pelvic, hip and shoulder muscles. This should be maintained year-round. Even doing a 2-minute plank every morning can help with core strength.

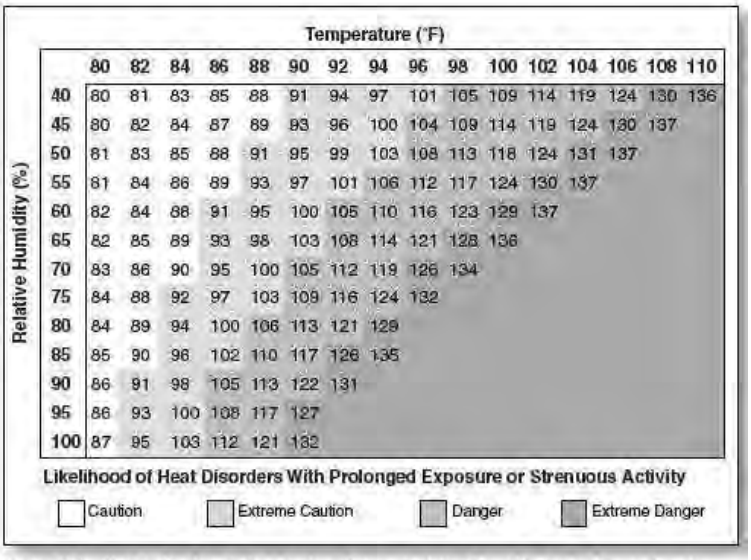
Stretching properly before work can improve performance, increase flexibility and possibly reduce injuries including repetitive strain trauma. The range of motion of joints and tissues is best when warm so always do some general activity before stretching. A few minutes of dynamic stretching done gently will work best. Tensing muscles before stretching will help. Don't force the stretch by vigorously bobbing. This sets up a reflex that will tighten the muscles you are trying to stretch. Stretching has life-long benefits towards maintaining flexibility and avoiding lower back problems.

A daily stretching routine does not need to be an elaborate/lengthy activity. Even a ten-minute daily routine has lasting effects. The challenge is that our brains may not equate our daily routine with reduced injuries, as the injuries are not occurring, but if we do not flex/stretch, our likelihood of injury is greatly increased and then we notice our lack of flexibility/resilience. Once a daily routine is established, it becomes easier to maintain. Another option is to do a quick routine once you get to work or anytime you are pausing at work. Do you have any stretching routines/habits you would share with a new/young worker? How about a vet?

Eating the right food at the right times both on and off the job are critical to maintaining the strength, endurance and concentration required to work hard. Research done on silviculture workers and fire fighters show they need to consume up to three times their normal intake of carbohydrates when working; up to 6000 kilocalories per day. Failure to maintain proper blood sugar levels not only affects muscle behaviour and coordination, but it impairs thinking and decision-making as well. Improper nutrition can lead to weight loss and illness. Research has shown it may be best to eat up to 40 kilocalories of carbohydrate every hour at hard work. It is critical when stopping work at the end of the day to consume carbohydrates so that muscle groups will have the energy to properly recover. Eating properly should include foods that can replace salts lost through sweat including e.g. oranges and bananas. Do you eat the same foods regularly during the work shift? Do you have a snack on the ride home from work when your muscle groups most demand it?

Drinking to replace fluids lost to exertion is as critical as eating when you do hard work. The amount of water and electrolytes required to perform well will vary with individuals, conditions and the work at hand. But drinking water should be constant. Otherwise heat stress symptoms will develop and

cognitive functions like concentration and judgment will become impaired. Hard work in both cold and hot conditions requires replacing fluids. As a supervisor, do you ensure that there is extra water in the truck so that if a worker forgets or spills their water, there is a backup?



Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Figure 11.1—Heat index. Locate temperature (top) and relative humidity (side). Intersect readings to find the apparent temperature, what the temperature feels like. (National Weather Service: *http://www.crh.noaa.gov*)

In extremely hot conditions workers may need to consume at work as much as a litre of water per hour: one cup every fifteen minutes. Pay attention to the colour of your urine. Urine becomes darker as you become dehydrated. Watch for salt stains on your clothing to remind yourself you need to replace lost salt. Your cells cannot maintain chemical or electrical balance and function without salt. Sports drinks containing electrolytes should be consumed throughout the day as well. Having some Gatorade mix in the truck is a best practice. So-called energy drinks containing few carbohydrates and mostly stimulants like caffeine are likely to be of little help. Beverages containing some particulates are absorbed faster and retain better than water alone.

Dr. Delia Roberts' beverage recipe: to be consumed while working

- Add some orange juice concentrate (particulates) to a litre of water
- Mix in 60 grams or a 1⁄4 cup of sugar
- Add 0.5 ml or 1/8 teaspoon of salt
- Pinch in a little potassium chloride

3.09 - Musculoskeletal Injury Prevention

1. **Musculoskeletal Injuries (MSI)**

   These soft tissue injuries - sprains, strains and tears - account for numerous injuries to chainsaw operators. Walking on logs and uneven terrain, carrying equipment and sawing all day, working in awkward positions for extended periods, all contribute to MSI. Warm-up exercises and regular stretching will reduce the potential for injury.

2. **Warm-up Exercises**

   Warm up muscles before stretching; this usually happens when you walk into your work area. Complete stretches; stretch larger muscles first; hold stretches for a minimum of 20–30 seconds but do not overstretch causing pain. Daily stretching will increase muscle flexibility so be persistent and keep at it.

- Always warm up before stretching.
- Maintain a neutral posture while stretching.
- Stretch only until there is a gentle pull in the muscles.
- Stretch larger muscles first.
- Hold stretches for at least 20–30 sec.

- If you have very inflexible muscles and cannot complete the full movement do what you can without pain.
- Repeat stretch in opposite arms and legs.

BC Faller Training Standard - Stretching (2 of 17)

3.09.1 - Example Exercises

Quads - Hold tree for balance; grasp ankle from behind; keep knees together and pointed towards the ground; hold body upright; pull gently until you feel a stretch at the front of the thigh. This will help reduce tightness from walking downhill or holding one position for long periods.

Hips - Hold tree for balance; grasp knee with opposite hand; pull knee up and across body; do not twist lower back.

Hamstring - Place one leg on object no higher than knee; both legs straight; stand tall with back straight; shoulders back; bend body forward at hip. Lengthens hamstring muscles in back of thigh/

Forearm - Place palms together; forearms parallel to ground; rotate hands forward and down. Maintains flexibility in grasping and maneuvering chainsaw and axe.

Neck - Face forward; slowly lower ear to shoulder until a stretch is felt on the opposite side. Increases flexibility for tree assessment. Stop if dizziness occurs.

Shoulder - Raise arm to shoulder height and grasp above elbow with opposite hand; pull arm gently across chest. Keeps shoulders and upper arms flexible.

Front Shoulder - Place straight arm against tree at shoulder height; slowly turn body away from arm. Keeps chest muscles flexible and maintains a balanced posture. In the last movement, lean your head away from your extended arm.

Hand - Lock wrist in straight position; grasp the four outstretched fingers with other hand; gently stretch them backwards. Counteracts tightness caused by gripping of chainsaw.

Chest - Hands clasped behind back; roll shoulders back and down; push chest out; raise arms with hands clasped. Maintains flexibility of shoulders.

Calf - Foot against tree; toes pointed upward; keep back and leg straight; slowly pull body towards tree. Stretches lower leg and ankle.

Achilles - Foot against tree; toes pointed upward; heel planted; pull body towards tree while bending knee; keep torso straight. Stretches Achilles tendon of heel.

3.10 - Due Diligence

Due diligence: is the level of judgment, care, prudence, determination, and activity that a person would reasonably be expected to do under particular circumstances.

Due diligence at work means that employers as well as employees must take all reasonable precautions, appropriate for the particular circumstances, to prevent injuries or accidents in the workplace. We are all responsible for each other's health and safety. This duty also applies to situations that are not addressed elsewhere in the company OH&S policies. To exercise due diligence, an employer/supervisor must implement a plan to identify possible workplace hazards and carry out the appropriate corrective action to prevent accidents or injuries arising from these hazards.Due diligence is demonstrated by your actions before an event occurs, not after.

When reviewing your due diligence program, ask yourself the following questions:

- Can a reasonable person predict or foresee something going wrong?
- Is there an opportunity to prevent the injury or incident?
- Who is responsible for preventing the accident or incident?

The following is a due diligence checklist. As a company/supervisor, review the checklist. Treat this as a go-no-go checklist. If you answer no or unsure to any questions below, stop what or how you are operating and address shortcomings:

- Do you have definite procedures in place to identify and control hazards?
- Have you integrated safety into all aspects of your work?
- Do you set objectives for safety and health just as you do for quality and production?
- Have you committed appropriate resources to safety and health?
- Have you explained safety and health responsibilities to all employees and made sure that they understand it?
- Have employees been trained to work safely and use proper protective equipment?
- Is there a hazard reporting procedure in place that encourages employees to report all unsafe conditions and unsafe practices to their supervisors?
- Are managers, supervisors, and workers held accountable for safety and health just as they are held accountable for quality?
- Is safety a factor when acquiring new equipment or changing a process?
- Do you keep records of your program activities and improvements?
- Do you keep records of the training each employee has received?
- Do your records show that you take disciplinary action when an employee violates safety procedures?
- Do you review your OSH program at least once a year and make improvements as needed?

As a Supervisor, what would you add to the due diligence you perform? Give us some extra examples. What is your due diligence with a young/new worker? Are you recording training and competency with your workers? Think of it this way, if an incident were to occur on your work site and WCB was investigating not only work practices at the work site, but also your paperwork in the office, have you done your due diligence?

3.11 - Types of Personal Injuries

Injuries to professional saw operators are a reality that can be minimized through education and training.

Saw related injuries

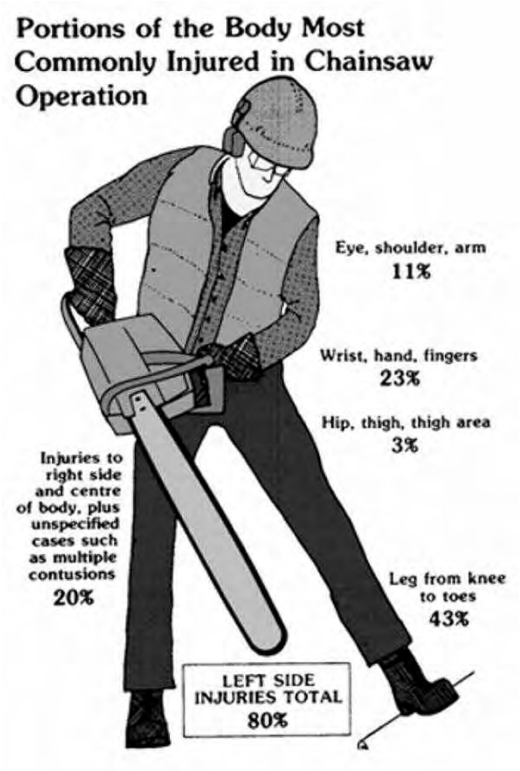
1. Cuts. 80% to left side of body, 43% of these to the left leg between thigh and ankle.
2. Vibration (white finger). This is caused by the deterioration of blood flow to the hands and nerve damage to the hands is caused by excessive vibration and repeated exposure to cold and/or damp hands.
3. Noise. Sound pressure level related. Long term exposure to noise over 96 decibels is what causes hearing loss. Comparative decibel levels shown.
4. Musculoskeletal Injuries (MSI). Soft tissue injuries such as sprains, strains, tears. Some chainsaw related causes: repetitive movements, cutting with incorrectly maintained chain, improper posture/stance, too tight a grip, incorrectly carrying the saw for long distances, improper operation of saw, pulling hard or jerking the saw unnecessarily.

Ways to reduce saw related injuries cuts can be reduced by:

- Holding the saw with your thumb wrapped around the front handle.
- Holding the saw with a firm but relaxed grip.
- Activating the chain break when appropriate. Hand brake should be used when taking more than two steps in heavy brush.
- Wearing certified cut gloves, cut sleeves and other saw specific PPE.
- Handling and operating the saw safely.
- Knowing where the tip of the bar is at all times.
- Using a bar guard when transporting your saw.
- Using the saw in the appropriate manner.

White finger (vibration) can be reduced or eliminated by:

- Regularly inspecting/maintaining motor mounts.
- Using heated handles (arctic version) in cold and/or damp weather.
- Using padded, cut resistant gloves.
- Using several pairs of gloves on poor weather days.
- Wearing disposable latex gloves under your cut gloves.
- Maintaining the chain properly (filing, rakers and tension) so it cuts smoothly.
- Noticing an increase in vibration levels over standard operation.



Hearing loss can be reduced or eliminated by:

- Wearing and maintaining the appropriate hearing protection.
- Regular inspection and maintenance of the saw's muffler. Modified exhausts are a reality in small saw operation. Make sure you have adequate hearing protection.

Listen up!

How to prevent hearing loss

You know how your ears ring or feel plugged after leaving a loud environment, like a concert or a club? While your ears usually feel back to normal the next day, your hearing may have already been damaged. Face that over and over and you'll have permanent hearing loss. That's why it's so important to protect your hearing if you work in a noisy environment.

How does noise affect your hearing?

Although noise-induced hearing loss usually happens gradually, the damage is irreversible — even if you're young. Noise isn't just a problem for those working on construction sites or around heavy machinery. Even environments such as loud restaurants, bars, and recreation centres can damage your hearing. If you have to raise your voice to be heard by someone an arm's length (one metre) away, the noise level is likely hazardous. Working in a kitchen and can't hear your co-worker next to you over the sound of the blender? That's hazardous noise you're being exposed to.

Hearing loss can happen when you're exposed to noise louder than 85 decibels. It's painless, so you may not realize something is wrong until it's too late. And noise-induced hearing loss cannot be fixed. The chart below shows the decibel levels of common noise sources and the maximum amount of time you should spend near them to avoid permanent hearing loss.

Remember that it's your employer's responsibility to reduce workplace noise. If the noise can't be reduced to safe levels, you'll need to wear hearing protection.

Did you know?

- **11 percent** of workers under the age of 21 show signs of noise-induced hearing loss.
- **21 percent** of young workers who work in noise report that they do not wear hearing protection.
- **Around 15 percent** of people who work around noise have noise-induced hearing loss.

WORK SAFE BC

For Supervisors, there are WCB regulations around annual hearing tests, and have your workers tested annually.

Hearing loss prevention - WorkSafeBC

MSI Injuries can be minimized by:

- Proper education of these injuries.
- Maintaining an active lifestyle, regular stretching and adopting a positive approach to the demanding work of productive silviculture work.
- Showing up for work at the start of the season in good fitness.
- Operating, carrying and starting the saw properly.
- Cutting with a properly maintained chain (teeth, rakers, tension).
- Accessing binds correctly (getting pinched) and using the correct series of cuts.
- Taking your time to fall trees correctly so that you are not wasting energy on cleaning up your mess
- Working harder, not smarter.

24% **of recordable** slips, trips, and falls (between 2020 and 2023) **resulted from walking in the forest**

49% of all **injuries required a physician** (between 2020 and 2022) **were from slips trips and falls**

27% of **all 2023 incidents** (up to June) were slips, trips and falls

72% of **slip, trip, fall related injuries** (between 2020 and 2022) **required a physician.**

3.12 - PPE

- Maintain personal safety enabling skills.
- Wear appropriate protective equipment and clothing.

3.12.1 - Instructional Goals and Learning Outcomes

Participants will be able to:

- Define PPE (wearing plus carrying with operator.)
- Describe the purpose of protecting the saw operator.
- Describe the concept of Personal Protective Equipment.
- Describe the limitations of PPE.
- Describe operator injuries and symptoms of injurious conditions typical of chainsaw work.
- Describe typical wounds to operators caused by chainsaws.
- Identify the power saw operator's body parts needing protection.
- Describe the PPE used to protect each body part requiring protection.
- Identify the characteristics each PPE must have to protect properly.

- Describe any inspection/maintenance that has to be carried out for each PPE.
- Demonstrate proper use, including fitting and wearing for each PPE.
- Explain who has responsibility to ensure workers are instructed in the use of PPE.
- Explain who has the responsibility to ensure the operator wears and maintains the PPE.
- Explain the part the WCB Act and OHS Regulations play with respect to PPE.
- Apply any special company policies and procedures with respect to PPE.
- Review and Questions.

3.12.2 - Student Preparedness

Bring your PPE to class so that your instructor can go over it with you to make sure that it is acceptable for use during the field session.

3.12.3 - What is Personal Protective Equipment and Clothing?

Personal Protective Equipment (PPE) is worn by chainsaw operators to protect them from the tools and the environment they operate in – uneven footing, noise, sharp tools, weather, etc.

The employer has the responsibility of instructing the worker what PPE is required for the job conditions and how to use it and maintain it.

The Supervisor must ensure that appropriate personal protective equipment is available to workers, properly worn when required, and properly cleaned, inspected, maintained and stored.

Some PPE is worn while others are carried with the operator, such as first aid kits.

A worker who is required to use PPE must use the equipment in accordance with training and instruction. PPE must be inspected before each use and replaced/repaired when non-conforming. As a Supervisor it is best practices to:

- Have extra PPE on hand in case any is forgotten or damaged during the workday.
- Inspect new/young workers PPE on a regular basis and help them understand their proper use.

3.12.4 - Clothing

Have personal clothing that is appropriate for any anticipated weather conditions, such as long-sleeved work shirts, rain gear, and warm clothing.

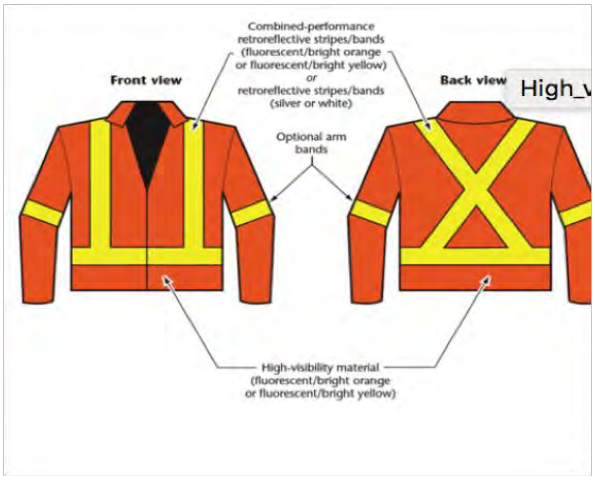
It is best practice to carry dry, warm clothes to change into after work. This helps with recovery from work and keeps muscles warm.

Wear comfortable close-fitting clothing in layers so that you can regulate body temperature. Wool and poly-pro is recommended in cool and wet conditions. Do not wear cotton clothing on wet days. Brightly coloured, high visibility (hi-vis) clothing allows you to be seen at a distance, both during regular man-checks and in case of an injury. It also makes it easier to see other workers in close proximity.

Hi-vis apparel can be a jacket, vest or shirt, and is mandatory for workers whose location must be regularly checked, and/or when working close to moving equipment. Remember to use PPE for head, face, eyes, hearing, hands, legs and feet and that it must meet WorkSafeBC Regulations and CSA or ANSI standards.

Do not cover hi-vis apparel with other clothing or equipment. High-vis must be worn over rain gear or high-vis designed rain gear can be worn

A neck shroud helps to prevent sunburns and rain/snow from falling down your neck.



3.12.5 - Safety Headgear

Headgear must be high-vis orange or red, and meet CSA or ANSI standards, with acceptable suspension (4-point minimum).

Check and replace brittle or damaged suspension. Use the same brand/manufacturer as the one being replaced.

Do not place anything between the shell and the suspension since it will render the cushioning function ineffective.

Do not use head gear that is damaged or missing components.

Do not modify hard hat shell, such as drilling holes in it.

Climbing helmets with proper ear and eye protection are now permitted. The helmet must be certified by CSA or ANSI standards.

A hard hat attempts to protect the user's head against injuries from the impact of small falling overhead

objects. It may also provide some protection from chainsaw kickback if the chain brake has activated successfully.

3.12.6 - Eye and Face Protection

Safety glasses or goggles alone do not give adequate protection as they do not protect the face from flying or falling debris. Use a wire-mesh face screen that easily flips up when not required. Wear safety lens sunglasses to reduce glare when working in snow or bright sun. These can be particularly helpful in the winter. Unfortunately, the low angle of the sun in the winter can cause some challenges with shadows from the screen and glasses can help.

A face screen or goggles reduce the chance of chips penetrating the user's eyes.

A mesh face screen is considered acceptable because the chips produced by chainsaws are of relatively uniform size and speed. Unlike other woodworking tools, a chainsaw produces little or no sawdust. The chips are too large to fit through the face screen mesh.

3.12.7 - Hearing Protection

Hearing protection must be worn. Maintain it to manufacturer’s standards - replace cushions when saturated or hardened. Earmuffs and earplugs can provide equal hearing protection, but earmuffs are recommended. Maintain earmuffs to the manufacturer’s standards. Replace cushions when damaged or they become hard. Keep the insides of the earmuffs clean.

Earmuffs are easier to put on and lift off. They can protect the outer ear, side of the face and head, and provide warmth in cold weather and rain. Do not modify earmuffs.

Use of earmuffs also allows for the use of a two-way radio for communication while working. Ear plugs are often not worn properly, which reduces their effectiveness. They also get dirty easily from repeated handling and then introduce contaminants to the ear canal, which can lead to infection.

Earmuffs and earplugs reduce noise to levels that cause little or no damage to the user's hearing. The chainsaw is very loud, typically around 115 dB which is the level of a loud rock concert. WorkSafeBC requires that ear protection be worn at all times when the source noise level is above 105 db.

Hearing For Good PDF Link

As a Supervisor do you know how to evaluate different hearing protection?

3.12.8 - Hand Protection

Protect hands against abrasions, cuts, scrapes, cold and wet, and while handling the chainsaw, especially while filing and handling the chain. Gloves also provide an improved grip on the saw.

Chainsaw gloves have cut-proof fabric protection like that for trousers.

It's especially important that work gloves are flexible, which limits how much padding they can have.

Mosaic and WCB require the use of cut resistant gloves to be worn when operating/handling the saw.

Continue research on WCB site to help identify regulations around cut gloves.

3.12.9 - Leg Protection

Suitable leg protection designed for chainsaw operators are mandatory when using a chainsaw. They can prevent abrasions and bruising. They do not prevent penetration of the chain but can lessen the severity of the cut and protect the legs during kickback. These protective garments are designed to shred and stall the saw before any significant injury occurs to the operator. Replace torn or damaged leg protective garments, or repair according to manufacturer’s instructions prior to use. Any tears longer than 1cm need to be repaired by sewing. Best practices as a Supervisor is to have some needle and thread on hand so that pants may be darned as necessary.

Special fabrics have been developed for chainsaw clothing and are still being improved. Conventional fabric is useless at protecting against a running chainsaw, being immediately cut through. Kevlar padding is designed to bind up the clutch and stop the saw

Pants must be rated for a minimum of 3600 rpm (red tag on pants/chaps), 4100 rpm is preferable (yellow tag).

There is a real struggle between making a fabric proof against more violent impact, and making it light, flexible and comfortable enough for the user. Clothes which make the user too hot, or which prevent

the user moving easily, are a safety problem in themselves. A worker suffering from heat exhaustion is not safe.

3.12.10 - Chainsaw Fabric Classification

Chainsaw protective fabric works on a number of principles. The outermost layer can be made both tough and slippery, to protect against trivial damage which could compromise the filler material. Beneath this, long, loose fibres of ballistic nylon or Kevlar are laid in layers. When a saw contacts the trousers, the outer layer is immediately cut through, but the nylon or Kevlar is drawn out and wraps around the saw's drive sprocket, locking it solid and halting the chain, limiting damage to the operator's leg. After stopping a saw, the trousers are scrapped, and the saw must be field stripped to remove the fibres and allow it to run again.

3.12.11 - Safety Footwear

Wear well-constructed work boots. Uppers must be a minimum 8” (20 cm) in height to provide good ankle support. Caulked boots are required when working off of any road surface. Choose between rubber, leather, or insulated caulked boots. Inspect and replace caulks and laces as needed. It is best practices for the Contractor/Supervisor to provide fresh caulks and caulk wrench. Keeping these on hand in the truck will encourage their use.

Chainsaw boots are specialized safety footwear based on ordinary steel-toed boots but have layers of chainsaw protective fabric on the exposed front surfaces. They are available in lace-up leather or rubber boot versions.

Have a debate here with Supervisors about steel toes vs non-steel toes. I remember being told they were not mandatory due to the risk of squashing your toes from falling buck logs, but common sense tells me that steel toes can protect your feet from cuts from the saw.

3.13 - First Aid

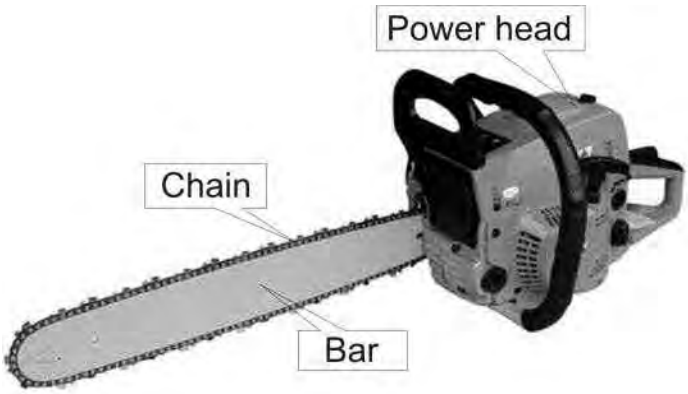
- All workers must have a clean, easily accessible pressure bandage for quick use in case of a cut.
- It is recommended that all chainsaw operators have a recognized first aid certificate.
- Whistle for emergency situations. The whistle should be attached to an easy to reach clothing part such as suspenders so that it can be accessed with your mouth in case your arms are pinned in an incident. The whistle should not have a ball since those types may not work when wet or in cold temperatures. Test the whistle in wet and cold weather conditions to ensure it functions properly.
- Radio to assist with man checks and to call for assistance in an emergency. Keep the radio accessible and check it regularly to ensure it is still working. Test for range and dead zones.
- Dust masks are made of specialized materials that are intended to reduce inhaling airborne contaminants that may be present such as charcoal, burnt sawdust from cutting fire-kill or burned timber and dust from removing heavy bark, or from hot and dry conditions. Dust masks must be NIOSH approved, have two straps and be worn properly.
- Those with known allergies to bee stings should wear a medical ID bracelet and include an EpiPen in their first aid kit to counteract any allergic reactions (anaphylaxis). Workers with this

condition should be clearly identified to First Aid Attendants and all workers should be familiar with how to administer an epi shot. Bring such allergies to the attention of the employer and First Aid Attendant so that the emergency response plan can be modified to suit.

- Water bottle to provide an ample supply of drinking water. Drink water regularly to prevent dehydration which can affect the ability to work.
- A small chemical fire extinguisher should be carried by each saw operator during dry conditions.

Module 4 - The chainsaw and Associated Tools

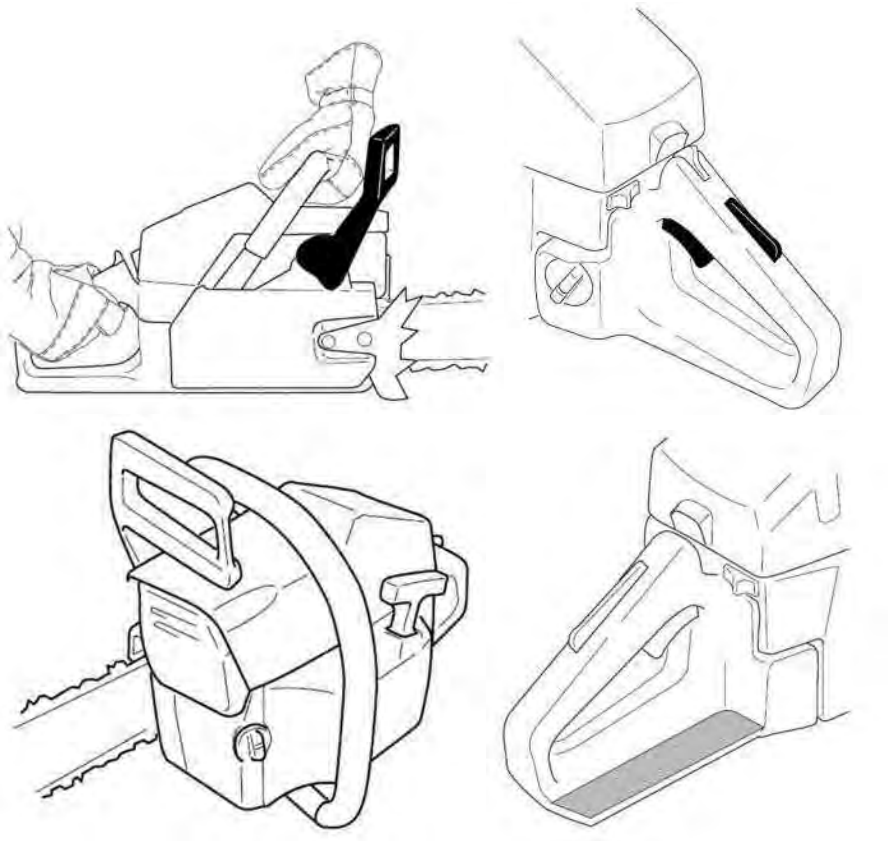
4.01 - Chainsaw Components



1. **Powerhead** - is a high performance two-stroke engine which works in any operational position at very high engine revolutions in excess of 12,000 rpm. The motor is air cooled to dissipate heat.
2. **Bar** - the part that the saw chain travels on. Improper use of the bar (particularly the top and bottom of the bar at the end of the bar's nose) results in kickbacks and saw cuts.
3. **Saw Chain** - a loop of saw chain driven around the guide bar by a drive sprocket. The chain has cutting heads which self-feed into the timber being cut.

4.01.1 - Chainsaw Safety Features

1. **Chain brake** - stops the saw chain if activated while the saw chain is running or can act as a" parking brake" while the chainsaw is idling to help prevent the saw chain from moving.
2. **Throttle lock** – is designed to prevent the accidental operation of the throttle. The throttle is locked in the idling position when the lockout is not pushed in by the operator's right hand. The throttle lock can be frozen if the saw is stored outside overnight. A good reason to be sure to store your saw out of the weather.
3. **Front hand guard** - activates the chain brake if moved forward. Resets the chain brake when moved backwards toward the front handle. Also designed to reduce the risk of your hand touching the saw chain if your hand slips off the front.

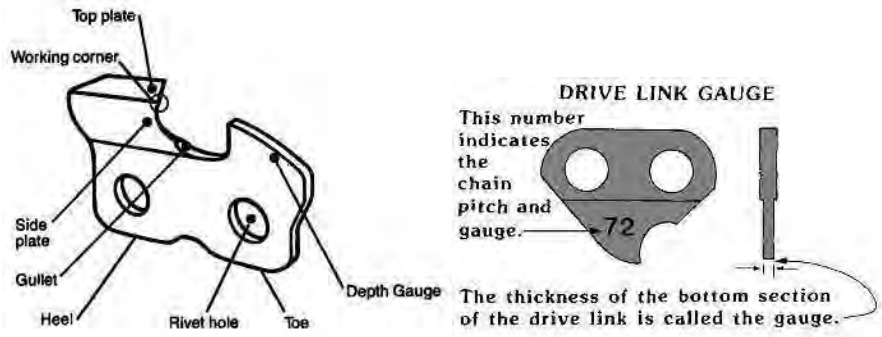


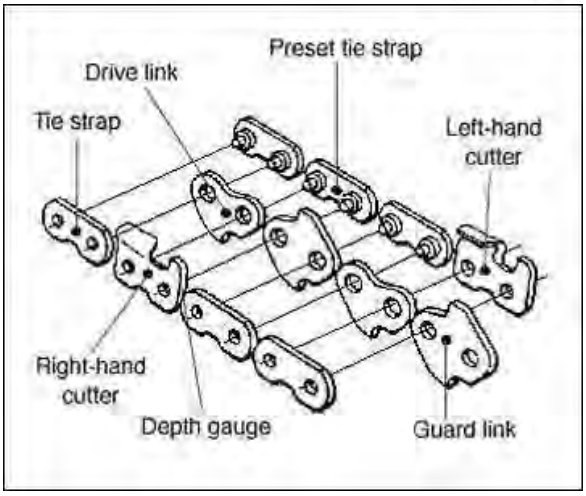
4. **Rear hand guard** - the lower part of the rear handle is designed to reduce injury by protecting the operator's hand in the event of chain breakage.
5. **Anti-vibration system** – consist of rubber mountings at various points located between the engine unit and the handle to reduce the vibration generated by the engine from reaching the operator's hands. Excessive vibration can lead to nerve and circulation damage in the fingers, similar to Raynaud's disease or white finger disease.
6. **Chain catcher** – is located under the chain as far forward as is practically possible and designed to catch a broken or jumping chain.
7. **Muffler** – decreases the noise level and directs exhaust gases away from the operator. During operation the muffler is hot and should not be touched.
8. **Heated handlebars** – some saw models have heated handles to keep hands warm during cold days.
9. **Reduced kickback bar** – has a reduced radius so that less circumference of the 'kickback reaction zone' is exposed during chainsaw operation.
10. **Reduced kickback chain** - saw chains are available in many different designs. The low kickback tendencies that are built into your saw chain also somewhat reduce its cutting potential. However, modern saw chain designs have both good cutting capacities and low kickback tendencies, and the benefit of better kickback protection is worth a small reduction in cutting performance eases saw chain cutter movement about the guide bar nose, thereby modifying kickback reaction.

11. **Bar scabbard** – a guide bar cover for a chainsaw not in use to prevent injury to the operator or damage to the chain. The scabbard should be of sufficient length to cover the full chain length, and should be used whenever the saw is being stored for transport.
12. **Chainsaw dogs** - designed for falling and bucking. Medium-size saws will generally have an inside dog while larger saws will have an inside and an outside set of dogs. Chainsaw dogs increase the operator's efficiency in falling and bucking operations.
13. **Visible fuel level indicator** – is provided on some saws which makes checking fuel levels easier.

4.01.2 - Chainsaw Chain & Principal Parts

1. **Chain part** - left and right-side cutting teeth, pre-set, tie strap, drive link.
2. **Raker** - (depth gauge) is part of the cutter tooth. Wear and filing marks on top, side and bottom of cutters.
3. **3 cutter tooth angles** - top plate, side, and chisel from the working corner. Chrome finished teeth.
4. **Pitch** - the distance between the centers of three consecutive rivets divided by 2. The pitch of the chain must match the pitch of the tip and sprocket. Common pitches are: 1⁄4", .325", 3/8", .404"





5. **Gauge** - the gauge of the chain is the thickness of the drive link. The gauge of the chain must match the gauge of the bar. Common gauges are: .050", .058", and .063".
6. **Profile** - either high or low profile. The physical height of the cutter. High profile = faster cutting. Low profile = safety.
7. **Shape** - chipper (round corner), semi-chisel, chisel (square corner).
8. **Variations** - raker and tie strap design, # of teeth, carbide, ripping, etc.

9. **Grind** - refers to the grind of the teeth. Round vs square ground.

How to deal with a thrown chain?

How to put a chain back on the sprocket and check the sprocket?

4.01.3 - Chainsaw Bar & Principal Parts

Guide Bar Components

Guide bars are made of tempered steel. The rails of the guide bar on which the saw chain runs are hardened to provide durability in a variety of cutting conditions. With normal use and proper chain maintenance, a guide bar should last through the life of several chains. Usually, very little guide bar maintenance is required.

1. **Bar types** - solid and laminated.
2. **Tips** - replaceable bearing tip; non-replaceable bearing tip, hard nose.
3. **Bar mount shape**
4. **Gauge** - .050, .058, .063, inches. Must match the gauge of the chain.
5. **Pitch** - (of tip) 1⁄4", .325", 3/8", .404". Must match the pitch of the sprocket.
6. **Grease hole** - on tip, not on German bars.
7. **Oil holes**
8. **Stud holes** - (different widths)
9. **Adjuster pin holes**
10. **Bar rails** - "total case vs effective case" hardening.
11. **Others** - finishes, lengths, purposes, etc.

4.01.4 - Chainsaw Bar Operational Damages and Maintenance

Guide Bar Failures

Guide bars typically fail from:

1. Poor chain maintenance.
2. Poor tension.
3. Lack of lubrication on the rails and/or at the tip, or;
4. Abuse such as lifting on the saw handles to fell a tree; using a guide bar as a felling wedge.
5. Getting pinched in the cut causes many bar failures.

However, the leading cause of bar failures is improper saw chain maintenance.

Whenever a saw chain stops cutting (high depth gauges, dull cutters, etc.) the natural tendency is to push down to force the chain to cut. As a Supervisor, you can be alert to watching your crew members while they are working by pushing the saw through the cutting. The added friction and pressure causes the rails of the bar to wear unevenly and/or spread apart. As the chain heats up and expands or "stretches," there is an extra amount of pounding at the lead-ins where the chain enters the bar and at the bottom of the tip where the chain contacts. The bar rails will spread apart if run for an extended

time under these conditions. The operator may think the bar is defective or soft, but the problem is usually in the way that the chain has been filed. If the chain problem is left uncorrected, bar failures will continue.

On the other hand, a saw chain with low depth gauges will cause the bottoms of the cutters to crash into the bar causing chips and cracks in the bar rails as well as in the bottoms of the cutters and tie straps. Again, this may give the operator the impression that the bar is defective or is brittle, but the problem is in the way the chain has been filed. Failure to correct the problem will ultimately lead to more chain and bar failures.

Chainsaw bars require regular maintenance and should be inspected for damage such as:

1. Uneven wear on the bar rails.
2. Nose tip sprocket which does not move freely.
3. Loose bar anchoring rivets.
4. Debris in the bar groove.
5. Clogged oil holes at the bar tail.

It is a good idea to flip the chainsaw bar after about ten hours of operation to increase the life of the bar. Best practices are to allow for 20 minutes of saw maintenance at the end of the day. Each time the bar is removed for cleaning, which should be daily, the bar is flipped. You should inspect the bar daily.

Excessive wear and tear on the chainsaw bar should be a sign that it needs to be replaced. All the leading brands offer chainsaw bars, and these can be used to replace the defective blade. Just make sure to buy a bar that can be supported by the power of your chainsaw motor.

Make sure to read the operation manual and follow the instructions for taking proper care and replacing the chainsaw bar.

4.01.5 - Lubrication

Use a good quality bar and chain oil. This oil is blended from clean, fresh, extreme pressure base oil with a “stay on” additive. Waste engine oil contains grit and acids that can harm the saw oiler and increase bar and chain wear. When operating properly, the saw oiler should pump enough oil to have some sling off the end of the bar. This flushes away grit that could ruin the bearings of the chain and accelerate bar rail wear. The oil that remains is to lubricate the bar and chain. To ensure that the oiler is operating properly, at the start of the workday, check function by pointing the bar down towards a pool of water or a rock/log and witness the oil being slung off the end of the bar.

There’s always the question about greasing sprocket bar tips and some manufacturers do not advise it. It really boils down to a matter of personal preference. If there’s a problem, try to correct it. If not, it might be better to leave well enough alone! With more modern saws, some do not even have a grease sprocket to grease.

4.01.6 - Guide Bar Maintenance

Guide bars require little maintenance. The main things to look for are burrs on the rails and to make sure the oil holes and grooves are free of sawdust and grit that can restrict lubrication.

Inspect the bar for cracks, twists and burrs. File burrs using a flat file and light strokes. Do this inspection each time you remove the bar.

Next, the bar rails must be even. This can be checked on a flat surface. If the bar won't stand on its rails, it needs to be trued up.

Lastly, the groove must be straight and deep enough for the drive links. As the rails wear, the depth of the groove becomes shallower. Insert the chain into the bar and check for sloppiness. Good idea to clean out the groove when inspecting the bar.

4.01.7 - Chainsaw Bar Length & Type

Bar length is critical to the safe use of a chainsaw. Select bar lengths for the most common jobs you perform with your tool. Longer bars result in heavier chainsaws.

If a guide bar is too long for the piece of material you are attempting to cut:

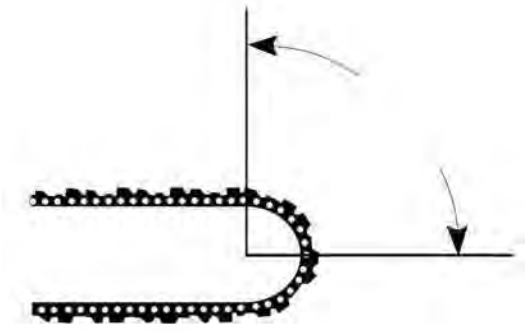
- Bar will protrude out and possibly hit obstructions causing chainsaw kickback.
- Tends to unbalance the chainsaw, which can affect safe handling and control of the chainsaw.
- An unbalanced chainsaw can cause strain on the arms, shoulder, neck and back.

If the bar is too short

- May cause the operator to extend the reach, causing neck, shoulder, back, arm, and wrist strain.
- Places operator in a vulnerable position for chainsaw kickback.

When you hold your chainsaw in a neutral position, it should be square to the ground. If the bar is too long, the saw will point down, if it is too short, it will point up.

Kickback zone



The guide bar length is measured from the tip of the cutting edge to the point where the chain enters the engine housing, and represents the largest size length of wood the chainsaw can cut in a single pass

Guide bars come in many different types and shapes. The design of the nose radius is especially important. The smaller the radius, the smaller the kickback zone. The smaller the kickback zone, the less likely a kickback will occur. A smaller radius also decreases the kickback force. The guide bar nose radius is determined by either the number of teeth in the sprocket nose (for example: 10T, the lower the number, the smaller the radius) or corresponding nose radius of a solid nose bar.

4.02 - Tools, Accessories and Supplies

In any forestry operation where chainsaws are supporting tools, accessories and supplies are required. The list will vary depending on the job requirements and prescription. This section will identify those that are considered mandatory and essential for most silviculture work. If followed diligently, an operator should have a higher standard of workmanship, will be more productive, and will work in a safer manner.

All equipment must be secured in the vehicle that they are transported in. A roof rack, canopy or window grate are ways to keep the equipment separated from the vehicle passenger compartment. A spare saw or two which is the same make as the primary saw is recognized as mandatory for professional operators. This gives them a good interchangeable spare part supply as well as a spare saw to use in case of a saw failure.

4.02.1 - Tools

The following are tools that chainsaw operators should carry with them, have at the immediate work site or have available on the job site.

1. **Files, guides and gauges** - at least one new or nearly new round file, complete with file handle, that matches the pitch and profile of the chain is mandatory. A selection of files separates the professional from the amateur. Operators who use different size saws in varying situations will carry a selection of different size files in a file caddy. A filing guide is strongly recommended for most operators to achieve consistent correct angles and tooth length. A raker file is also mandatory. It will enable an operator to lower the depth gauges when required.

2. **Axe** - An axe is a good idea to have on site and could easily be considered mandatory. The primary use of the axe will be to hit a wedge when required. It also comes in handy to chop a pinched saw free as well as splitting some camp firewood. Most of the trees that your crew will be handling are small enough that wedges are not used. Axes come in most handy for knocking off branches or with blowdown wedging, or for helping release a pinched saw.

   Remember that a sharp tool is a safe tool. Use an axe scabbard to prevent unnecessary injuries. When attempting any hard wedging use two hands and eye/face protection.

3. **Bar wrench (scrench), jet screwdriver and specialty tools** - these are all required to make regular adjustments and necessary maintenance of the saw. A scrench (bar wrench and screwdriver combo) is used to make regular chain and bar adjustments. On a Stihl it is also used as the spark plug wrench.

   Specialty tools are manufacturer specific. For example: Stihl uses screws that require a torx head wrench.

4. **Fire Tools** - At least one fire tool (Pulaski or shovel) must be readily available to each worker on site year-round, regardless of the fire danger rating. Depending on the number of onsite workers at least one water delivery system (hand-tank pump) must also be readily available. A dry chemical fire extinguisher must be available at the refuelling site. A 0.5lb container of chemical fire retardant must also be readily available to workers at their work site.

4.02.2 - Accessories

1. **Wedge(s)** - At least one good wedge must be available, two is best practice. Does your new/young worker know how to use a wedge? It will come in handy when keeping a cut open when bucking larger logs.

   Minimum maintenance of wedges is a good idea. A wood rasp works best for cleaning rough edges. A sharp axe can also be used to clean up a rough wedge. Wedges come in many sizes, shapes, textures, colors, etc.

2. **Spare Parts** - Required for small on the job quick repairs. Most professional operators have a toolbox in the truck or dry-box full of spare parts and accessories. Essential spare parts are quite often carried in the operator's daypack at the work site. Spare parts include but are not limited to:

    - New or well-maintained cutting chain and bars.
    - Bar nuts.
    - C clips.
    - Spark plugs.
    - A selection of screws.
    - Pull cords.

3. **Wedge/Tool pouch** - Although not absolutely necessary, a carrying pouch to coordinate the tools and accessories that are used throughout the workday is a good idea. Depending on the job the pouch can either be attached to a belt carried by the operator or attached to the operator's fuel/oil combination container and left at the refuelling spot. At minimum, operator should be always carrying a bar wrench
4. **Carrying Case/Bar guards** - Carrying cases are a convenient and safe way to store and transport chainsaws. Essential tools and accessories can be contained in a tool pouch in the case, so they don't get lost or misplaced. The case can also be used as a fuel containment system when refuelling the saw. All cases come with an attached bar guard for added safety. This is a good place to keep the owner's manual for quick reference when necessary.
5. **Tool chest** - It is best practice to carry a crew supply of tools, files, guides, adjustable wrench's, etc.… in a waterproof case that is accessible to all. A good item to do this is an ammunition case.

4.02.3 - Supplies

1. **Fuel** - All saws require mixed gasoline. A combination of gasoline and approved two stroke mix oil. Gasoline can be purchased either as highway gas (clear) or off highway gas (colored). It is a good idea to purchase highway gas when it is going to be used by more than one operator. The color additive in off highway gas quite often gets confused with mixed gas. A minimum octane of 89 is recommended. Best practices is to use premium fuel. Premium fuel generally has low to zero % of ethanol, A Department of Energy study found that E15 caused hotter operating temperatures, erratic running, and engine-part failure. But even gas with the usual 10 percent ethanol (E10) could help destroy small engines.

    The shelf life of "standard" pump gas is approximately three months. Quite often the three months have elapsed by the time a saw operator uses their gas. The gas can start to deteriorate which can cause pre-ignition which causes excessive heat that can lead to a lean seizure. Almost all lien seizures are not warrantable. It is best practice to only purchase your gas that you need for the shift and be constantly rotating in fresh gas.

    Mix the gas and mix oil by putting the oil in the container first then adding the gas. You get a more consistent mix this way. Alcohol should never be added to the gas mix because it separates the oil from the fuel & creates premature lean seizures. Aspen alkylate gasoline is sold through saw dealerships for people who want a gas that will not deteriorate. It is also a very good option for operators who are concerned about breathing all the toxic exhaust fumes of "standard" pump gas.

2. **Chain Oil** - comes in three different viscosities, light, medium and heavy, and is used depending on the ambient temperature (light for cold weather, heavy for warm). Chain oil has an additive that helps it "stick" to the bar. Do not use non bar oil for bar oil. The chain, bar, and sprockets will suffer significant premature wear. Most bar oil is petroleum based. There is Canola bar oil or "Bio" oil for environmentally sensitive job sites. This is appropriate for areas where water contamination is a concern.

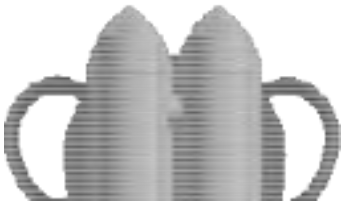
3. **Mix oil** - must meet the manufacturer's minimum requirement (not all mix oils are equal or designed for chainsaws). Read the owner's manual or use the name brand oil of the saw you are using. Most manufacturers recommend a 50:1 gas to oil mix ratio or 100ml of mix oil to every five litres of gasoline (double the fuel in litres and add a zero to get ml of oil).

   Some mix oils now have a fuel stabilizer additive. This will allow for longer storage periods without any significant reduction in the quality of the fuel. Most manufacturers offer petroleum and semi-synthetic based mix oil. Ask the servicing dealer for advice for your saw and application.

4. **Containers** - there are two common fuel containers used in forestry operations. The twenty-five litre "jerry cans" and the five and six litre combination (combi) cans. Both must be CSA or ULC approved, in good condition, with caps that will not leak when tipped over. A funnel or non-spill spout is strongly recommended for transferring mixed gasoline either between containers or into the saw. Jerrycans must have WHMIS & Product Identification labels and **be within their expiry date (5yrs)**. Containers >30L also require a UN number.

   It is mandatory by WHMIS regulations to mark your fuel containers with what they contain. i.e.: mixed chainsaw gasoline. 50:1. In addition, the appropriate MSDS (Material Safety Data Sheet) for both the gasoline and the mix oil must be close by on the site. Most new Jerrycans have this marking.

   "Jet packs" are also used to carry fuel/oil in specific applications. These can come in handy in extreme brushing areas where it is cumbersome to get back to the truck to re-fuel. If you are carrying jet packs, it is recommended that you also carry a small backpack for your water, first aid, radio, food, etc.…



5. **Fuel/Oil Spillage Control and Containment** - The easiest way to minimize spills while refuelling is by using a non-spill spout with spill pads underneath the saw. The saw carrying case can also be used as a fuel containment system when refuelling the saw.

   Spills do happen and will continue to happen. Training in WHMIS is mandatory while training in TDG and EMS are job/employer specific for most operations. A spill response kit capable of containing and absorbing fuel spills is mandatory.

4.03 - Handling the Chainsaw

Most professional saw operators have learned through experience how to start, operate, handle and carry chainsaws. It is best to learn the right way in the beginning so that bad habits are not developed. Learning the correct way will increase safety and productivity, as well as decrease fatigue and down time. Training new workers on and demonstrating best practices, will help increase safety.

If you have already used a chainsaw, either for work or personal use, you may have picked up some bad habits. This course is considered to be the industry standard, which incorporates “best practices”, and intended to show you the proper and safe way to operate a chainsaw.

80% of all WSBC reported saw cuts happen to the left side of the body. 43% to the left leg from knee to toe. This is why faller pants have more padding on the left side of the leg. Almost all these injuries are a result of poor operation and handling.

4.03.1 - Safe Starting Procedures

There are four things that must be on when starting a cold saw;

1. The on/off switch.
2. The choke.
3. The chain break.
4. PPE.

If the saw is equipped with a decompression valve this could also be engaged.

THE MINIMUM SAFE WORK DISTANCE BETWEEN A CHAINSAW OPERATOR & FELLOW WORKERS IS 3 METRES (10 FEET).

There are four accepted methods to start a saw. These are the four methods;

1. On the ground with one foot in/on the rear handle or one knee or one foot on the top of the powerhead.
2. With the rear handle of the power head positioned between the knees and with the bar pointed forward.
3. Using a drop start or gravity start.
4. Starting the saw with it laying “over or across a log”.

4.03.2 - Cold saw start procedure

- Ensure a safe work area (3m or 10ft radius) is clear.
- Engage chain brake, choke and “on” switch; throttle interlocks vary with model.
- The first cold start of the day should be done on the ground in case the brake is malfunctioning.
- Pull cord until “false” start is heard, also referred to as burping, (engine fires but does not start). This should happen within 1-4 pulls.
- Disengage choke and set to fast idle position.
- Pull the starter cord until the saw starts.
- Set fast idle switch to regular run position.
- Disengage chain brake & rev the saw to 3⁄4 throttle quickly a couple of times.
- Now put the running saw down with the chain brake engaged, and allow it to warm up in a place away from the crew for noise protection.

4.03.3 - Warm saw start procedure

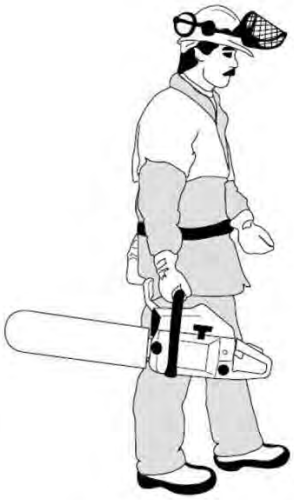
- Ensure a safe work area (3m or 10ft radius) is clear.
- Engage chain brake, choke and “on” switch.
- Choose the desired starting method.
- Some people may require using the decompression valve even when the saw is warm.
- Pull cord until saw starts, generally 1-2 pulls.

Newer Husqvarna auto tune saws recommend that on a warm saw start you engage the half choke, press the air purge bulb 6 times or until fuel starts to fill the bulb. It is not necessary to fill the air purge bulb fully, press down the start/stop switch to set start throttle setting, this disengages the choke.

4.03.4 - Carrying the Saw

ALWAYS engage the chain brake when you are carrying a saw that has the engine running and you are moving more than two steps. The reason for this is that if you fall against the chain you do not want it to turn freely to reduce the chance of cutting.

- When carrying a saw with one hand, position the saw at thigh level with the bar and chain to rear.

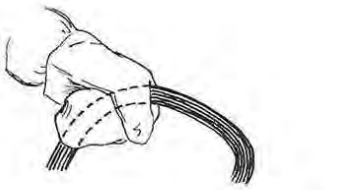


- When carrying a saw with two hands, position saw in front of body with bar and chain pointed to one side.
- Over long distances and good ground, you may carry the saw with the powerhead resting on your shoulder in the upright position with the bar and chain pointing to the rear. Wedges, or another type of cover must be used to block off the dogs to prevent them from digging into your shoulder.
- On steep side-hills, carry the saw on the low side with the bar and chain pointing to the rear.
- Over long distances and tough going, consider flipping the chain off and wrapping it around the handlebar. You can also use wedges to block off the dogs & wrap chaps, raincoats or sweaters around the chain.
- Support the saw with leg when necessary.

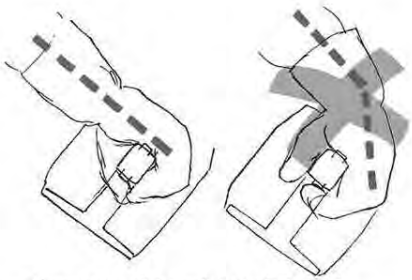
4.03.5 - Operating and Handling the Saw

- Thumb to be wrapped around the front handle to provide better control in the event of a kickback.
- The following are safe hand positions on the handles.

Arms bent vs arms straight



Grip the top edge of the front handle, since this will tilt the saw at the right angle for sawing the upper notch cut.



Keep your right wrist straight and allow the rear handle to twist in your hand.

- Feet apart, on firm ground and balanced. The fighter's stance.
- Keep all parts of your body to one side of the saw. Never directly behind.
- Never straddle the saw.
- Avoid putting your head into the kickback zone. For new workers, demonstrate with a dead saw, how a kickback above the shoulder's risks hitting the face or head.
- Always keep two hands on the saw when operating. Never attempt to operate a saw with only one hand.
- Only use saw as designed, with right hand on trigger and left hand on bar.
- Keep the saw close to the body, not outstretched (good time for a demo).
- Rev a saw to a higher RPM just prior to starting a cut. (Demo, with a new worker). Give the analogy of running a skill saw through plywood. How the saw needs to be a speed for safety.
- Maintain a constant higher RPM when making cuts.
- Understand the push/pull forces caused by directional rotation of the chain. Another reason for the fighter's stance.
- Bottom bar cutting (pulling chain) advantages and hazards. Less chain to rotate if it breaks, but more wood waste (chips) into body and face.
- Top bar cutting (pushing chain/back barring) advantages and hazards. Pushes chips away from the body, but puts more chain to rotate towards the worker if broken.
- Keep the entire saw below the chest. Kick back zone.
- Always know where the tip of the bar is in relation to other solid objects that it may contact. This is critical. Area around the tree to be slashed must be cleared so all objects can be seen.

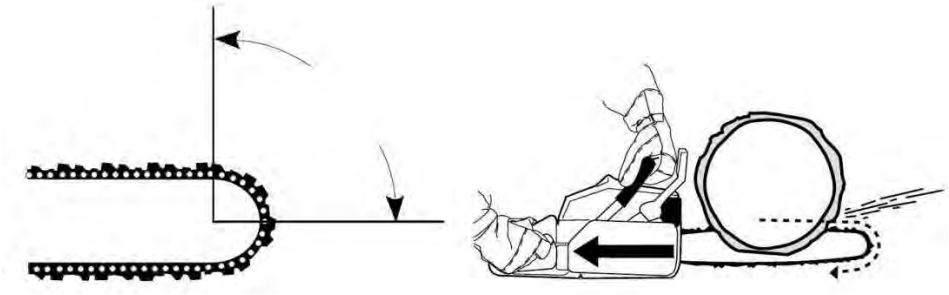
4.03.6 - Saw kickback

- Kickback is "the sudden and often uncontrollable reaction of the bar and chain and saw power-head when a working corner of a tooth or teeth of the chain in the upper quadrant of the bar tip strikes a solid object".
- Kickback may also occur when the bar and chain become pinched in a cut.

Factors that increase the possibility and severity of a kickback are:

1. Incorrectly raker height (too low).
2. Aggressively filed chain (excessive hook).
3. Incorrect chain tension (too loose).
4. Chain speed.
5. Force and angle of contact.

6. Density and weight of object being cut.
7. How prepared the operator is.
8. Operator not seeing the end of their bar.
9. A combination of any of the above.



There are two forms of kickback: rotational kickback and linear kickback (sometimes called pinch kickback).

1. Rotational kickback: The rapid upward and backward motion of the saw that can occur when the moving saw chain near the upper portion of the tip of the guide bar contacts an object such as a log or branch.
2. Linear kickback: The rapid push back of the saw chain that can occur when the wood closes in and pinches the moving saw chain in the cut along the top of the guide bar.

4.04 - Preventative and Ongoing Maintenance

During the course of a workday a chainsaw operator should be continually checking his saw for problems that may occur. A different feel or sound, lack of “performance” or funny vibration is all it takes for the operator to start looking for the cause of the problem. Most operators will perform the necessary onsite maintenance and get on with their work. Preventive maintenance is more than waiting

for something to happen; it is preventing the problem from occurring in the first place. By having a preventive maintenance program, the operator will increase productivity and saw longevity and decrease fatigue and unscheduled down time. Contractors should allow for 20 minutes of preventative maintenance at the end of the day, and workers need to take that time to do the work.

Why do we require a preventive maintenance program for modern saws? Modern chainsaws use more AIR, create more HEAT, and produce more R.P.M.

4.04.1 - Preventive Maintenance Schedule

The following provides a daily, weekly and monthly maintenance routine which should be adjusted to your routine use, your saw, your work application and the season. Refer to your owner's manual for model specific maintenance.

Daily:

- Visually check for loose, damaged, or missing parts – refer to your owner's manual for the most common areas of your model.
- Clean the external parts of your saw and make sure that there is no oil on the handles.
- Check the air filter.
- Do a check of the throttle trigger and throttle trigger lockout. Make sure that the return spring works properly. If frozen, it can stick.
- Make sure there is no damage on the vibration damping units.
- Clean and do a check of the chain break. With the saw at full throttle, tilt your left wrist against the front hand guard to engage the chain break. The chain must stop immediately.
- Do a check of the chain catcher. Make sure that it is stable and attached to the saw.
- Turn the guide bar, do a check of the lubrication hole and clean the groove in the guide bar.
- Examine if the guide bar tip is rough or very worn.
- Make sure that the bar tip sprocket turns freely and that the lubricating hole in the bar tip sprocket is not blocked. Clean and lubricate as needed.
- Make sure that the guide bar and chain are getting sufficient oil.
- Do a check of the chain.
- Sharpen the saw chain and check its tension. For slashing, when the chain is warm, you should be able to slide a dime under the chain. On a new chain, be aware that when you use it for the first time, it most likely needs tightening after your first tank.
- Do a check of the chain drive sprocket. It is recommended that you change the rim sprocket each time you switch to a new chain.
- Do a check of the stop switch.
- Make sure the chain does not rotate when the engine is at idle speed.
- Make sure that the muffler is correctly attached, has no damages and that no parts of the muffler are missing.
- Clean starter housing which is the main source of air flow.
- Flip bar over once per day.
- Loosen tight chain at the end of a cold day.
- The oiling volume should be visually checked each time you run a tank. If you need to increase oil flow, turn the adjustment screw counterclockwise. Vice versa if you need to decrease flow. The longer the bar the more oil you need. Show a new worker how to adjust the oiler.

Weekly:

- Inspect pull cord condition.
- Clean the cooling system. The cooling system included the air intake on the starter, the pawls on the flywheel, the cooling fins on the cylinder, the cooling channel and the cylinder cover. Clean system with a brush weekly in normal conditions
- Drain gas and oil tanks, remove debris and water when the tank is empty! Consider the environment.
- Check for bar rail wear – file burrs, pinch or get it ground if required.
- Grease tip (if greaseable).
- Grease the needle bearing. Lubricate with a grease gun. Use engine oil or a bearing grease of high quality.

- Clean spark arrestor screen on the muffler.
- Clean the carburetor area.
- Clean or replace the air filter.
- Inspect tip condition on bar.
- Check for wear on drive links.
- Check the power head sprocket for wear. 4:1 rule - after 4 chains, change the sprocket.

Monthly:

- Pressure clean the power head with covers off, choke on.
- Do a check of the brake band, use a brush to remove wood dust, resin and dirt from the chain brake and clutch drum. Do a check of the brake band for wear and tear.
- Clean the spark plug.
- Clean the external parts of the carburetor.
- Do a check of the fuel filter and fuel hose, replace if necessary.
- Do a check of all cables and connections.
- Empty both the fuel tank and the oil tank.

Other items to do as saw ages:

- Remove the muffler, clean carbon build up from exhaust port, and check ring and piston condition.

- Replace spark plug.
- Measure bar groove depth.
- Check/replace clutch springs.
- Check anti-vibration mounts.

4.05 - Applying Knowledge to Develop Skill

The instructor will assign a saw, which may be your own, for a hands-on maintenance check. Depending on the class size, space and tool availability, you will work in pairs or individually.

Based on what you were taught in the classroom, and as monitored and explained by your instructor you will do the following routine maintenance on the saw you have been assigned to:

1. Check for primary safety features: chain catcher, chain break, throttle lock.
2. Check for other daily/weekly maintenance items.
3. Take bar nuts off, sprocket cover off, bar and chain off.
4. Clean the inside of the sprocket cover. The sprocket cover is used to hold small parts which could be easily misplaced.
5. Take apart the c-clip, washer, sprocket, clutch drum and bearing.
6. Check clutch springs, clean clutch drum, check bearing, reassemble.
7. Clean and check the bar for bends, rail and tip condition (burrs, worn rails), heat spots, loose tip and/or sprocket), pitch build up, etc.
8. Check chain for tight links, missing, damaged or premature wear on drive links.
9. Assemble bar and chain on saw and tension as per course instructions.
10. Maintain teeth/rakers if required. The instructor will demonstrate proper filing technique using a guide. Do not spend too much time on this part as there will be more time for this during the field session.
11. Instructor will demonstrate how to remove the rewind cover and cut pull cord at base and how to install new cord and tension.

4.06 - Chain Maintenance

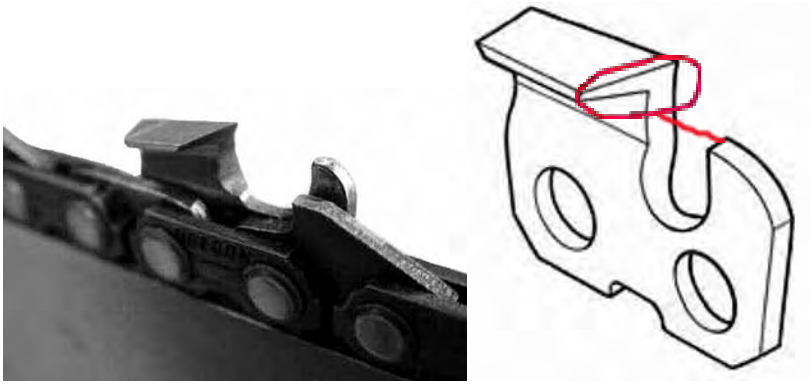
Chain maintenance is the backbone of productive, safe cutting. Understanding and learning how to maintain and file your chains correctly will save time & money as well as all kinds of frustration. The majority of professional operators should attempt to simulate “textbook” filing. There are however times and places where variances of the “textbook” samples can be beneficial. All of the variables such as frozen wood, dry dense wood, soft wood, etc. include slight changes to two aspects of filing; raker height and hook angle.

The three components of chain maintenance are:

1. Tooth sharpening.
2. Raker adjustment.
3. Tension.

4.06.1 - Teeth (Cutters)

- Working corner does the work, and is a combination of side, top, and chisel angels.
- Note how teeth get dull.
- Teeth are chrome plated for durability.
- Use a filing guide.
- Use a correct diameter file.
- Use some form of file handle.
- 1⁄4" and a low profile .325 chain use a 5/32 file. High profile .325 use 3/16 file.
- 3/8" chain, most people use a 7/32 file. Can start with 13/64 and finish with 3/16.
- Instructor will demonstrate the use of a stump vise.
- Having a vise set up in shop with bright lights is best practices for cutting crew to file after work
- Observe instructor body positioning to achieve accurate angles.



Tooth extends just slightly above raker allowing small amount of wood to be removed with each pass

- Average working angles are: top plate=30, side plate=75, chisel=60 degrees.
- Instructor will explain why and when angles are modified.
- Chain may require tensioning prior to filing.
- File going forward. Do not drag the file back.
- Modern files are spiralled, so no need to twist as you file going forward.
- The number of strokes depends on the average condition of the working corners.
- 3-4 strokes for a touch up. If the chain requires major filing (>10 strokes, consider changing out chain & then refreshing it with a chain grinder).
- Clean files occasionally.
- Replace file when dull.
- Clean filing burr with file handle. Explain filing out of tooth vs. into tooth.
- Show filing and wear marks on teeth.
- Use eyeglasses for best results.
- Always use eye protection & gloves when filing.

4.06.2 - Depth Gauges (rakers)

- Explain why rakers are gradually lowered, and shaped (profiled).
- Standard factory setting = .025" lower than working corner of tooth.
- Identify safety rakers.
- Show raker gauges and how to use them.

- Explain tooth fulcrum and why rakers are gradually lowered > .025” as tooth is filed past this point.
- Show “bush check” for raker to working corner ratio.
- Do not over file rakers! This causes all sorts of issues.

4.06.3 - Tension

Tension is perhaps the most important component of chain maintenance due to it being the least understood. The general rule of thumb has been to pull up on the middle of the chain and if you could clear several drivers from the bar rail this would be good enough. This of course is subjective to how hard a person pulls. Generally, for silviculture applications, the chain should be tight such that you should only be able to place a dime between the bottom of the chain and the bar at the halfway point of the bar.

- Some new chains will “stretch” & sag over time & under different operating conditions. All chains will stretch & sag to some degree as they warm up. In either case re-tensioning will be required.

4.07 - Causes and Repairs of Typical Onsite Breakdowns

- **Engine is difficult to start or runs poorly at idle** - Check the spark plug if the engine is low on power, difficult to start or runs poorly at idling speed. Pull off the rubber spark plug boot. Use the spark plug wrench to unscrew the plug. Dry the spark plug. Replace the plug if it is corroded. Crank the engine a few times to clear the combustion chamber. Check the electrode gap on the end of the plug and use the spark plug gap tool to adjust, if necessary. Refit the spark plug and boot.
- **Chain is rotating on the guide bar while the chainsaw is idling** - Adjust the speed screws if the chain runs while the engine is idling. Slowly screw the low-speed screw "L" clockwise down to its seat. Turn the screw one full turn counterclockwise from that position. Turn the idle speed screw "LA" slowly counterclockwise until the chain stops running. Turn the screw another quarter of a turn in the same direction.
- **Chainsaw is racing at idle** - Tension the saw chain if it is not spinning on the guide bar correctly. Shut off the engine. Pull out the hinged clip and loosen the wing nut that holds the guide blade and saw chain to the unit. Turn the adjusting wheel (on top of the unit) clockwise until it stops. Tighten the wing nut by hand until secure. Fold down the wing nut's hinged clip. There should be no gap between the chain and the guide bar. The guide bar is the flat metal bar that the chain surrounds.
- **Chainsaw backfires or sputters** - Adjust the low-speed screw "L" if the engine idles erratically or has poor acceleration. The idle setting is too lean. Turn the low-speed screw counter clockwise until the engine runs and accelerates smoothly. It is usually necessary to adjust the setting of the idle speed screw "L" as well after each correction to the low-speed screw. Check the fuel that you used, be sure it is not contaminated.
- **Chainsaw is sluggish due to inadequate air intake** - A clean filter will allow the saw to get enough air to run at maximum RPM making a better cut. Clean with warm soap and water and dry before replacing.

Note: All major repairs such as engine overhaul, chain break and especially tune ups should be done by qualified experts. One of the most difficult things to do to a chainsaw is a tune up. Please do not attempt it yourself until you have a good knowledge of chainsaws.

4.08 - Clearing a Flooded Saw

If given the opportunity to flood, a two-cycle engine will do just that. It is best to prevent this from happening, but if it does, it is a problem that can be fixed. The fuel has to be removed from the combustion chamber, which on the surface sounds complicated. It just takes a little time to complete.

- First attempt to clear a flooded saw is as follows. With the saw in the off position, point the tip to the ground while holding the throttle in the open position for at least 60 seconds. This should clean fuel vapours out of the cylinder. Now try to start the engine.

If the above does not work, a more in-depth method is as follows

- Move the" Master" control switch to the cold start position. Remove the carburetor cover. Clean the air filter.
- Pull the spark plug wire off of the spark plug and remove the spark plug from the cylinder head. Wipe the spark plug clean. Check the condition of the plug while it is out and replace the spark plug if it is in bad shape. Move the "Master" control switch to the "Stop" position.
- Pull on the engine starter multiple times to clear the fuel out of the cylinder. Replace the spark plug and attach the spark plug wire.
- Set the "Master" control switch to the "Warm Start" position, push in the decompression valve button (which will open the decompression valve) on the side of the chainsaw, and pull-start the engine. The engine should now start.

Module 5 - The Man-Made Conditions Required To Be Adhered In The Interest Of Carrying Out Safe Work

5.01 - Basic Silviculture Applications using Chainsaws

There are four basic silviculture applications that use chainsaws:

1. Juvenile spacing.
2. Brushing.
3. Fuel Management.

4. Vegetative management/forest health, as well as early intervention stand management for young stands.

Juvenile Spacing - is commonly called “spacing” and also called “pre-commercial thinning”.

- The small crews are typically paired in a buddy system for safety reasons.
- Spacing is generally done when the new forest is between 10 and 20 years old.
- The objective is to cut out poor quality and unwanted trees so the worker must be able to determine which trees are the poorer quality to cut – crooked stems, disease, growing in clumps, and other defects.
- An alternate tool to the chainsaw for this work is the brush saw, but is uncommon on the coast as foot and sight lines are limited.

Mechanical Brushing - is the clearing of brush and unwanted species of trees, called “weed species”, from around young crop trees. It is carried out with hand or power cutting tools rather than chemicals, especially in environmentally sensitive areas This gives more light, water and food to the trees that are left and protects them from physical damage.

Brushing activity is typically required to ensure that crop trees reach a development stage at which they are no longer overtopped by weed species and are “free growing”.

Brushing crews are typically smaller than planting crews. The work requires upper body strength and the use of chainsaws, brush saws or girdling tools. Brushing contracts can occur in winter months when the targeted plants are in their dormant or non-growing stage and is primarily done to ensure that the crop seedlings get established and grow bigger. On the coast we are generally targeting deciduous trees and large shrubs. It is critical that your new workers can identify target species to remove.

Fuel Management - Fuel management involves the modification of a forest structure to reduce forest fuel accumulations available to burn in a wildfire. It is also commonly referred to as wildfire hazard reduction or wildfire mitigation.

Fuel management will not eliminate wildfires. It can reduce their intensity and potential for impacting adjacent communities and can also increase wildfire suppression success as treated areas will be safer to work in, and aerial firefighting tools more effective.

The main techniques used to conduct fuel management include:

- **Spacing or Thinning** - The felled trees must be removed from the site or the spacing treatment will not be effective.
- **Pruning** - involves the removal of the lower dead and live branches on trees, often referred to as ladder fuels. Pruning is often conducted after spacing, when the lower branches are too close to the debris accumulated on the ground (surface fuels). Pruning raises the crown base height in a stand, reducing the opportunity for surface fires to move upwards into the tree crowns where they are difficult to control and pose the greatest risk to structures and public safety. Care must be taken not to harm the trees by stem scarring or removing too much of the crown. At least 40% of the live crown should be retained to maintain a healthy, vigorous tree.

The prescribed pruning height is site specific and can vary with tree diameter and height, crown closure, surface fuel volumes, and slope.

Vegetative Management/Forest health - includes silviculture work in disease and parasite control which involves cutting out and disposing of the affected trees to prevent the infestation from spreading. It can also include reducing the number of species of tree most likely to become diseased. Bark beetle, Pine beetle and mistletoe control are specific examples.

Early intervention stand management is the practice of first pass brushing where some but not all of the competing deciduous trees/shrubs are strategically removed to allow the crop trees to continue to grow at a vigorous pace towards Free to Grow. This occurs in areas where competing vegetation is heading towards black out of the crop trees, but neither the crop trees nor the surrounding brush are mature enough to eliminate coppicing of brush such that a last pass brushing can be prescribed. Best practices are to barrel brush a 1m radius around the crop trees, leaving as many competing trees as possible to reduce coppice and to prune branches of retained trees so they do not brush up against crop trees. These prescriptions occur on younger stands where the crop trees still have some years of growth needed to get to FTG. A final pass brushing will then need to be administered as the crop trees near the height where they can shade out any cut stumps of deciduous trees to eliminate competition. On the coast, once your crop trees have reached 3m you should be good to do the final pass.

5.02 - Interpret Silviculture Prescriptions

Full prescriptions are planned programs of treatments throughout the life of a stand to achieve stand structural objectives based on the integrated resource management goals. The silvicultural system includes harvesting, regeneration and stand-tending methods or phases. It covers all activities for the entire length of a rotation or cutting cycle.

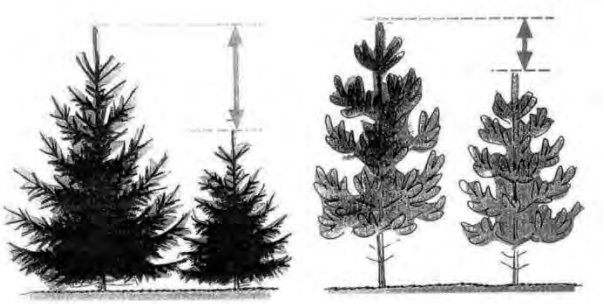
For the purposes of the chainsaw operator, the prescription is a very specific part of the overall plan which defines a short period project in a specific location where the work is to be done by the operator and remaining crew members. The work specific prescription describes the general distribution of cut and leave areas or leave-trees on an area over time. Contractors and supervisors should keep abreast of changes in policy from the Provincial Government on stand maintenance. For example, in the interior there may be changes that encourage more leaving of the deciduous trees to help fight fire intensity. On the coast, we may see changes that encourage the retention of some trees, such as cascara, that are best suited for migratory bird habitat.

5.02.1 - Crop Tree Selection

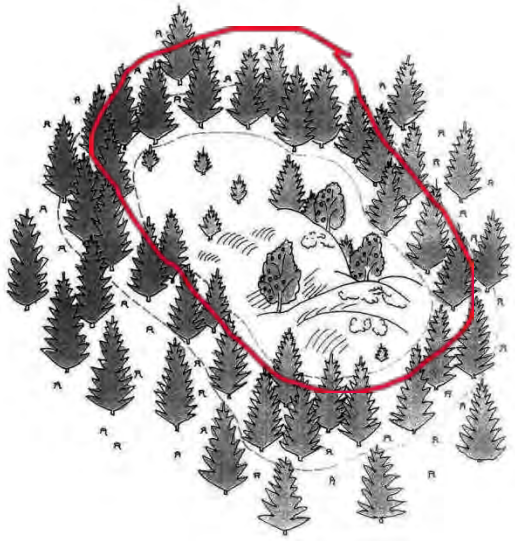
Crop tree selection is a critical factor in pre-commercial thinning juvenile spacing. Incorrect selection may degrade stand vigour and timber production potential. The silviculture or stand management prescription must specify the species, density, and characteristics of trees to be removed and retained during the juvenile spacing project. Typical prescriptions require residual trees to exhibit the following characteristics:

- Be of a preferred species.
- Expressing a dominant or co-dominant position in the original stand.

- Free of injury and disease.
- Exhibiting a full crown and a straight stem.
- Free from forks or multiple tops.
- Exhibiting small diameter, fine branching.
- Producing terminal shoot growth which reflects the site potential.
- Exhibiting good foliage colour.
- Growing on a productive microsite.



Reduce height differences - spruce and cedar tolerate larger differences than pine or douglas fir.



Note in diagram how the middle ring of leave trees is denser than the outer ring as they are next to the bare openings

Leave more crop trees next to openings.

In addition, the following general guidelines regarding tree removal/retention should be adhered to:

- Single trees within openings should be retained, although they might not otherwise qualify as crop trees. This needs to be well communicated and understood by new workers.
- The inter-tree spacing at the periphery of openings should be reduced to compensate for trees missing from the opening; do not, however, retain an overly dense stand in one spot to compensate for a shortage of trees in another.

- Preferably, forked or double-topped trees should be cut. However, if selected to leave, they should be left wholly uncut. Do not attempt to modify the trees, this creates unnecessary scars.
- Selection of superior crop trees should supersede strict adherence to the specified spacing interval.

The following are considered pre-commercial thinning juvenile spacing project errors:

- Cut trees leaning against crop trees, these can scar the crop trees.
- Live limbs on stumps, these may re-sprout and cause competition, i.e. coppicing
- high stumps.
- Excess trees.
- Incompletely cut ("hinged") trees, these will continue to grow.
- Designated trees left uncut (e.g., tree with stem infection).
- Stump cut angle greater than 30^{o} (thirty degrees) from the horizontal. These can create hazards for puncture.
- Crop tree damage (e.g., power saw nicks, broken tops).
- Felled trees left in streams, lakes, roads or areas designated for slash removal.

5.03 - Select the right Saw and Bar Length for the Job

When choosing a saw consider the average piece size to be cut.

New generation 50cc saws are very powerful for their weight, have a lot of torque and are appropriate for coastal slashing applications.

A saw with too large a power head:

- Will slow a person down due to fatigue from carrying a heavier saw.
- It will inhibit the ability to move quickly and effectively.
- It requires more fuel which results in more frequency of fuelling.
- A saw with excess power could increase kickbacks.
- A saw with insufficient power will slow down work due to increased time to make cuts.

A correct bar length is also important.

- Too long a bar
    - o Gets in the way.
    - o Puts the saw off balance.
    - o May contribute to increased kickbacks.
- Too short of a bar may create unnecessary application hazards such as overreaching. This could lead to MSI injuries, particularly in the shoulder.
- Ensure that the height of the operator is also considered when choosing the length of the bar.

Module 6 - The Application Of Personal Attributes, Tools, And Man-Made Written Conditions To Silviculture Work In The Field For Chainsaw Operators

6.01 - Wood Structural Properties Determine Safe Cutting Procedures

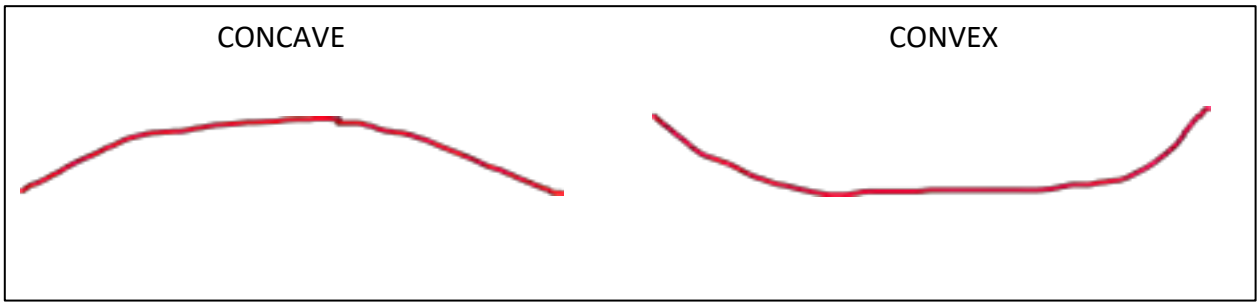
In order to cut wood safely it is important to have some knowledge of the structural properties of trees which are developed during the stages of a tree's growth.

How trees stand up - Trees, in their growth, arrange materials so that they are used to their best advantage. Wood is a strong as well as flexible material. While growing trees can respond to their environment, such as sun, wind, slope of the terrain, and change their design accordingly. This allows them to support their canopy of leaves using a bare minimum of structural material. Its properties result from the arrangement of the cells and the microscopic structure of the cell walls

Arrangement of cells - The cells in wood are long, thin tubes that are closely packed together, pointing along the branches and trunk. This provides support because they point in the direction in which the wood is stressed.

Trees have to resist bending forces. Branches resist being bent down under their own weight, and both the trunk and branches resist being bent sideways by the wind.

These bending forces actually subject the wood inside to forces which are parallel to the trunk or branch; the concave side is compressed, while the convex side is stretched. Whichever way the tree is bent, therefore, the internal forces always act parallel to the cells or 'grain' of the wood.



The long, thin wood cells are well suited to resist the forces; the cells on the concave side resist being compressed, like pillars, while those on the convex side resist being stretched, like ropes. Consequently, wood is very strong along the grain.

The cellular nature of wood is also advantageous to the tree for another reason. Because the cells are hollow, the tree's trunk and branches can be thicker than if all its wood material were laid down in a solid mass. Weight for weight, tubular structures such as these are stronger than solid structures.

Rays - The arrangement of the cells along the trunk does have one potential disadvantage. It is relatively easy to split wood parallel to the trunk, what a carpenter would call along the grain. However, this is not very important to the tree because its wood is hardly ever subjected to forces in this transverse direction. When a tree is being cut, the tree, however, can be subjected to such forces.

As an extra precaution, trees prevent the wood splitting between successive growth rings by incorporating blocks of cells called rays, which are oriented radially in the trunk. These rays act rather like bolts, effectively pinning the wood together. The result is that when you do see trees that have been split along their length (for instance after they have been struck by lightning) it breaks radially from the centre of the trunk outwards, parallel to the rays. This is also why the way to chop up logs into firewood is to cut it radially, through the centre of the trunk, like cutting pieces of pie.

Prestressing of wood - Wood has just one problem; because wood cells are long, thin-walled tubes, they are very prone to buckling, just like drinking straws. This means that wood is only about half as strong when compressed as when stretched, as the cells tend to fail along a so- called compression crease. If a wooden rod is bent, the compression crease will form on the concave side. This will subsequently weaken the rod. Trees prevent this from happening to their trunks and branches by pre-stressing them.

New wood cells are laid down on the outside of the trunk in a fully hydrated state. As they mature, their cell walls dry out and this tends to make them shorten. However, because they are already attached to the wood inside, they cannot shrink and will be held in tension. Because this happens to each new layer of cells, the outer part of the trunk is held in tension, while the inside of the trunk is held in compression. The advantage of this is that when the tree is bent over by the wind, the wood cells on the surface are not actually compressed but some of the pre-tension is released. On the other hand, the convex side of the cells will be subjected to even greater tensile forces, but they can cope very easily with those. The consequence is that tree trunks can bend a long way without breaking.

Pre-stressing has two unfortunate consequences. Many trees are prone to a condition known as “brittle heart”. When the wood in the centre of the tree ages it can be attacked and broken down by fungi. Eventually it becomes so weak that the pre-compression force makes it crumble, and the tree trunk becomes hollow.

Another problem occurs when trees are harvested. Cutting the trunk frees the cut end and, in some species, this allows the pre-stress to be relieved; the centre of the trunk extends and the outside contracts, bending the two halves of the trunk outwards and causing the trunk to split along its length.

6.01.1 - Structural forces acting on wood

The key forces to consider when determining how to cut a tree or log are tension and compression as well as gravity.

Gravity is a measure of the attraction exerted by the earth on an object such as a tree, log, or portion thereof. We commonly call the measure of that force, weight.

Tension is the set of typically two opposing forces tending to pull the object apart.

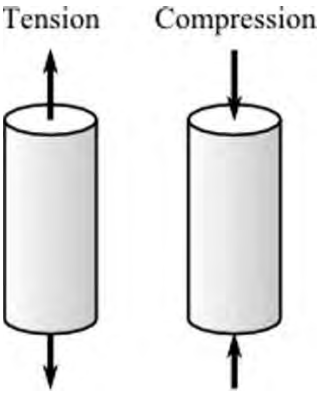
While there are some objects which can be both pushed and pulled, such as a log, objects such as ropes, cables, linked chains can easily accommodate tensile forces, but cannot overcome compression along their length.

Tension can be likened to pulling on the ends of a rope, whereas compression can be likened to pushing on the ends of a rod.

Imagine a leaning tree. The wood on the back of the stem, away from the lean, is being stretched as gravity tries to pull the tree to the ground, and the roots of the tree attempt to hold it up. If the pull of gravity exceeds the strength of the wood under tension, the tree will fall.

Other situations also create tension in a stem. A fallen tree that is supported on two ends but not in the middle contains tension on the underside. The weight borne on the ends allows gravity to pull downwards in the middle, causing the log to sag and stretch (create tension in) the bottom fibres.

Even small stems may contain considerable tension, and therefore are hazardous and require careful consideration before cutting.



Saw operators need to assess the degree to which any stem is under tension. In a brushing application with small diameter stems it may be safe to cut the tensioned stem, provided the tension is light and all your body parts are clear of the trajectory of the release.

There are two ways to release tension in a controlled manner when it is unsafe to sever the stem directly. The weight may be reduced on the stem, thus reducing the tension. If the stem in question has a slightly larger diameter, tension can be reduced by making an undercut on the side opposite the tension, the compression side. Supervisor to demonstrate the technique of doing multiple cuts on the compression side of a stem so that the stem bends before the final cut.

Compression is the set of typically two opposing forces tending to push the object together. When wood fibre is squished or compacted it is under compression.

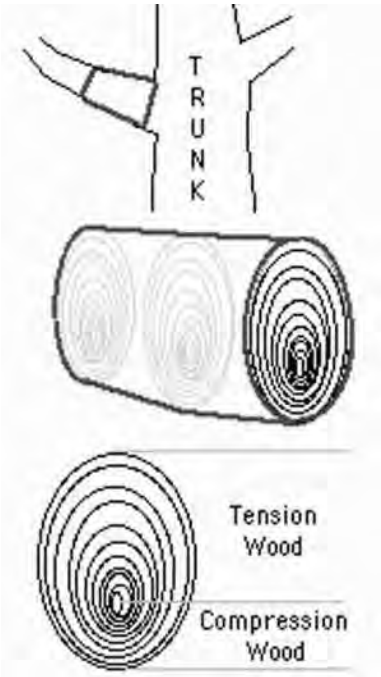
Let's return to the leaning tree. The fibre on the same side as the direction of the lean is compressed. Gravity is pulling the tree down while the roots attempt to hold it up. The fibre in between is forced more tightly together or compressed. The same dynamic is in effect with the fallen tree, supported on its two ends. The sag in the middle of the log creates a bend, which puts tension on the bottom side and compresses the fibre on the top side. What happens when you try to cut this log from the compression side? Your bar and chain bind in the fibre; your bar becomes compressed in the wood and ultimately stuck. Or it may kick back.

Again, even small diameter stems can contain considerable compression.

Bending is the condition in which an object is both under compression and tension in order to counteract other forces acting on the body. Two common examples are:

1. A tree trunk and its branches as they overcome the weight of the branch and the force of the wind.

2. A log lying on uneven ground with 2 or more support points.



6.02 - Wood Positional Properties Determine Safe Cutting Sequence

6.02.1 - Pivot Points

Ground objects such as stumps, rocks, root wads or other logs may cause a felled tree or log to react in an unexpected manner, i.e., one end of the log could slide or roll downhill and the other end of the log could swing uphill. Serious injury can result if the faller does not notice the pivot point and fails to plan accordingly.

Limb the tree and then determine pivot points and where safe bucking cuts are possible. Try to buck logs at or near the pivot points as this provides a safe bucking zone. Learn to use the saw both left-handed and right-handed. This may be one time using the saw left-handed is deemed safe and necessary.

Bind - Is the compression side of a standing tree trunk or branch, and a log or branches of a fallen tree. Cutting into the compression side of a wood member will eventually cause the opening created by the saw to be squeezed which can cause the saw to bind. Thus, the word “bind” is used in the industry.

Since safety can be compromised if the saw binds while cutting, it is important to avoid cuts which cause the closing of the cut, thus causing the saw to bind. The general approach is to cut partially into the wood which is under compression, leaving enough so that the wood will not fail structurally. The final cut is then made on the opposite, the tension side of the log or tree trunk to align with the first cut.

In order to be able to do that successfully and safely, it means that cuts should always be preplanned by observing the conditions of the timber to be cut and determining the location of the tension and compression forces.

Top Bind - In the case of a log on the ground, supported near each end, the compression side is typically on the top between the two supports and the tension side is on the bottom.

Bottom Bind - In the case of a log on the ground with supports relatively close to each other with the log end or ends extending from the supports (cantilevered), the compression is on the bottom and tension is on the top for the cantilevered portions. If the cantilevered portions are relatively heavy and/or extend a relatively long distance from the nearest support, the section of the tree between the supports may also have reversed forces, tension on the top and compression (bind) on the bottom.

Side Bind - A section of a tree wedged between two or more standing trees, logs, stumps or other ground debris causing it to bend to one side compressing the opposite side. The inside of the arc is the compression (bind) side and the outside the tension side.

6.02.2 - Combination Binds

Trees end up positioned over and around stumps, roots and rocks causing combinations of top/side bind, or bottom/side bind.

6.02.3 - Heavy Bind

If there is extreme compression the final holding wood of the cut will break with sudden force. Slow this process by cutting a ‘V’ notch on the compression (bind) side.

6.03 - Safe Cutting Procedures

In the following pages we describe the saw cuts typical of silviculture work. Cutting small diameter wood 15 cm (6 inches) or less at stump height should not be thought of as involving less rigour, skill or concentration when falling large trees. Anyone cutting small trees, stems, or even willow whips, has to pay attention to controlling where the cut material is falling and what the consequences of that are. So even if these cuts can be made quicker, or are less complicated, there are very real risks involved. In some cases, they are worse. A 15 cm stump can still be a very large tree in both weight and height. Furthermore, sawing these trees doesn't allow for the use of a wedge to control or direct the fall. Due to their small diameter a wedge will not go into the truck of the tree

These small trees can cause just as much damage as bigger trees as well. In silviculture work where the goal is to cover ground there is an incentive to work quickly and to possibly take short cuts and risks. Trying to work too quickly, not paying attention to what is over your head, or ahead of you on the ground and working against the grain all can contribute to mistakes and injuries. Not recognizing the limits to your training or the limits of your co-workers, can lead to dangerous mistakes.

6.03.1 - Limbing

Standing trees - For trees that will remain standing (crop tree), a cut should not create a bigger scar than necessary. Care should be given to cut just the limb and not the branch collar. The collar extends out from the bole of the tree creating a bump that separates the limb from the trunk of the tree. It has growth rings similar to those in the tree. Cutting into the branch collar creates a location for infection and disease to attack the tree. Leaving a limb that has been cut off a distance from the tree bole will create a knot that will, if loose, reducing the lumbers value.

There is great danger in limbing too close to the stem, as the tip of the bar can strike the tree and kickback towards the worker. Fatigue can also play a role in rushing the limbing.

The saw should be revving up before the cut is started. Caution should be exercised to ensure that the upper quadrant of the tip doesn’t come into contact with any unseen limbs or trees.

In brushing and spacing situations, there are trees left standing that have to be worked around. In some ways this makes these jobs more difficult than falling everything and not having to direct trees between other standing trees. It’s easier to fall trees into an open area than having to find corridors and openings to fall the trees into. As an experienced brusher, one of the challenges to help keep you engaged is to plan your work accordingly and work corridors. Locate an area you can drop a bunch of trees into and work that zone.

In spacing contracts that call for a high density (1000-1400) of stems per hectare to be left, falling trees that are in the 20-year range, with heights of 25-50 feet, the operator will find that many trees have to

be double or triple cut to get them to the ground. This is called fence posting and can be demonstrated by the supervisor.

Even a tree under a 15cm (6”) diameter can inflict serious damage to an operator. Deciduous trees with a wide upper canopy are especially difficult to work with when this is the situation.

Removing large limbs that could deflect falling trees may have to be done to make it safer and easier. Cutting limbs with the saw above your shoulders is not permitted, this is the fatality zone. Limb tied trees may be very difficult to spot. This can cause trees to swing away from their projected path to the ground. Supervisors should be demonstrating and observing workers looking up before approaching falling trees to look for things such as limb tied trees, broken tops, hung up branches.

6.03.2 - Safe Work Procedure for Limbing

Maintain secure footing and balance to avoid strains and sprains; ensure caulks are clean. Keep bar arm straight, and the weight of the chainsaw close to you. Do not reach, extend your body, or cross the body with the chainsaw. Reposition instead by moving feet and turning the body. Remove loose limbs that have landed on the tree. Limb top and both sides, do not cut supporting limbs that are on the underside of the tree. Release tension in loaded limbs before cutting. Make cuts flush at the base of the tree. Do not leave stubs, they are tripping hazards and cause puncture wounds. Be aware of log movement while cutting.

Loaded Limbs - Tension in a limb can be caused by a limb being bound or pinned, or due to its own weight. Learn to recognize that the load on a limb can be seen by looking at the direction of the bend or the bow of the limb. Determine the tension points and where the loaded limb is bound, such as under other limbs, logs or debris. Assess from the opposite side of the bind.

Bound or Pinned Loaded Limbs

1. Make a series of shallow cuts on the underside of the bow or bend of the limb slowly releasing the tension in the arch.
2. Complete top cut to release the tension in the limb.
3. Underbuck a shallow cut flush with the tree stem.
4. Finish with a top cut to remove stub.

Loaded Limb Due to Size and Weight

1. Reach out to a comfortable distance and make a shallow cut on the underside of the limb.
2. Complete the cut from the top side to release the tension eliminating the weight.
3. Underbuck a shallow cut flush with the tree stem.
4. Finish with a top cut to remove stub.

6.04 - Bucking

This is the cutting of trees or chunks of trees that have fallen to or near the ground. There are no WorkSafe regulation restrictions on what size of piece a chainsaw operator can cut. The limiting factor is size of saw and bar as well as training.

Bucking a tree is considered to be one of the most difficult tasks that an operator will encounter. The presumption that because the tree is lying on the ground it will not be as dangerous or difficult to treat is wrong. When the operator relaxes and does not follow a proper assessment the risk of injury becomes higher.

There is no certification required by a saw operator to buck a tree over 15cm (“6“) in diameter.

Knowing your limitations and competency is critical to reducing risk of injury. Even the most skilled and experienced operators still have problems predicting what may occur.

When approaching the tree to buck make, sure to check for
hazards, not only entirely around the tree but above as well. If the tree was recently felled, then the chance of loose limbs hung up in the canopy could still be present.

Once a 360-degree assessment (vertically and horizontally) is completed, the next step will be to remove limbs. Removing limbs or not removing can both be of benefit to the operator. Limbs not removed could strike the operator when it rolls or cause the tree to pivot unpredictably. Not removing certain limbs could also act to stabilize the tree. Ensure proper footing. Assess pressure to the limbs before cutting.

Before you buck, reassess stability after limbing. Determine pressure points and pivot points. Always brush out your escape routes and identify your safe zones.

Depending on the type of bind present, apply the proper cutting application. Relief cuts, boring, perhaps a V notch for excessive bind. Standing on the high side of the log is usually the best method, but some circumstances may prevent this. Plan your sequence of cuts and cut into manageable pieces. Always reassess after each buck. Be conscious at all times where your tip is. Chain pinch is very common, and it will occur, so have some wedges and axes present.

6.04.1 - Procedure for bucking a tree/log with no noticeable bind

1. Prior to making cut(s):
    - Work plan has been developed and communicated.
    - ERP is in place.
    - Establish control of the workplace.
    - All required PPE is worn.
    - Make sure the saw size and bar length will enable the operator to complete the cut(s)
    - Access tree/log for issues/hazards: bind(s), overhead, what's going to happen to the cut/pieces when the cut is completed or anytime while a cut is being made i.e. roll, pivot, slide, split, drop etc.
    - Identify pivot points if any.
    - Determine which side of tree/log to stand on (safe side is usually high side).
    - Have at least one escape route. Most bucking accidents happen within five feet of the piece being cut.
    - Other hazards: area (loose rock, root wads, other logs/trees,etc.).
    - Establish minimum and maximum safe work distances between other people/workers.
    - Expect the unexpected.

2. Making the cut(s): considerations are;
    - Watch the cut (opening or closing) for unexpected reactions.
    - Do not cut through the log into the ground when the piece being cut is on the ground!
    - Use wedges to keep the cut open if necessary.
    - Cutting with the correct hand (generally the right hand, sometimes left hand) to put the operator in a favourable position.

6.04.2 - Bucking a tree/log with noticeable bind

All of the above with these additional considerations.

- Determine series of cuts to make. Generally, cut compression wood first (relief cut). Finish with cutting tension wood (release cut).
- Show/discuss the four step system for bucking large logs.
    1. The far side, hard to reach.
    2. Compression wood.
    3. Near side.
    4. Tension
- Cut at or near pivot pts if possible.
- Use qualified assistance, get a second opinion.

6.04.3 - Bucking Hazards

Be aware of the following hazards associated with bucking, specifically in broken ground, steep slopes, ravines, and gullies:

- Overhead, ensure that the canopy is stable.
- Chainsaw Kickbacks.
- Pivoting action causing logs to swing, roll and slide unexpectedly.
- Unstable materials from above or behind you such as loose rocks, roots, chain reactions.
- Hidden or tensioned limbs.
- Slips, trips and falls, resulting from unstable body position on supersaturated soils, loose bark, loose rock, snow and ice.
- Binds.
- Windthrow/blowdown.

6.05 - Sliding, Rolling and Chain Reactions of Logs

Remember that logs will roll, on flat or steep terrain. Before each cut, assess the potential for pivoting, sliding and rolling logs, and anticipate what will happen when the cut drops. On steep ground, logs can travel considerable distances disturbing other previously bucked logs. Do not buck below previously bucked logs. Good planning and proper bucking assessment will keep you and other workers clear of these chain reactions.

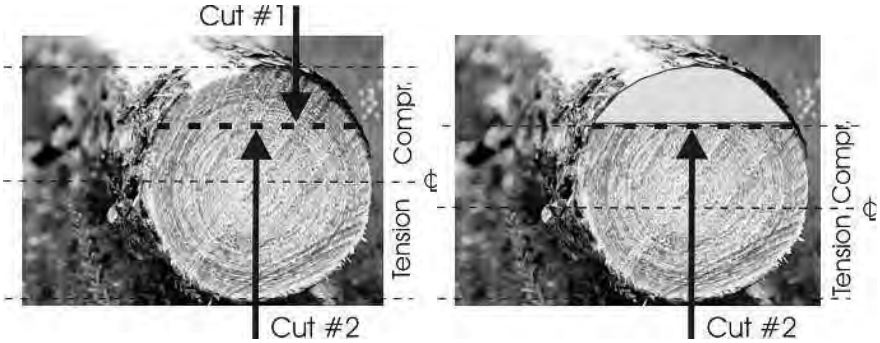
6.05.1 - Weather related hazards when limbing

Hazard	Evaluate the Hazard	Best Practices
Rain	Impacts secure footing. Felled trees may be unstable and slide. Low visibility through the screen.	Ensure solid footing. Use alternate log lengths. Stop to knock off the rain from your screen regularly.
Fog	Impaired visibility. Unexpected slipping hazards due to moisture.	If you cannot see the top of trees, do not work. Make sure you have sharp caulks.
Wind	Active canopy, overhead blowdown. Trees being blown in uncontrolled manners. Sawdust blown into the face.	Check the canopy regularly for overhead hazards. When trees are falling in directions other than planned, stop work.

		Work with the wind. Change your body position.
Running Sap	Back peels off easily. Pitch flies back into face.	Assess bark for loose pieces or crack lines. Sharp caulks essential for walking on logs. Be sure the face screen is in good shape.
Frost, Ice, Snow	Impacts secure footing. Increases risk of slips, trips and falls. Hides ground debris and pivot points Trees slide and roll. Saw may behave differently.	Wear appropriate footwear for the job. Check for tripping hazards. Assess tree stability. Do a thorough check of the saw during warm up. Be sure to store the saw out of the weather overnight so that it does not freeze.
Frozen Wood	Wood is more brittle, cuts break open quicker when you are cutting. Less friction and more sliding between logs, trees, stumps and ground.	Ensure secure footing. Ensure escape routes are planned and cleared.

6.05.2 - Basic Cut Top Bind

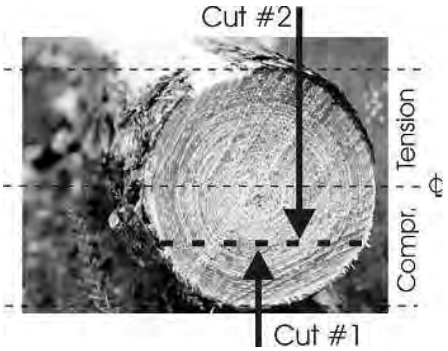
1. Standing on the high side, cut from top down to 1/4 tree diameter.
2. Line up the bar with the top cut and make the second cut from the bottom up. Finish the cut sawing up to meet the first cut.
3. Move to the escape route as the cut drops.



Note in the diagram how the neutral axis (CL in diag.) shifts down as the log is cut. Bottom and top wood on either side of the axis have equal areas. Since wood is typically around twice as strong in tension than in compression (this varies by species and by imperfections in the wood, such as knots), the log typically, and ultimately fails structurally in tension.

6.05.3 - Basic Cut Bottom Bind

1. Standing on the high side, cut from bottom up to 1/4 tree diameter.
2. Line up the bar with the bottom cut and make the second cut from the top. Finish the cut, sawing down to meet the first cut.
3. Move to the escape route as the cut drops.



6.05.4 - Small Diameter Log, Top Bind

1. Standing on the high side, reach over and cut the low side to 1/4 tree diameter.
2. Line up the bar with the first cut and cut down from the top to ¼ tree diameter.
3. Underbuck to finish the cut.
4. Move to the escape route as the cut drops.

6.05.5 - Small Diameter Log, Bottom Bind

1. Underbuck from bottom, up to 1/4 tree diameter.
2. Reach over the tree to the low side and line up the chainsaw with bottom cut. Make a second cut from top to meet bottom cut.
3. Finish cut from the top and saw down to meet the bottom cut.
4. Move to the escape route as the cut drops.

6.05.6 - Large Diameter Log, Top Bind

1. Standing on the high side, reach over and cut the low side to the centre of the tree.
2. At the top, line up the bar with the first cut and cut from the top down to 1/3 tree diameter.
3. Bore in a short way and down to create the holding wood; continue to bore into the centre of the tree and cut all the way down.
4. If the holding wood does not break, cut it from the bottom up.
5. Move to the escape route as the cut drops.

6.05.7 - Large Diameter Log, Bottom Bind

1. Stand on the high side and reach over to the low side, make a cut to 1/4 tree diameter.
2. At the top, line up the bar with the first cut and scribe over the top and down 3/4 tree.
3. Diameter wood can be under extreme tension, therefore, do not cut too deep when scribing.
4. From the bottom, line up the bar with the first cut, and underbuck from the bottom, up to 1/4 tree diameter.
5. From the top, line up the bar with the first cut and the saw down to meet the bottom cut.
6. Move to the escape route as the cut drops.

6.05.8 - Oversize Diameter Logs

Leave oversized logs to be cut by fallers qualified to do that work.

Windthrow - Is the result of a major wind blowing down an exposed stand of timber. This results in several layers of blown down trees (jackpots), often criss-crossed at various angles, interspersed with full or partial standing trees and damaged stems. A blown down tree may also be the first thing a chainsaw operator has to deal with when opening or starting new work.

Planning, including detailed assessments of site and individual tree hazards, and a proper sequence of cuts, is critical for the safety of chainsaw operators. Alter man-check procedures to reflect all local hazards

6.05.9 - Hazards

1. Cutting close to the roots may cause the root wad to tumble forward, swing uphill or sideways, or stand up into its original position.
2. Log could pivot and roll downhill or swing uphill.
3. Loose rocks on the root wad could dislodge.

Note: Cutting near the root wad on windthrown trees can result in rocking the chain due to excess dirt and rocks. This can increase the risk of injury of the chainsaw operator as a dull chain decreases the cutting speed which can contribute to the logs splitting. Also, cuts can wander resulting in the cuts not matching. Cutting with a dull chain causes fatigue which could result in the faller losing focus and loss of control of the chainsaw. Prior to cutting near the root wad, use the axe to remove the bark, dirt and rocks. It is recommended to leave a short log length attached to the root wad.

6.05.10 - Windthrow Bucking Procedures

1. Have a spare chainsaw, axe, wedges and other equipment readily available to overcome difficulties that may be encountered. Consider blasting or other alternate means.
2. Determine and establish escape route(s) such as cutting steps in surrounding logs or windfalls, brush out saplings.
3. For unstable standing trees, dangerous trees, partially blown down and wind-snapped trees, have a certified faller do this work.
4. Determine safe bucking positions.
5. When bucking in windthrow situations, it is recommended to use a longer bar. This allows the operator to stand further back for better visibility while cutting which reduces the risk of being struck by springing or dropping cuts.
6. Random log lengths must be considered whenever there is no safe position for a preferred length.
7. Chainsaw operators must never attempt a cut that would put them at risk or that cannot be safely completed.
8. Plan a safe sequence of cuts.
9. After each cut, reassess to ensure it is safe to make the next cut as planned.
10. Complete bucking cuts.
11. Move to the escape route as the cut drops.

6.06 - Boring

Boring is cutting into a log/tree with the tip of the bar. This is regarded as advanced cutting (similar to cutting with the left hand) and is generally done by experienced operators. It does however fall within the scope of this course and therefore is included in the training.

Proper boring includes:

- Proper chain maintenance (raker height and shape, tooth sharpening, tension).
- The use of a safety chain.
- Using the lower quadrant of the bar tip to start boring cuts.
- Attention to proper saw handling and body positioning (thumb wrapped, saw offset to body).
- Relatively slow feed rate.
- Constant power-head RPM.

Boring should only be done when necessary. The primary hazard associated with boring is kickback.

6.07 - Slashing

Slash can be defined as unwanted, unutilized, and generally unmarketable accumulation of woody material in the forest, such as limbs, tops, cull logs and stumps, that remain in the forest as residue after timber harvesting or silviculture operations such as brushing, spacing, etc.

Slashing can be viewed as any silviculture cutting operation of standing brush and trees. Since the felling of trees greater than a 15 cm diameter as stump height must be done by certified fallers, any slashing work done by chainsaw operators who are not fallers must not include trees and stems greater than 15 cm DSH.

The key to slashing trees, even below 15 cm, is using compression and tension to your advantage. The risk in cutting through tensioned wood alone is that the stem will split where the tension fibre meets the compression fibre. As the tree falls the tension wood can spring violently outwards on the back side of the tree; this is why we never stand behind the back cut.

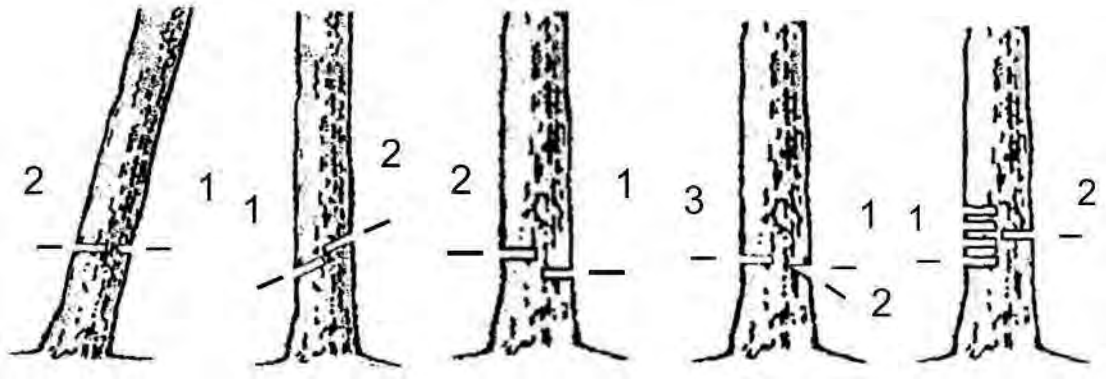
A crack will travel up the stem, diminishing towards the compression side until all the tension has been released and the tree falls to the ground.

Once a tree begins to split (barber chair) you have lost control of where it will fall. With larger trees the crack can travel far up the stem until the wood breaks and the broken off portion falls directly to the ground. It is impossible to predict where this will land.

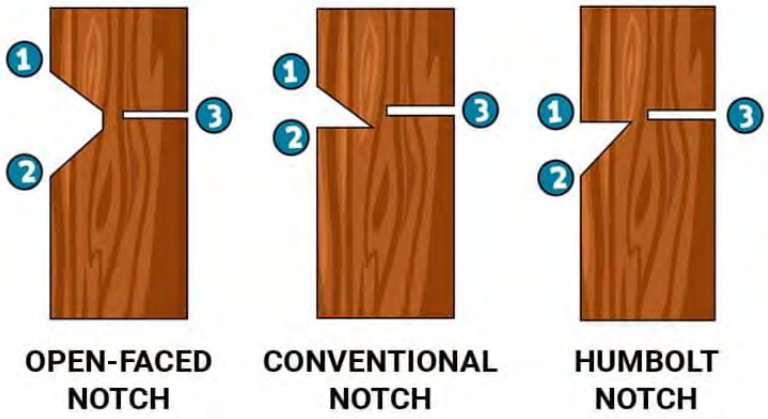
In order to prevent the fracturing of tension wood and subsequent barber chair, it is necessary to cut away some of the compression wood (undercut). This will allow space on the compression side for the tree to fall into. The undercut moves the leverage closer to the centre of the tree (holding wood) thus preventing a sudden release of energy out the back side. The falling tree must fracture somewhere as it separates. When you make an undercut in the compression wood you are determining where this fracture will occur, and where the tree will fall. We call this controlling the fall of the tree.

6.07 - Notch (Bird's Mouth)

6.07.1 - Un-Wedged Cuts



The numbers indicate the cutting sequence. The first cut is made on the side towards which the saw operator wants the tree to fall.



With brushing alder, generally any cuts over 4 inches, should have a first cut on the side the operator wants the tree to fall. As a Supervisor it is best practice to encourage new/young workers to get in the habit (muscle memory) of always doing a first cut on even small wood. Naturally they will start to cut straight through as their confidence builds. As a Supervisor, get in the habit of looking at their stumps as well as watching them work. You can understand a lot of how safely they are working by examining their stumps.

A small undercut is sometimes referred to as a bird's beak. In falling trees over a 15 cm (6") DBH (diameter at breast height), a great deal of examination has gone into determining the size and depth of undercut required to make an industry wide standard that will reduce injuries and deaths. The standard for falling trees under 15 cm (6") size should follow roughly the same parameters.

So, the undercut should be one quarter to one third the tree's diameter. Typically trees less than 10 cm (4") DBH are stump-jumped or hinged cut, but there are instances when an undercut may be used. A modified undercut, improperly placed, or single bar width undercut may all achieve the desired purpose but eventually using unsound methods will result in an incident if not an accident.

Trying to work too quickly, not paying attention to what's over your head or on the ground, working against the grain, all can contribute to an accident.

6.08 - General Considerations For All Slashing Applications Prior To Cutting

- ERP is in place.
- Tailgate meeting has been conducted.
- Work plan has been developed and communicated.
- Establish control of the workplace.
- All required PPE is available and worn.
- Choose the correct saw size (displacement) and bar length for the job.
- Determine and communicate minimum and maximum safe work distances between the saw operator(s) and other workers. Minimum distance is generally two tree lengths. For maximum distances a person must be able to give and/or receive first aid within ten minutes (walking time).
- Identify all hazards and issues.

6.08.1 - Slash is broken into three size ranges and may be cut differently depending on size

- Small brush < 2.5cm. Generally, one cut is either angled or level at height or low to the ground.
- Brush small trees 2.5cm. to 10cm. Generally increased level of accessing for variables and possible hazards. Can use single cut or modified undercut/back cut. Modified undercut can be a small cut in the front or several small cuts. Back cut should be level with or slightly higher than the highest undercut. Trees leaning backwards can be cut and pushed over with operators' body (hand). Maintain holding wood. Engage chain brake. The chain brake should be used whenever you take one of your hands off the saw. Leave the saw in the back cut so the tree does not sit back. The saw can work as a wedge, but do not "pry" the bar and compromise your tool.
- Small trees 10 to 15 cm (6 inches). Single cutting these trees should only be done after close assessment of variables. Generally, use modified undercut/back cut (series of small cuts in front) or regular undercut/back cut. Show falling stump to demonstrate/discuss conventional cuts. Stress these points in addition to general considerations:
    - Escape routes must be identified prior to cutting the tree.
    - Put the undercut in the direction you want the tree to fall.
    - Undercut needs to be about 1⁄4 of the tree's diameter and clean (no mismatched cuts).
    - Back cuts must be level with or slightly higher than undercut.
    - In some instances, sight lines may be used.
    - Must leave complete holding wood hinge for directional control.

A good training exercise for workers is to find a tree between 10 to 15 cm, do a directional cut at chest level or a bit higher and then use the remaining stem to practice Birds' Mouths, humboldt undercuts, etc.… As a Supervisor you can promote this exercise and allow for training.

- If wedging is required (rare in this size of wood) almost always make a back-cut first, set wedge, then make undercut. The wedge stops the tree from setting back any more than it already has.

There is little room for any real wedging to occur. Most of these trees can be pushed over by hand, with the use of a pusher pole, or pushed with another tree to overcome a falling difficulty.

In the case of heavy leaning small trees, effective wedging is not possible. All general slashing considerations with these additional points:

- Consider making relief cuts (cutting of compressed wood) and either waiting for fiber to break and/or making release cuts (cutting of tension wood).
- Consider making cuts slightly off angle to the obvious fall of the tree.
- Consider asking for help (qualified assistance).
- Consider your right to refuse unsafe work or work you are not capable of doing. Don't cut.
- Contact supervisor.

6.08.2 - Sprung Saplings/Limbs (Springpoles)

These are small trees and brush as well as limbs attached to logs/trees that are under varying degrees of tension and compression. They can be extremely hazardous if not recognized and/or cut incorrectly. When cutting in the snow, it is very common to deal with many springpoles. Lots of the small bushes such as huckleberry or hemlock can spring back when unintentionally released from the snow.

When cutting springpoles, be sure to:

- Assess for compression/tension.
- Determine reaction forces.
- Figure out where to cut and what series of cuts to make. Always cut compression wood first.
- Consider making relief cuts (cutting of compressed wood) and either waiting for the fiber to break and/or making release cuts (cutting of tension wood).
- Decide where/how to stand.
- Choose escape route(s): min. 3m (10') at 45 degrees to the rear and/or behind cover.
- Always have a plan B.
- when releasing a sprung limb, consider what can happen to the log it is attached to.
- Be prepared for the unexpected.

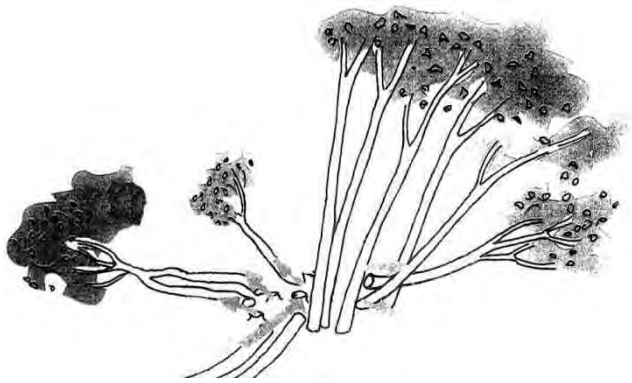
6.08.3 - Clumps/Bouquets

Identify high risk stems (dead, limb tied, under obvious tension/compression, entwined, growth angle, etc.) first. Considering these factors typically cut from the outside in. Leave clump until sufficient space is created around it. Dealing with Maple Coppicing falls into this category.

6.08.4 - Falling Vegetation to a 15 cm (6") Diameter Limit

Familiarize yourself with the work area and check for hazards in all directions. If the area is safe, start the saw and commence work. Always keep a clear view of what you are cutting. Although this may slow production, cutting blindly will eventually lead to an accident, kickbacks, pull-ins from unseen stumps, logs or other ground debris. Cutting blindly also leads to throwing of the chain.

As you approach a new target, have a plan of what you intend to do. Cutting limbs and removing other obstacles may be necessary before the actual felling of the target tree. Pay particular attention to where the tip is. Practice good housekeeping habits to create a workspace that is not more hazardous than what it was before you started working there. Be hyper-aware of the footing hazards you create when dealing with clumps/bouquets.



Determine the intended direction of tree fall based on a variety of factors such as:

1. Tree lean.
2. Ground slope.
3. Roads.
4. Power lines.
5. Water courses.
6. Wildlife features.
7. Property or block boundaries.
8. Limb weight distribution.
9. Rot.
10. Tension.
11. Open area.
12. Crop trees you are trying to release and not make more work by laying a bunch of stems and their branches on them.
13. Overhead hazards.
14. Accessibility.
15. Safety.
16. Tension.
17. Wind.

Once a plan has been formulated the operator must position himself in a manner consistent with safe working procedures. Generally speaking, the high side is usually the safe side but some of the factors noted above may change that. Supervisors may share their experience of how they work a maple coppice. Do you start on the downhill side and then work your way around to the top, then doing the same on the other side? Finding a maple coppice is really important for the field part of the training, particularly with new workers. It is much more technical than slashing out alder and needs extra supervision.

6.08.5 - Types of Slashing Cuts:

The type of cut you employ will depend on timber type, size, lean and condition. While some cuts are specific to falling large diameter trees the basic principles are universal.

Straight Through - This cut involves simply applying the bar to the standing stem and cutting through the wood until it falls. It should be used only on small diameter stems and when you don't really care where it lands.

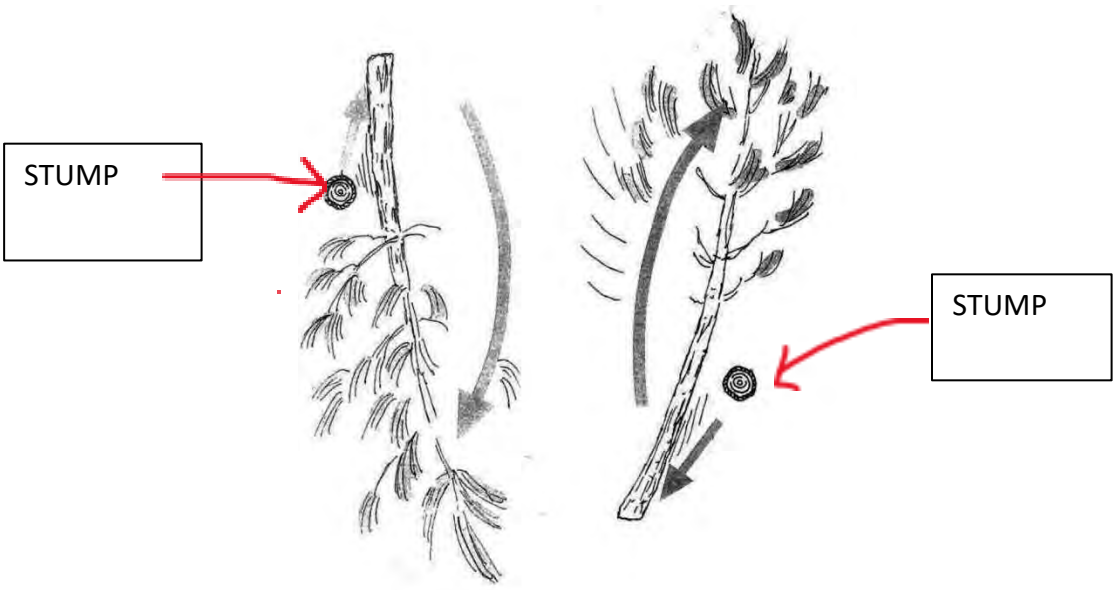
Brushers apply the straight through cut on clumps of birch, maple, alder etc., even when the stems have a heavy lean. The trick is to keep the chain rotating quickly enough to cut through all the fibre before a mini-barber chair occurs and you end up pinched or with a hinge. If you are doing this technique and mini-barber chairs do occur, this should be seen as a red-flag to stop applying the straight through cut and begin controlled relief cuts.

It is possible to use this cut, even from the compression side without binding in small stems, though it's most efficient to cut from the tension side wherever possible.

You will notice that sometimes the severed stem spins off your chain and lands where you might not expect. Over time you'll learn to anticipate where the stem will land and use this to your advantage. This technique is called stump jumping and warrants some discussion.

Stump Jumping - Generally only works safely with smaller trees of a diameter around four inches or less, is a straight through cut where you control the direction of the fall by managing the direction the stem comes off the stump. This technique relies on the tree falling opposite to where its base lands when it is cut off at the stump. If the stem comes off to the left and up it will fall, because the crown has been displaced, to the right and down. And so on.

Just how the tree comes off the stump will depend on the slope of the cut and how far and which direction the chain pulls it, depending on whether the top or the bottom of the bar is doing the cutting. The result will also be determined by the weight and size of the tree and possibly by whatever added force the speed of the cut itself may carry. With these many variables in the mix it is not the most controlled way to cut through stems. In larger wood, say beyond 4 inches, it is dangerous. But as a skilled operator you can soon figure out what the variables are and manage them to the point where the stems are coming off in the right direction and your trees are falling where you want them.



There are specific risks to this technique. If your chain draws the base of the stem towards you the tree will fall forward and away, possibly into the stand. It could also come off the stump so fast it flies into your boot or shins. Using the top of the bar to direct the base of the stem away from you involves working with the top side of the tip which is close to the kick back zone. Because it requires less reach to use the bar closer to the tip, as the day wears on and you tire, fatigue will increase your chances of using the dangerous kick back zone for the cutting. That will put you in harm's way. Done improperly, this kind of cutting can be hard on the bar and the rest of the saw as well.

Jumping stems off the stump is probably safest in softwood stands where there is some uniformity of form and lean. The hardwoods like Douglas Maple, Alder and Birch because of their twists, weight and intertwined limbs are not good candidates for this kind of through cut. It is difficult to gauge the compression and the lean so it is hard to predict where the tension will let loose and which way things will fall.

Sloping double cut - Offers some control over the direction of fall of larger diameter trees. You make an undercut sloping upwards on the side of the tree where you want it to fall. Don't go in more than a third the diameter. The cut is completed by cutting a downward sloping back cut just above the plane of the undercut. Like all double cuts you may have to push the tree if it doesn't fall properly.

Horizontal undercut and back cut - Mimic a falling undercut but rather than removing an angled undercut you simply make one single horizontal slice not more than a third of the diameter on the side of the tree where you want it to fall. You then put in a standard back cut slightly higher than undercut. The tree then can collapse on the undercut and either with its own weight or your help it falls over. This is a great technique for falling 4-inch alders. By putting the horizontal undercut on the side where you want the tree to fall, you can control the fall, keeping some holding wood and pushing the tree over.

6.08.6 - Discussion Points

When would these cuts be used?

Horizontal multiple undercut and back cut - Involve quickly notching the undercut side of the tree with numerous cuts. These will create space for the tree to collapse into after you have made the back cut.

Hinge cut - Involves simply cutting a back cut until the tree falls over on its own or you push it. The holding hinge on the falling side gives you some control. But it has to be severed after the tree is down. With alders and maples this is risky for mini barber chairs and is not recommended.

High cutting (fence posting) - Is generally recommended for shorter trees. It is a method of slashing utilized to get trees to fall in a space/opening that is limited due to adjacent over story/understory. The qualifier to “high cutting” is between prescribed stump height & below the chest of the operator. This is a good technique for laying down trees that are hung up on leaf trees and should be demonstrated to new/young workers. For safety reasons the first cut should be made quite low, around 1-2 feet off of ground. This is to reduce the risk of an overhead object being dislodged by a large force of the first cut.

Angle or salami/fence posting - Cutting small pieces (slip cutting) manipulates the base one way and the top in the opposite direction.

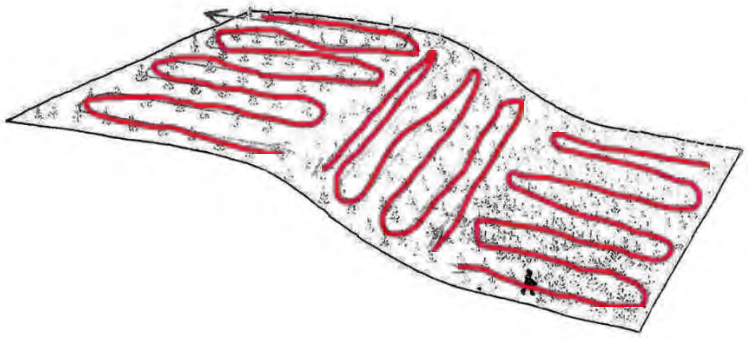
Do not walk up and down sloped ground to reduce danger of falling and to minimize climbing effort. Walk and work parallel to the slope.

6.09 - Efficient Cutting Approach to Working the Face

In working the face of the stand, you generally have to take into account things like slope, wind, and openings. Even in falling smaller trees these features will affect where the brush and slash will likely fall most easily. So, you want to approach the cutting from the greatest advantage to you. You don't want trees falling back into the stand nor do you want trees to fall and brush up the face leaving you little room to manoeuvre. You want to be able to approach the face, so the trees fall away from your work. Obviously, you don't want to cut trees below you on sloping ground, so you work uphill.

Plan the approach to the work on a site by orienting yourself by walking segments of the site, using aerial photos, etc. to determine the best systematic approach. Work in rows which allow you to keep track of completed work. Work which involves cutting standing brush/trees also needs to consider the placement of slash.

When laying out your piece, it is important that you consider your evacuation route in case of an injured worker. By working a clean face, you create a safe way to get to an injured worker, and a safe way to get them out. A clean face also creates a path for a co-worker to quickly find you in case of emergency.



Walking/working direction for working flat and sloped terrain.

6.10 - Productive and Safe Personal Performance on the Site

It is part of your safety-oriented attitude to think about and prepare for each and every cut you make. You must be aware of the effect that each cut will have upon the wood, the saw and your body. Never just rip into any piece of wood and just see what happens.

You must learn to anticipate where the wood will go and what other pieces of wood it will influence on the way.

You need to know where the saw will go, even in the event of a kick-back. Visualize the route you intend the bar to take from start to finish. Will the top of the tip touch anything? Does the bar end up too close to your feet or legs at the end of your cut?

You must also think about where you will move in relation to both the wood as it falls, and the saw as you cut, finish and travel. It's a lot to think about.

For example, "stump jumping", the practice of using the rotation of the chain to spin the wood off the stump and land in the direction you hope it to fall, is a risky practice, because you don't really know where the wood will land, how it will affect the bar as the wood compresses the chain, or where you should be in relation to the wood or saw. The professional saw operator plans his cutting instead of reacting to it.

Body Positioning - As with any physical activity, the success of a given manoeuvre begins with anticipating an act and positioning your body accordingly. Failing to do so will compromise the quality of the act and cause unnecessary strain on the body.

The difference between efficiency and awkwardness, safety and danger, is a direct result of body positioning, and correct positioning is a result of practice. Talk here again of the fighter's stance, one foot in front of the other, balanced evenly.

As in falling, silviculture saw work requires many of the same considerations regarding your body positioning relative to the saw, the tree you're cutting and the direction it will fall. But production cutting on a silviculture project, particularly brushing or spacing, is far more active. It involves almost continuous positioning on the operator's part as you move and saw through the stand. Much of the

cutting of small stems (under 4 inches) will be done closer to your feet and legs relative to falling larger wood. So, with this exposure, combined with very temporary stances at each cut or series of cuts, positioning yourself safely and focusing your attention continuously are critical.

Obviously, you need to watch where you put your feet down. But much of your ability to walk in the unpredictable woods and maintain your balance is due to reflexes in your core abdominal muscles. The core muscles are quite intelligent. They unconsciously translate information from your feet and brain constantly to instantaneously tighten and release various groups of muscles to keep you upright. But to do that they must be fit. Otherwise the muscles can't work quick enough and you fall and slip. To be a skilled worker, particularly one packing a saw, you need to exercise and build strength in the core muscles. If they are fit, you won't have to spend so much conscious attention to maintaining your footing and balance. That attention can then go to other places to keep you safe and productive.

But before you put your feet down, look up. Check out for overhead hazards the same as a faller. In young stands you may encounter broken tops, hung up hazards, or even wildfire features such as birds' nests that will determine your course of action in treating the stand. In silviculture saw work you cover more ground. So, look up more often as you zig zag through your swath. Looking up often also allows you to select the crop trees ahead of time. Good spacers and brushers have located their crop trees sometimes two or three of them in advance. That lets you deal more efficiently with the tactics of

working your face. It also frees your concentration from having to manage all the business of what you are immediately cutting while trying to figure out simultaneously which tree you're not supposed to cut. There are a lot of brains involved in this work. So, let's be strategic in how we use our heads.

Body positioning then generally follows the same principles for falling. Your feet must be firmly planted every time you cut. There is no "drive-by" sawing even for the smallest stem. Don't be misled by thinking that cutting smaller wood doesn't require the same attention. Often smaller whips can derail the chain leaving you on the receiving end of a bad cut. Whips and limbs can also be under such tension that you can get backlashed dangerously. Depending on the density of the stand you may be able to make a series of cuts from one stance. This means staying within the limits of trying to have your shoulders as square to the cutting as possible. If you rotate and don't move your feet you risk overreaching and straining. You will also begin to lose the positional leverage you need to keep the saw cutting and not kicking back. In losing your positioning you have to compensate and use more energy to control the saw as you twist or overreach. This tires you out and increases fatigue, leading to loss of concentration and mistakes. So, move your feet to keep your position.

In more open terrain, move efficiently to the next cutting stance. But don't rev anything until you are firmly planted and properly positioned. Get in the habit of always using your chain break when you take more than two steps.

For workers' observations, emphasize this safety rule. This kind of activity involves the same kind of athleticism as many sports, think the ready stance for basketball, volleyball, soccer, etc. If you are good at it, you will make it look easy. That will be because you are not wasting effort and every action is designed through positioning to be the most economical and safe.

On steeper ground where in your cutting stance you necessarily have one leg positioned higher than the other make sure your inner leg is not exposed to a possible kick back or chain derailment.

If you have mastered the special cutting techniques for directing the fall of smaller stems you will not find yourself under or in the way of the trees you are cutting. You want to be positioned so that the trees fall behind and to one side of you. Ideally you want the trees to be falling behind you where you have just come from. This keeps you and them out of the ongoing cutting calculation and out of the way as you think and move ahead.

When you begin cutting larger stems, say four inches or greater, you must adopt movement and positioning more typical of falling. You want to be perpendicular to the direction of the fall. You want to be above the tree on a slope. You need to spend more time anticipating and confirming the direction it will fall. Position yourself with escape routes so you can retreat safely if things go awry. Consider the possibility of a barber chair, or the butt up-ending when it hits the slash pile or ground. What is in the way to hang it up and make things unpredictable? Always have a clear site line of your drop zone.

As supervisors, we need to be watching for workers demonstrating that they are watching and working their drop zones. In particularly brushy sites, workers need to also get away from vines such as blackberry climbing the target trees to be cut and how vines will change the behaviour of the tree while they are falling. Best practice is to cut the stems of the vine from the ground before cutting the tree. Be aware though that the vine may be attached to the ground in multiple places and may also be attached to other trees, altering its behaviour while it drops.

In silviculture saw work where stand densities and species may vary constantly you will find yourself adapting your approach to openings, slope, and the types of trees you are cutting. Maintaining the proper position at each cut, numerous as they may be, is all part of maintaining the concentration necessary to work safely and productively.

Determine the type of cut to be used. The tree may be cut through with one single cut (stump- jump) or hinge-cut or under-cut. Typically, a single cut is used on small diameter trees. The hinge cut can be used when barber-chairing is not an issue. For some trees less than 15 cm (6”) in diameter but short and top heavy, an undercut and back cut may be employed. The operator then revs the saw up before beginning his first cut and cuts into the wood.

When cutting a series of trees, care should be taken to lay them out parallel to one another so that trees already on the ground do not act as a fulcrum to the falling tree. In some instances, felled trees are to be left as close to the ground as possible to facilitate decomposition.

6.11 - Summarizing Brushing/Slashing techniques for Safety

- Make sure your undercuts are clean, check your work.
- Back cuts should be flat, just above your undercut and should maintain holding wood.
- Get in the habit of doing your cutting at waist level to minimize bending down.
- Try to fall downhill when possible.
- Try to minimize back barring. Back barring increases the risk of the chain getting thrown as the chain is pushing rather than pulling, it also increases the amount of chain that will get thrown in a kick back.
- Emphasize good techniques so that muscle memory is established.
- Remove low lying limbs on trees before falling. Low lying limbs on small trees can cause trees to spring back when striking the ground.
- Always look up when moving around and approaching your tree.
- Safety rule of using the chain brake when a worker takes more than two steps.
- Safety rule of using the chain brake when taking a hand off of the saw.
- Always brush out around the tree you are working so sight lines of the target tree are clear.
- Work your piece so that you can easily move in and out of your site. Your face should be clean and free of debris.
- At the start of your day, establish your check in procedures. You should be doing an audio check every twenty minutes to be sure your co-worker is okay. Listen for the saw revving, not just idling.
- Once a tree has had a controlled fall with holding wood, do the final cut through the horizontal downed tree, then cut at the stump. This is the safest way to make a clean, controlled cut of the stem.

Sources Used for Text:

1. Title: Basic Chainsaw Operator Silviculture Endorsement Student Handbook
   Publication Date: April 2012 (PV-1)
   Publisher: Western Silvicultural Contractors' Association
   Copyright Date: © 2009
   Copyright Holder: Western Silvicultural Contractors' Association

2. WorkSafeBC. (n.d.). WorkSafeBC. Retrieved January 5, 2024, from https://www.worksafebc.com/en

Brushing/Slashing Checklist
Veteran/Returning Workers

Task	Observation
PPE. ● Pants in good shape and proper rating ● Cut gloves and sleeves ● Hard hat and visor in good shape ● Sharpe Caulks ● Whistle ● Compress Bandage	
Saw Inspection at the start of the day. ● Safety systems working, chain brake, throttle lock out ● Right saw for the job ● Extra parts and/or saw in case of breakdown ● Fueling up on ground and spill pad ● Did they do maintenance at end of last day ● Checking for loose parts	
Cold Start. ● Start on ground, why? ● Do they rev it up and then let it idle? Using chain brake ● How to deal with flooded saw	
Work Plan. ● Where is your partner ● How frequent and process for checking on them ● Evacuation route ● How to work the piece ● How to work the face ● Weather restrictions ● Final pass or barrel brushing ● Identify hazards and how to deal with them ● Which trees to leave and why	
Supervisor observations. ● Are stumps flat	

● Controlled/directional falling, leaving holding wood ● Any evidence of barber chairs ● Clean work, no trees leaning up against crop trees ● Working the face and not leaving trees hung up on areas to be treated ● Sharpe Tool, not pushing through the wood	
Safety. ● Using their chain brake ● Clearing around tree to be cut ● Strong body position, fighters stance ● Checking on co-worker ● Looking up ● Walking in the woods	
Wildlife. ● Danger trees ● Birds nest ● Cascara trees compared to alder and why to leave ● How to deal with vines	
Maintenance. ● Watch them filling, using PPE? ● Clean out clutch plate ● Inspect plate ● Flip bar and why ● Check air filter	

Brushing/Slashing Checklist
New Workers

Task	Observation
How to inspect the saw before work for safety. ● Chain brake working. ● Throttle lock working. ● Chain at proper tension. ● Chain on sprocket. ● Bar in good shape. ● Bar nuts are tight.	
PPE in good order. ● Proper falling pants or chaps (red tag as minimum, no cuts greater than 1 inch, proper fit). ● Cut gloves. ● Cut sleeves. ● High Viz. ● Hard hat of contrasting color. ● Eye protection. ● Ear protection. ● Whistle easily reachable on the body. ● Clean and dry compress bandage. ● Sharp Caulks.	
Filling oil and gas into the saw. ● Clean around the tank before opening so that debris does not enter either the gas or oil tank. ● Use a spill pad under the saw. ● Fill up on ground, not tailgate, to minimize spreading of pollutants in case of spill. ● How to check if fuel is mixed.	
Starting cold saw. ● Do on ground or on stump. ● Proper starting sequence. ● Allow the saw to run and warm up away from co-workers. ● Using Chain Brake.	
Starting a warm saw. ● Can now do drop pull. ● Proper starting sequence. ● Using chain brake.	
Review/understanding of work plan. ● Where co-workers are working.	

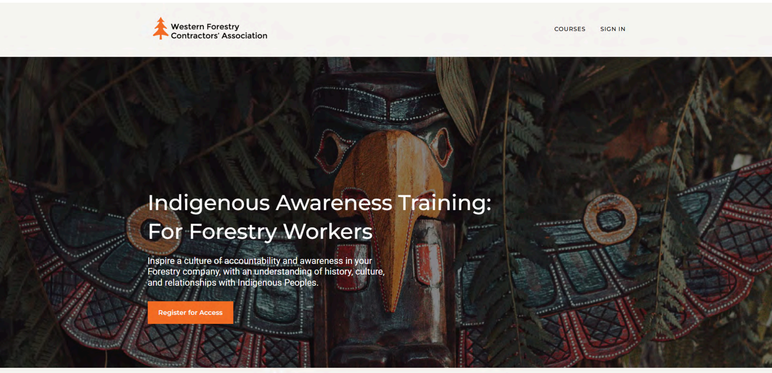
● What to listen for when doing audio checks. ● How to work the piece for safety. ● How to create an evacuation trail by working the face. ● What trees you are targeting for brushing. ● Identifying different types of trees. ● Weather restrictions.	
Show and tell with workers. ● As Supervisor, spend the day taking turns with New/Young workers working and observing. 1. Looking up 2. Using chain brake when taking more than two steps 3. Using chain brake when taking a hand off of the saw 4. Clearing out around base of tree to be felled 5. Identifying safe areas to drop trees. No obstacles 6. Bucking out obstacles 7. Pruning of lower branches and why 8. Horizontal undercut and back cut done at waist height 9. Directional falling 10. How to finish the cut 11. How to deal with compressed branches, show the multiple cutting of the compressed side of the wood to release tension. 12. Flat stump 13. Cutting with the top of the bar compared to cutting with the bottom 14. Fence posting 15. Strong body position, fighters stance	
Identifying Wildlife features. ● Birds nest. ● Vines. ● What to look for with animal signs.	

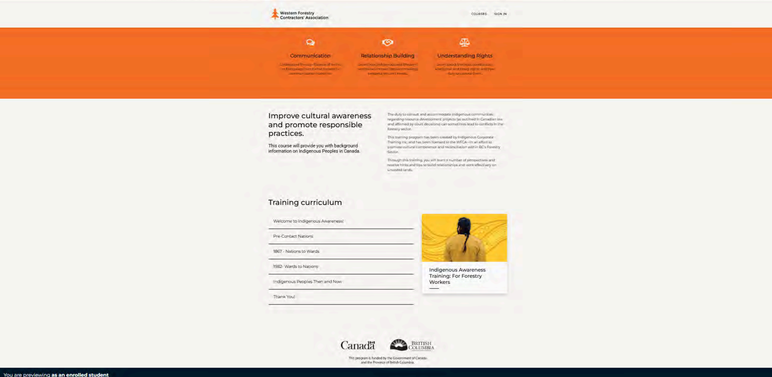
APPENDIX C – Indigenous Awareness Training Course Curricula

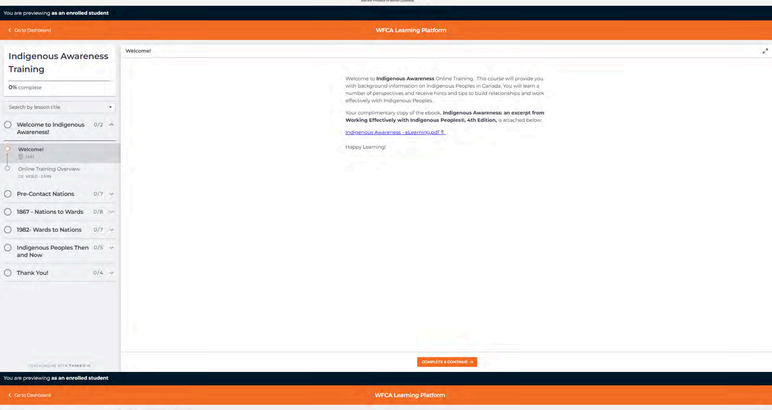
This document contains static copies of the Indigenous Awareness Training, reproduced under license for the sole purpose of submission for compliance and record-keeping.

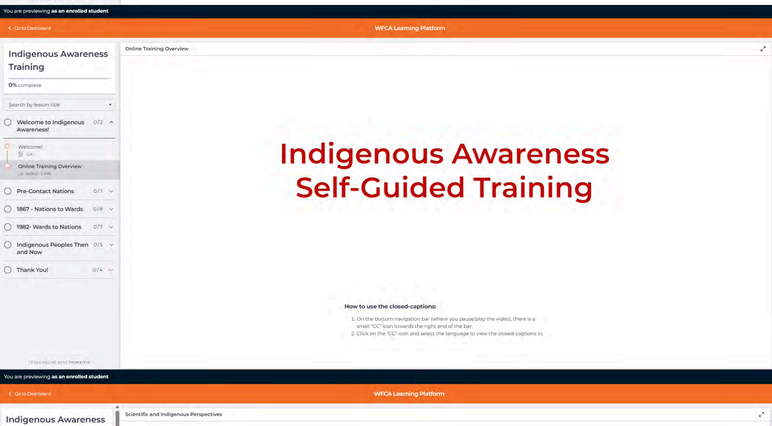
All intellectual property rights remain with the original creators and licensors of the program. This material is not an authorized substitute for the full, interactive training experience and should not be relied upon for learning or professional development purposes.

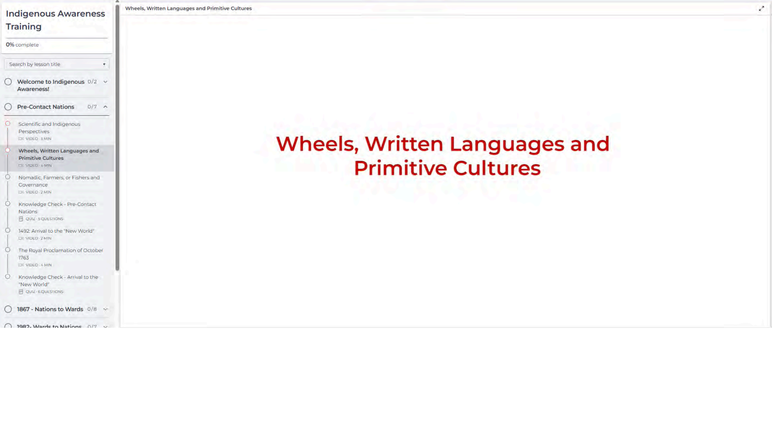
Redistribution, reproduction, or use of this content beyond the scope of the license agreement is strictly prohibited. No responsibility is accepted for any errors, omissions, or interpretations arising from the static reproduction of this training.











Nomadic, Farmers, or Fishers and Governance

Nomadic, Farmers, or Fishers and Governance

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

Knowledge Check - Pre-Contact Nations

QUESTION 1 OF 5

True of False: Indigenous Peoples lean more towards a creationist perspective rather than scientific theories like the land bridge.

Choose only ONE best answer.

A True

B False

CONFIRM

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

Knowledge Check - Pre-Contact Nations

QUESTION 2 OF 5

Select the true sentence(s):

Choose ALL answers that apply.

A Indigenous oral history is admissible as evidence at the Supreme Court of Canada.

B The Maya and the Inca had written languages.

C When it came to the movement of goods Indigenous Peoples were able to move large bundles of goods, services, and ideas along waterways.

D If a culture didn't have a wheel or written language it was considered a primitive culture.

CONFIRM

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

Knowledge Check - Pre-Contact Nations

QUESTION 3 OF 5

Because there are different resources in different regions; Indigenous Peoples _____ the same.

Choose only ONE best answer.

A Are

B Are not

CONFIRM

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

Knowledge Check - Pre-Contact Nations

QUESTION 4 OF 5

True or False: All Indigenous Peoples were nomadic.

Choose only ONE best answer.

A True

B False

CONFIRM

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

Knowledge Check - Pre-Contact Nations

QUESTION 5 OF 5

Indigenous peoples could be categorized as _____.

Choose only ONE best answer.

A Only hunters and gatherers.

B Hunter, gatherers, farmers, or fishers.

CONFIRM

You are previewing **as an enrolled student**
Go to Dashboard
WFCA Learning Platform

1492: Arrival to the "New World"

1492 - Arrival to the "New World"

Indigenous Awareness Training
0% complete
Search by lesson title
Welcome to Indigenous Awareness! 0/2
Pre-Contact Nations 0/7
Scientific and Indigenous Perspectives
VIDEO · 3 MIN
Wheels, Written Languages and Primitive Cultures
VIDEO · 4 MIN
Nomadic, Farmers, or Fishers and Governance
VIDEO · 3 MIN
Knowledge Check - Pre-Contact Nations
QUIZ · 5 QUESTIONS
1492: Arrival to the "New World"
VIDEO · 2 MIN
The Royal Proclamation of October 1763
VIDEO · 4 MIN
Knowledge Check - Arrival to the "New World"
QUIZ · 5 QUESTIONS
1867 - Nations to Wards 0/8

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

The Royal Proclamation of October 1763

The Royal Proclamation of 1763

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION FOR A

Christopher Columbus Discovered the New World.

Choose only ONE best answer.

A True

B False

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION 1 OF 5

What year was the Royal Proclamation?

Choose only ONE best answer.

A 1867

B 1901

C 1763

D 1720

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION 2 OF 5

The Royal Proclamation of October of 1763 recognizes Indigenous Peoples as _____.

Choose only ONE best answer.

A nations or tribes

B bands or tribes

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION 3 OF 5

The Royal Proclamation of October of 1763 supports the idea that there was _____ of Indigenous Peoples in Canada.

Choose only ONE best answer.

A a lot of conquering

B not a lot of conquering

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION 4 OF 5

The Royal Proclamation recognizes Indigenous Peoples as _____ the lands that they use and occupy and _____ fishing and hunting rights.

Choose only ONE best answer.

A owning; sets out

B not owning; does not set out

CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Knowledge Check - Arrival to the "New World"

QUESTION 5 OF 5

True or False: Canada and the United States have the same history regarding Indigenous Peoples and their rights.

Choose only ONE best answer.

A True

B False

CONFIRM

Indigenous Awareness Training

0% complete

Search by lesson title

Welcome to Indigenous Awareness! 0/2

Pre-Contact Nations 0/7

Scientific and Indigenous Perspectives
Wheels, Written Languages and Primitive Cultures
Nomadic, Farmers, or Fishers and Governance
Knowledge Check - Pre-Contact Nations
1492: Arrival to the "New World"
The Royal Proclamation of October 1763
Knowledge Check - Arrival to the "New World"

1867 - Nations to Wards 0/8

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

The BNA and Indian Act Part 1

Part 1: The BNA and Indian Act

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

The BNA and Indian Act Part 2

Part 2: The BNA and Indian Act

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Chief Dr. Robert Joseph's' First Day of Residential School

Watch this 8 minute video with my dad and I. I ask him two questions: what is your memory of your first day in school and what was it like as a father to send your own kids to school.

Our purpose of this video is to offer a view into an informal discussion between us as Indigenous Peoples. We hope you will not only take the valuable information my father shares with us, but also apply what you have been learning and see the lessons of this course in action!

Fun fact! If you turn on the subtitles, and go to 0:19 of the video, you will notice that his name "**Kwinkwinkuuligstsy Wakias**" is captioned **[Kwak'wala language]** that is because there is no proper way in the english language to spell my dad's name. Being from an oral society, the best we could do was spell it phonetically in english. We felt it important that in the English captioning to demonstrate this and to offer a little insight into our personal culture.

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

The Right to Vote

The Right to Vote

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

The Sixties Scoop

The Sixties Scoop

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

The White Paper

The White Paper 1969

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 — VIDEO · 4 MIN
  - The BNA and Indian Act Part 2 — VIDEO · 5 MIN
  - Chief Dr. Robert Joseph's' First Day of Residential School — VIDEO · 9 MIN
  - The Right to Vote — VIDEO · 3 MIN
  - The Sixties Scoop — VIDEO · 4 MIN
  - The White Paper — VIDEO · 2 MIN
  - Knowledge Check - Nations to Wards — QUIZ · 10 QUESTIONS
  - 1867 - Nations to Wards Resources — TEXT
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 1 OF 10

The Indian Act focused on 3 main areas:

Choose ALL answers that apply.

- A Sea
- B Membership
- C Big government
- D Local government
- E Land
- F Collectives

CONFIRM

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 1 OF 10

The British North America Act includes section:

Choose only ONE best answer.

A Section 35 (1) to control Indians and lands reserved for Indians

B Section 91(24) to control Indians and lands reserved for Indians

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 2 OF 10

Métis people always had the right to vote.

Choose only ONE best answer.

A True

B False

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 3 OF 10

Which was a reason that the vote was viewed favourably by Indigenous Peoples?

Choose only ONE best answer.

A It would terminate their recognition as distinct nations or peoples.

B Indigenous peoples had no desire to participate in the Western political system.

C It would retain voting in a system of government that was alien to them.

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 4 OF 10

The Sixties Scoop can be understood as a continuation of Canada's assimilation program.

Choose only ONE best answer.

A True

B False

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 5 OF 10

By the late 1960s, nearly _____% of children in provincial care were Indigenous.

Choose only ONE best answer.

A 10-20

B 50-60

C 20-30

D 30-40

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 6 OF 10

True or False: Social workers were always required by law to notify band council if a child was to be removed.

Choose only ONE best answer.

A True

B False

CONTINUE

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
  - The BNA and Indian Act Part 1 (VIDEO · 4 MIN)
  - The BNA and Indian Act Part 2 (VIDEO · 4 MIN)
  - Chief Dr. Robert Joseph's 'First Day of Residential School' (VIDEO · 5 MIN)
  - The Right to Vote (VIDEO · 3 MIN)
  - The Sixties Scoop (VIDEO · 4 MIN)
  - The White Paper (VIDEO · 2 MIN)
  - Knowledge Check - Nations to Wards (QUIZ · 10 QUESTIONS)
  - 1867 - Nations to Wards Resources (TEXT)
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4

Knowledge Check - Nations to Wards

QUESTION 7 OF 10

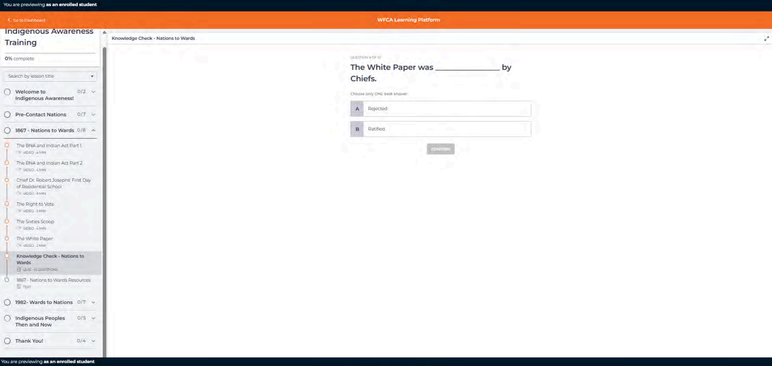
The Sixties Scoop is considered cultural genocide under the United Nations' Convention of Genocide.

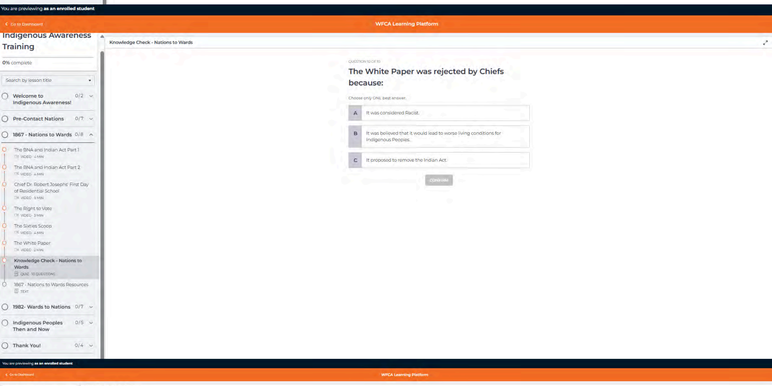
Choose only ONE best answer.

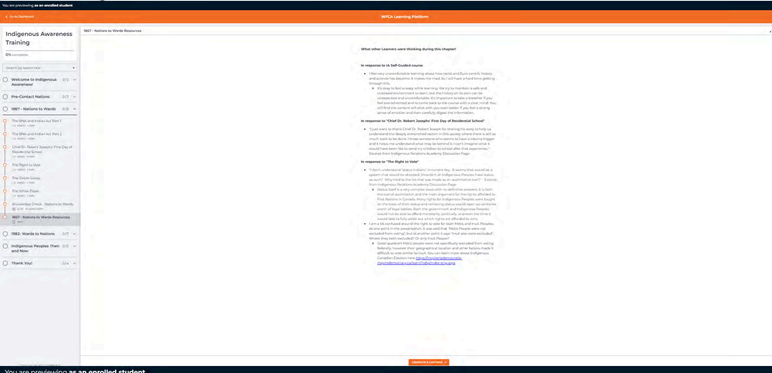
A True

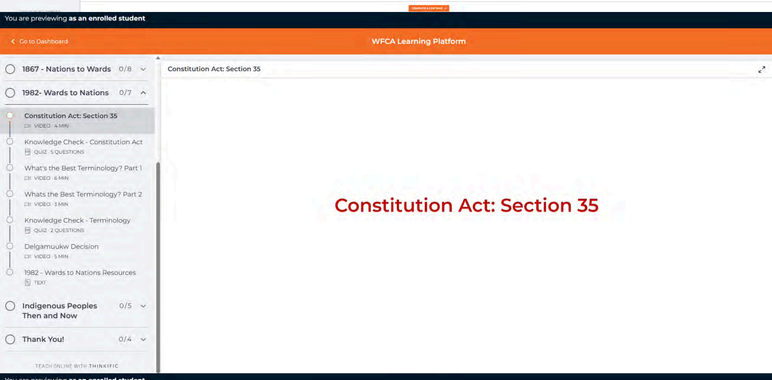
B False

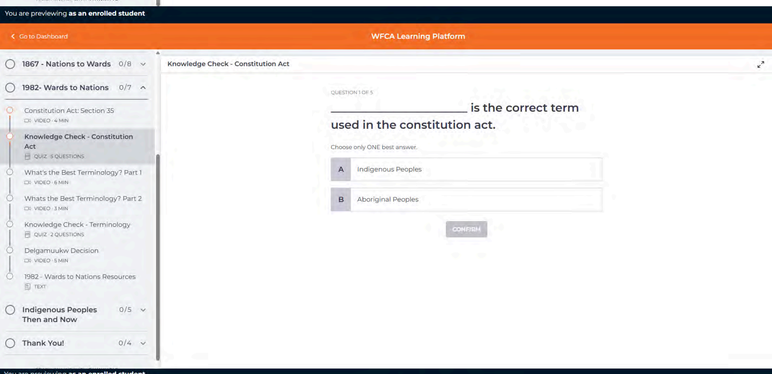
CONTINUE

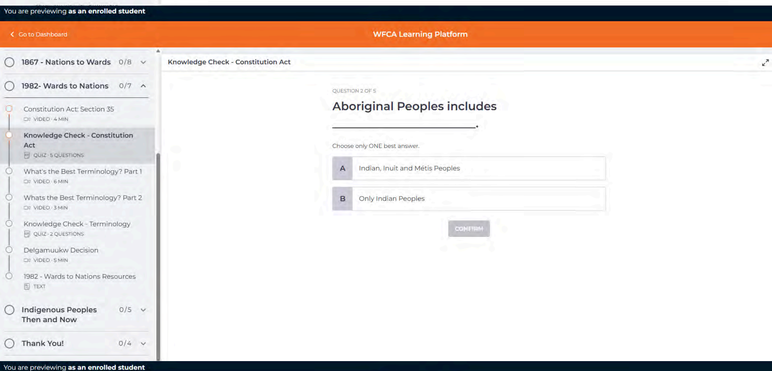

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Indigenous Awareness Training
0% complete
Search by lesson title
Welcome to Indigenous Awareness! 0/2
Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
The BNA and Indian Act Part 1
The BNA and Indian Act Part 2
Chief Dr. Robert Joseph: First Day of Residential School
The Right to Vote
The Sixties Scoop
The White Paper
Knowledge Check - Nations to Wards
1867 - Nations to Wards Resources
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Nations to Wards
QUESTION 5 OF 10
The White Paper was _____ by Chiefs.
Choose only ONE best answer.
A Rejected
B Ratified
CONFIRM

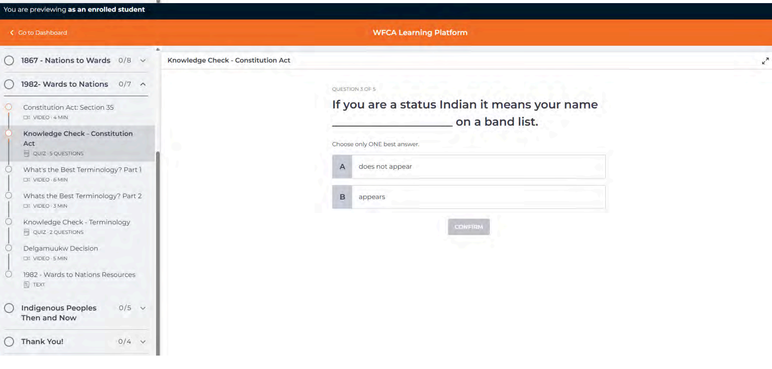

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Indigenous Awareness Training
0% complete
Search by lesson title
Welcome to Indigenous Awareness! 0/2
Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
The BNA and Indian Act Part 1
The BNA and Indian Act Part 2
Chief Dr. Robert Joseph: First Day of Residential School
The Right to Vote
The Sixties Scoop
The White Paper
Knowledge Check - Nations to Wards
1867 - Nations to Wards Resources
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Nations to Wards
QUESTION 10 OF 10
The White Paper was rejected by Chiefs because:
Choose only ONE best answer.
A It was considered Racist.
B It was believed that it would lead to worse living conditions for Indigenous Peoples.
C It proposed to remove the Indian Act
CONFIRM

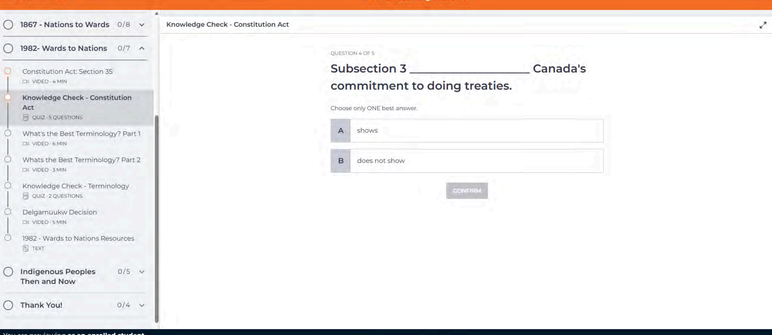

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
Indigenous Awareness Training
0% complete
1867 - Nations to Wards Resources
What other Learners were thinking during this chapter!
In response to IA Self-Guided course
I feel very uncomfortable learning about how racist and Euro-centric history is. I'm learning my favourite. It makes me mad but I'll have a hard time getting through this.
It's okay to feel uneasy while learning. We try to maintain a safe and brave space for learning and growth. Sometimes the truth can be unbalanced and uncomfortable. It's important to take a breather if you feel overwhelmed and to come back to the course with a clear mind. You, your feelings and your experiences matter. Take the time you need to process a sense of emotion and then carefully digest that information.
In response to "Chief Dr. Robert Joseph: First Day of Residential School"
I was aware of what Chief Dr. Robert Joseph: First Day of Residential School was but I never knew the details. I knew someone who went to residential school and it helps me understand what may be behind it. I can't imagine what it was like for those children and their families. Thank you for sharing your stories!
Sharing from Indigenous Relations Academy Discussion Page
In response to "The Right to Vote"
That's unbelievable!! Status Indians' income tax, & income that would be a system that would be dissolved. Shocked!! at Indigenous Peoples. Hate! nation as a whole. Shocked!! at Indigenous Peoples. Hate! nation too!!! - Example of an Indigenous Relations Academy Discussion Page
Status itself is a very complex issue with no definitive answers. It is both the result of assimilation and the main argument for the rights afforded to First Nations in Canada. Many fight for Indigenous Peoples were bought and sold as slaves, and were not considered citizens of Canada for the first worth of legal entities. Both the government and Indigenous Peoples would not be able to afford it financially, politically, or even (in time) to dissolve the Indian Act. It's a very complex issue with no easy fix.
I am a bit confused around the right to vote for both Métis and non-Status Peoples, as one point in the presentation, it was said that "Métis People were not eligible to vote" and then it was said that "First Nations were excluded". Where they both excluded? Or only the Métis People?
Great question! Métis people were not specifically excluded from voting in the same way that First Nations were, but their participation was very difficult as one of the factors. You can learn more about Indigenous Canadian Election here: https://humanrights.ca/story/indigenous-canadians-could-not-vote-without-giving-up-treaty-rights
Mandatory comment

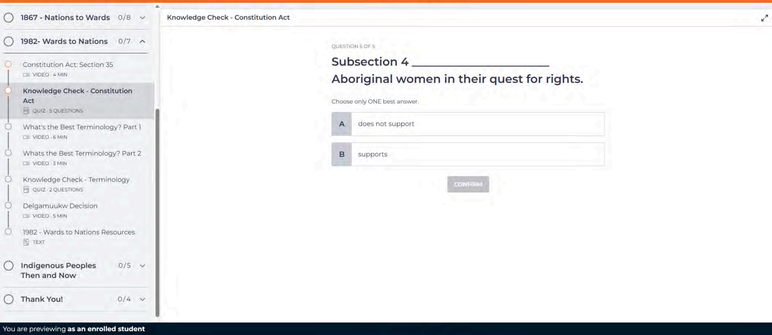

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Constitution Act: Section 35
Constitution Act: Section 35
TEACH ONLINE WITH THINKIFIC

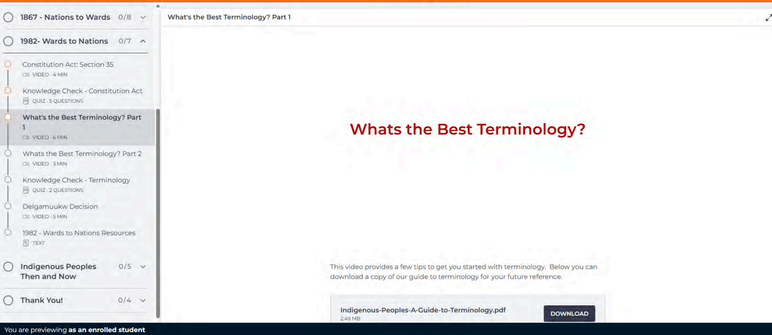

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Constitution Act
QUESTION 1 OF 5
_____ is the correct term used in the constitution act.
Choose only ONE best answer.
A Indigenous Peoples
B Aboriginal Peoples
CONFIRM

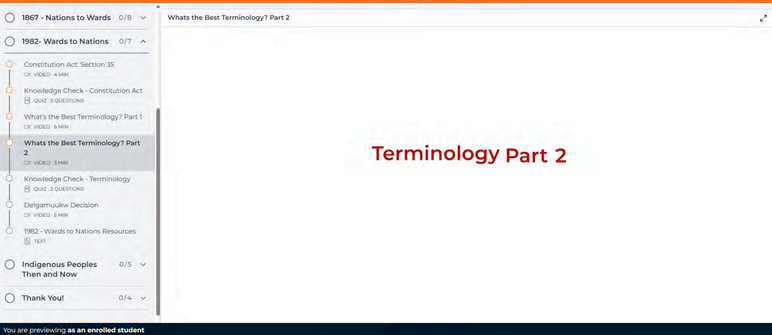

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Constitution Act
QUESTION 2 OF 5
Aboriginal Peoples includes _____.
Choose only ONE best answer.
A Indian, Inuit and Métis Peoples
B Only Indian Peoples
CONFIRM

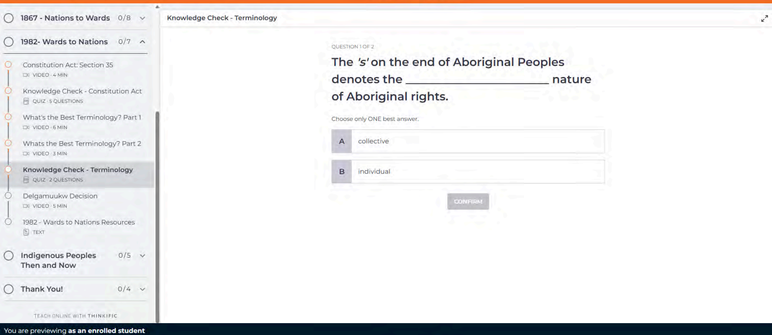

You are previewing as an enrolled student
Go to Dashboard
WFCA Learning Platform
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Constitution Act
QUESTION 3 OF 5
If you are a status Indian it means your name _____ on a band list.
Choose only ONE best answer.
A does not appear
B appears
CONFIRM

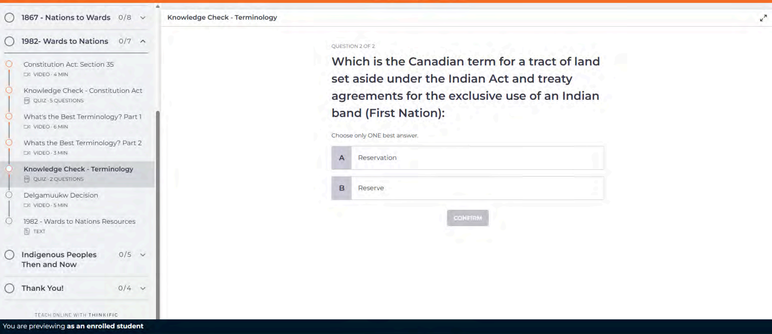

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Constitution Act
QUESTION 4 OF 5
Subsection 3 _____ Canada's commitment to doing treaties.
Choose only ONE best answer.
A shows
B does not show
CONFIRM

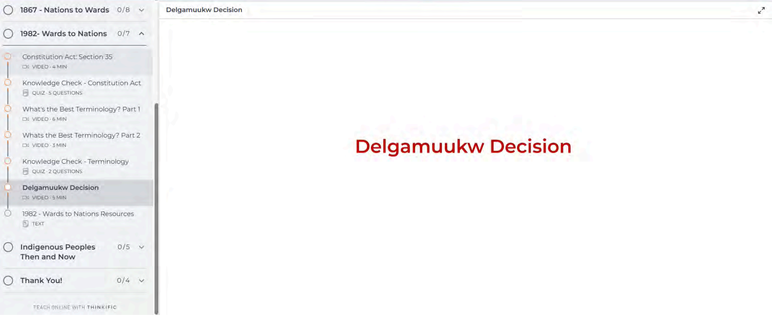

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Knowledge Check - Constitution Act
QUESTION 5 OF 5
Subsection 4 _____ Aboriginal women in their quest for rights.
Choose only ONE best answer.
A does not support
B supports
CONFIRM

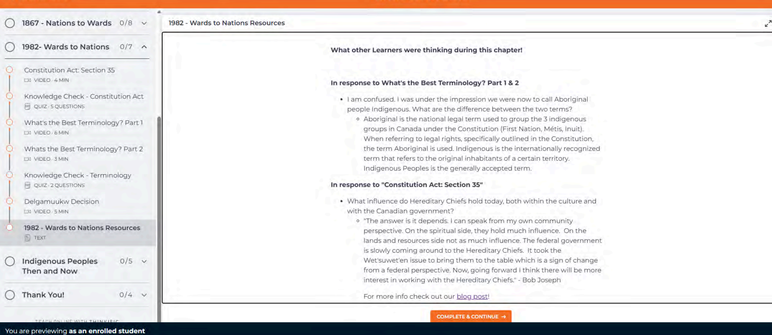

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
What's the Best Terminology? Part 1
Whats the Best Terminology?
This video provides a few tips to get you started with terminology. Below you can download a copy of our guide to terminology for your future reference.
Indigenous-Peoples-A-Guide-to-Terminology.pdf
2.49 MB
DOWNLOAD

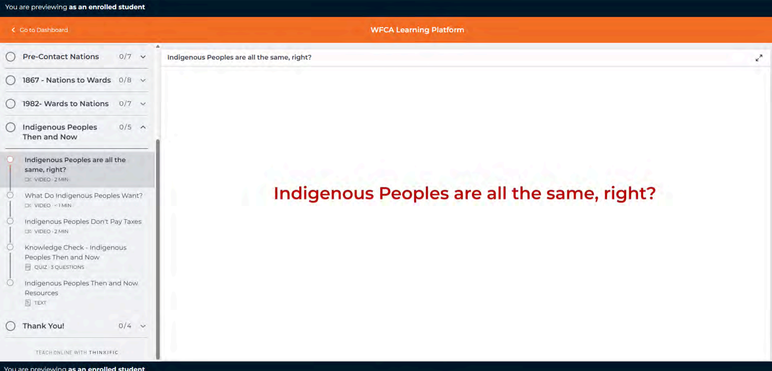

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
Whats the Best Terminology? Part 2
Terminology Part 2


1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Knowledge Check - Terminology
QUESTION 1 OF 2
The 's' on the end of Aboriginal Peoples denotes the _____ nature of Aboriginal rights.
Choose only ONE best answer.
A collective
B individual
CONFIRM

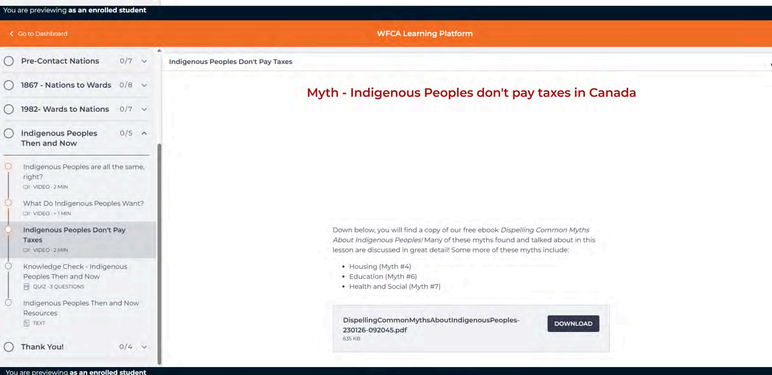

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Knowledge Check - Terminology
QUESTION 2 OF 2
Which is the Canadian term for a tract of land set aside under the Indian Act and treaty agreements for the exclusive use of an Indian band (First Nation):
Choose only ONE best answer.
A Reservation
B Reserve
CONFIRM

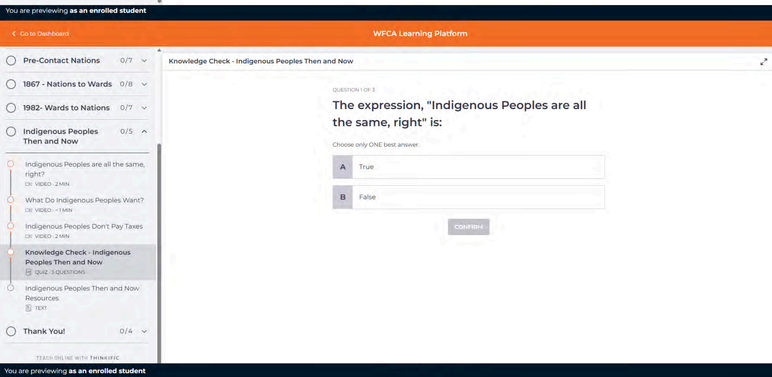

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Delgamuukw Decision
Delgamuukw Decision

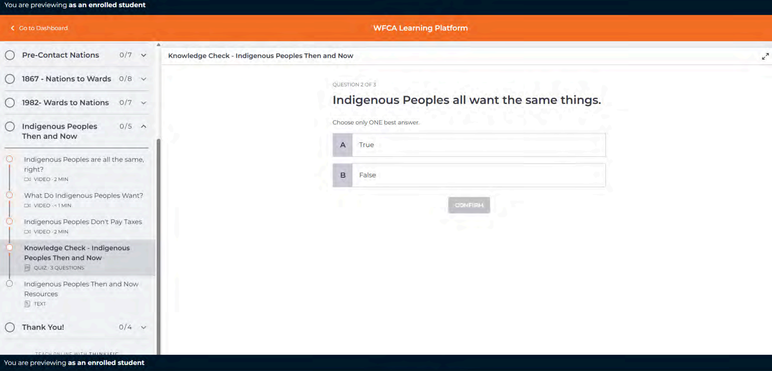

1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Constitution Act: Section 35
VIDEO · 4 MIN
Knowledge Check - Constitution Act
QUIZ · 5 QUESTIONS
What's the Best Terminology? Part 1
VIDEO · 6 MIN
Whats the Best Terminology? Part 2
VIDEO · 3 MIN
Knowledge Check - Terminology
QUIZ · 2 QUESTIONS
Delgamuukw Decision
VIDEO · 5 MIN
1982 - Wards to Nations Resources
TEXT
Indigenous Peoples Then and Now 0/5
Thank You! 0/4
1982 - Wards to Nations Resources
What other Learners were thinking during this chapter!
In response to What's the Best Terminology? Part 1 & 2
I am confused. I was under the impression we were now to call Aboriginal people Indigenous. What are the difference between the two terms?
Aboriginal is the national legal term used to group the 3 indigenous groups in Canada under the Constitution (First Nation, Métis, Inuit). When referring to legal rights, specifically outlined in the Constitution, the term Aboriginal is used. Indigenous is the internationally recognized term that refers to the original inhabitants of a certain territory. Indigenous Peoples is the generally accepted term.
In response to "Constitution Act: Section 35"
What influence do Hereditary Chiefs hold today, both within the culture and with the Canadian government?
"The answer is it depends. I can speak from my own community perspective. On the spiritual side, they hold much influence. On the lands and resources side not as much influence. The federal government is slowly coming around to the Hereditary Chiefs. It took the Wet'suwet'en issue to bring them to the table which is a sign of change from a federal perspective. Now, going forward I think there will be more interest in working with the Hereditary Chiefs." - Bob Joseph
For more info check out our blog post!
COMPLETE & CONTINUE →

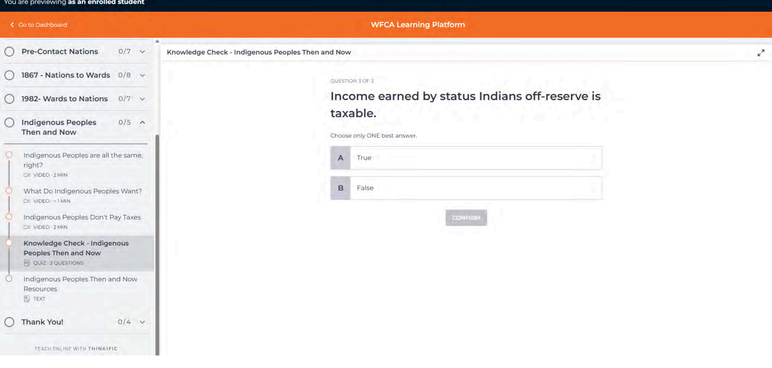

Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Indigenous Peoples are all the same, right?
Indigenous Peoples are all the same, right?

Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
What Do Indigenous Peoples Want?
What do Indigenous Peoples want?


Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
Indigenous Peoples Don't Pay Taxes
Myth - Indigenous Peoples don't pay taxes in Canada
Down below, you will find a copy of our free ebook Dispelling Common Myths About Indigenous Peoples! Many of these myths found and talked about in this lesson are discussed in great detail! Some more of these myths include:
Housing (Myth #4)
Education (Myth #6)
Health and Social (Myth #7)
DispellingCommonMythsAboutIndigenousPeoples-230126-092045.pdf
635 KB
DOWNLOAD


Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Knowledge Check - Indigenous Peoples Then and Now
QUESTION 1 OF 3
The expression, "Indigenous Peoples are all the same, right" is:
Choose only ONE best answer.
A True
B False
CONFIRM


Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
Knowledge Check - Indigenous Peoples Then and Now
QUESTION 2 OF 3
Indigenous Peoples all want the same things.
Choose only ONE best answer.
A True
B False
CONFIRM


Pre-Contact Nations 0/7
1867 - Nations to Wards 0/8
1982- Wards to Nations 0/7
Indigenous Peoples Then and Now 0/5
Indigenous Peoples are all the same, right?
VIDEO · 2 MIN
What Do Indigenous Peoples Want?
VIDEO · <1 MIN
Indigenous Peoples Don't Pay Taxes
VIDEO · 2 MIN
Knowledge Check - Indigenous Peoples Then and Now
QUIZ · 3 QUESTIONS
Indigenous Peoples Then and Now Resources
TEXT
Thank You! 0/4
TEACH ONLINE WITH THINKIFIC
Knowledge Check - Indigenous Peoples Then and Now
QUESTION 3 OF 3
Income earned by status Indians off-reserve is taxable.
Choose only ONE best answer.
A True
B False
CONFIRM

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
  - Indigenous Peoples are all the same, right? VIDEO · 2 MIN
  - What Do Indigenous Peoples Want? VIDEO · <1 MIN
  - Indigenous Peoples Don't Pay Taxes VIDEO · 2 MIN
  - Knowledge Check - Indigenous Peoples Then and Now QUIZ · 5 QUESTIONS
  - Indigenous Peoples Then and Now Resources TEXT
- Thank You! 0/4

TEACH ONLINE WITH THINKIFIC

Indigenous Peoples Then and Now Resources

What other Learners were thinking during this chapter!

In response to Indigenous Peoples are all the same, right?

- "The awareness of being "one of a kind" in a workplace and the emotional labour of having to constantly explain to others what your life experience is like (is difficult). By making employees aware that minority employees work experiences can be very different than those of the majority is key to building empathy, and an awareness to recruit beyond tokenism." - Excerpt from Indigenous Relations Academy Discussion Page

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4
  - You're almost done! TEXT
  - Continue your journey with us! MULTIMEDIA
  - What's up next? MULTIMEDIA
  - Survey TEXT

TEACH ONLINE WITH THINKIFIC

You're almost done!

You've almost completed our Indigenous Awareness training! Just a couple more items and then you can download your certificate.

Continue your journey with us!
We send a newsletter each month that includes links to our latest blog posts, advanced notice of upcoming training dates, exclusive eBooks, and more! Sign up now to stay in touch!

What's up next?
By completing this training, you have taken a step towards informed Indigenous relations, but there might be more you're missing. Find out about an excellent follow-up course we recommend for continuing your Indigenous relations journey.

Download your certificate
Be sure to download your certificate once this training is 100% complete. A link will appear in the upper left corner of the site, or you can follow the link that will be sent to your email.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Indigenous Awareness Training

0% complete

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4
  - You're almost done! TEXT
  - Continue your journey with us! MULTIMEDIA
  - What's up next? MULTIMEDIA
  - Survey TEXT

Continue your journey with us!

Join our growing family of newsletter subscribers today!

Here's what to expect:

- Monthly Indigenous Relations Newsletter
  - Inside you will find discussions on topics of interest, curated blog posts relating to current topics, and additional resources.
- Advanced notice of training dates, new courses, and announcements from Us and our **Indigenous Relations Academy**
- Awesome but subscriber only free eBooks, (Link to our newsletter)
- Access to our **Pledge of Reconciliation Personal** or **Professional**
- Find out about the **Indigenous Relations Academy** course **Getting Started in Indigenous Relations** not available without the subscription!

And if you are not up a American, regional or municipal email address, please be aware that your Email may block the delivery of our newsletter or flush to as spam. To ensure you receive our newsletter we suggest using an alternate email address.

You may choose to stop receiving emails at any time by clicking the unsubscribe link at the bottom of every email we send you.

Subscribe here

First name*

Last name*

Email*

Industry/Sector*

Please Select

I'd like to be informed by powering and requesting your privacy. We'll only use your personal information to administer your account and provide the products, services or information you requested from us.

Receive the latest information from Us, including our educator newsletter, updates on new courses and training dates, early access to new blog articles, and free eBook offers.*

You may unsubscribe from these communications at any time. For more information on how to unsubscribe, our privacy practices, and how we are committed to protecting and respecting your privacy, please review our Privacy Policy.

By clicking submit below, you consent to allow ACT Inc. to store and process the personal information submitted above to provide you the content requested.*

SUBMIT

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Search by lesson title

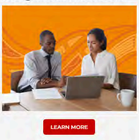
- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4
  - You're almost done! TEXT
  - Continue your journey with us! MULTIMEDIA
  - What's up next? MULTIMEDIA
  - Survey TEXT

TEACH ONLINE WITH THINKIFIC

What's up next?

Now that you've completed Indigenous Awareness we have a follow-up course to take you even further!

Indigenous Relations



LEARN MORE

The fear of doing or saying the wrong thing can impede your ability to develop effective Indigenous relationships. Indigenous relations training gives you insight, strategies, tips, and suggestions to overcome that fear. You will learn what to do, what not to do and why.

This course paves your path to respectful and effective Indigenous relations and is the follow-up to our Indigenous Awareness training.

Indigenous Awareness *(part 1)* + **Indigenous Relations** *(part 2)* equals our full course, **Working Effectively with Indigenous Peoples®** *(both parts)*.

COMPLETE & CONTINUE →

You are previewing **as an enrolled student**

Go to Dashboard

WFCA Learning Platform

Search by lesson title

- Welcome to Indigenous Awareness! 0/2
- Pre-Contact Nations 0/7
- 1867 - Nations to Wards 0/8
- 1982- Wards to Nations 0/7
- Indigenous Peoples Then and Now 0/5
- Thank You! 0/4
  - You're almost done! TEXT
  - Continue your journey with us! MULTIMEDIA
  - What's up next? MULTIMEDIA
  - Survey TEXT

TEACH ONLINE WITH THINKIFIC

Survey

SURVEY & FEEDBACK

Complete our survey for a chance to win $250 Amazon gift card.

Thank you for completing the course. We want to get your feedback on the course and how we can improve it. We kindly request that you take a few moments to complete a brief survey regarding your experience taking the course. As a gesture of our appreciation, upon completion of the survey, you will be entered into a quarterly draw for a $250 Amazon gift card.

The survey should take less than 10 minutes of your time. Any information you provide will be kept confidential and reported only in a summarized form, alongside responses provided by others.

Click here to access the survey

COMPLETE & CONTINUE →

APPENDIX D – Working Effectively with Indigenous Peoples (WEWIP) Course Agenda

Relationships with Indigenous Peoples 2025

January 28, 2025

Flavio Caron

INDIGENOUS CORPORATE TRAINING INC.

© 2023 INDIGENOUS CORPORATE TRAINING INC. | ALL RIGHTS RESERVED | NOT FOR DISTRIBUTION | LICENSED MATERIAL

Agenda

1. Acknowledgments and Introductions
2. State the Opportunity - Name the Challenge
3. Cross-Cultural processes to Achieve Outcomes
4. Community Expectations – Time, Truth, Trust, Values
5. Legal Environment
6. Terminology and RESPECT® Model – Group Exercise
7. Better Practices – Competency Factors – Group Exercise
8. Co-design, Co-develop and Co-manage your plans
9. Questions and Sharing

© 2020 INDIGENOUS CORPORATE TRAINING INC.|ALL RIGHTS RESERVED|NOT FOR DISTRIBUTION|LICENSED MATERIAL

APPENDIX E – The Compass Program Introductory Slides for the 2026 WFCA Conference

THE COMPASS PROGRAM

Canada

British Columbia

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Value is the strategy

When leadership commits to value creation instead of competition, ***growth follows naturally***, margins strengthen, and talent self-selects in.

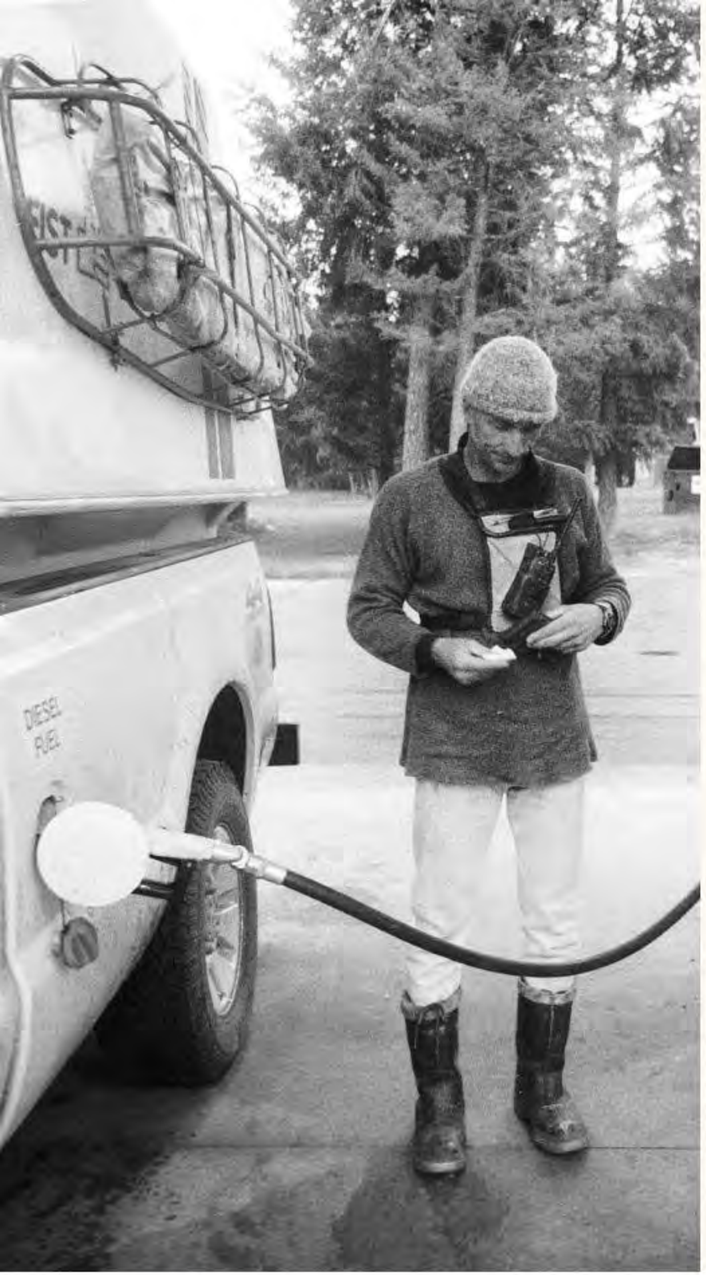
The Pervasive Tone of the BC Forestry & Silviculture Industry

- Deep integrity
- Strong authenticity
- An under-recognized values-driven culture
- Shared history from the industry's genesis

THE COMPASS PROGRAM

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.



Build-learn loop is the path

Every decision and every step trends in the right direction—deliberately, efficiently, and towards your ‘north star’.

Goal Setting → **Exploration** → **Production Planning** → **Production** → **Evaluation** → **Itteration** → **Goal Setting**

THE COMPASS PROGRAM

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Where we came from

1970s Foundations

- Informal, relationship-driven
- Bootstrap, self-organizing
- High trust, low structure
- “Get it done” operating logic

Where we are now

In Transition

- Increasing complexity
- More formal expectations
- Higher scrutiny and accountability
- Pressure to perform consistently, at scale

Where we are going

The Restoration Economy

- Alignment between values & systems
- Internal integrity matched by external clarity
- Repeatable standards that scale trust
- Long-term viability and legitimacy

THE COMPASS PROGRAM

Canada
BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Signals in BC's Forestry Sector

1. **Reactivity**
   Too much attention spent on putting out fires.

2. **Full Tilt Busyness**
   Keep your head down, and do the work.

3. **Competition**
   Resources feel scarce and legitimacy feels fragile.

4. **Identity Drift**
   No clear industry identity.

5. **Overwhelm**
   Too many simultaneous pressures.

THE COMPASS PROGRAM

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Before the End / After the End

- The old system has clearly run its course
- The next system has not yet fully arrived
- We are operating in the space between

This is not just “change.” It is structural mismatch.

Canada
BRITISH COLUMBIA
Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Healthy crews + credible companies become the new competitive standard.

Leverage is the return on effort—it's the degree to which:

- One decision creates many downstream benefits
- Progress sticks instead of resetting
- Work done once doesn't need to be redone
- The confidence in having a system that is defensible
- Good behaviour naturally compounds

THE COMPASS PROGRAM

Canada
BRITISH COLUMBIA
Funding provided through the Canada-British Columbia Labour Market Development Agreement.

THE COMPASS PROGRAM

Purpose-built tools for companies juggling crews, compliance, and incident risk without drowning in paperwork.

This industry values authenticity over bureaucratic signaling.

At its core, this project is about putting a stake in the ground—it's about creating enough shared structure for the industry to:

- Pause
- Breathe
- Regain leverage
- Think forward again — with clarity and agency

THE COMPASS PROGRAM

Canada
BRITISH COLUMBIA
Funding provided through the Canada-British Columbia Labour Market Development Agreement.

RESPECTFUL WORKPLACE

CREW
STANDARDS KIT

Crew Standards Kit
How crews work together—and what's expected day to day.

This toolkit helps you clearly define how people relate to the company, to each other, and to the land—before misunderstandings turn into issues.

RESPECTFUL WORKPLACE

LEADERSHIP
STANDARDS KIT

Leadership Standards Kit
How supervisors and leads handle people, pressure, and conflict.

This toolkit supports the people who set the tone on the ground—often without formal leadership training, but with real responsibility.

RESPECTFUL WORKPLACE

EMPLOYERS
STANDARDS KIT

Employer Standards Kit
How the company meets its obligations—and shows it clearly.

This toolkit helps employers translate legal and regulatory expectations into clear, realistic policies people can understand and follow.

THE COMPASS PROGRAM

Canada
BRITISH COLUMBIA
Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Crew Standards Kit

Respectful Workplace Statement
Fewer gray areas, fewer disputes, clearer authority on the ground.

Harassment Prevention & Reporting
Risk containment, fairness, and credibility when it matters most.

Land & Community Conduct Policy
Protects license to operate in a highly visible,values- sensitive space.

Crew Culture Builder
Stronger crews, fewer conflicts, a shared culture all season, and higher retention.

Diversity in Hiring
Reflect on who tends to join your crews and broaden the tent and welcome more perspectives.

THE COMPASS PROGRAM

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Workplace Conduct Policy

Easily come back to your work and save as you go.

Crafting Your Respectful Workplace Statement

Take a moment to think about great workplaces that you have seen and been a part of. **Which qualities do you feel are present in workplaces that feel respectful?**

Examples: clear communication, people have each other's backs, zero tolerance for harassment or bullying, fair treatment for everyone, jokes don't cross the line, new crew feel welcome, conflicts get dealt with, everyone pulls their weight, you feel safe being yourself, etc.

Next >

1 of 4 Steps Complete

Crafting Your Respectful Workplace Statement

Your company has a culture that is uniquely yours. Take a moment to think about the qualities that make your company a great place to work. **What are 2–3 things your crew or company already does to support respect or inclusion?**

Tip: Think about small things too—like how you train new planters, how jokes get handled, or how you back your team when there's a problem.

< Previous Next >

2 of 4 Steps Complete

THE COMPASS PROGRAM

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Respectful Workplace Statement

Fewer gray areas, fewer disputes, clearer authority on the ground.

The tool transforms your raw insights into actionable drafts.

"Respect is a working condition here. It's how we plan, communicate, and look out for each other so the work gets done safely and well.

We treat everyone the same, no matter the role, and we pull together—covering for each other when someone's away. Each of us has a hand in the culture we're proud to work in."

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Land & Community Conduct Policy

Building respectful relationships isn't about checking a box. It starts with knowing whose territory you're in, being mindful of how your work affects local Nations, and creating a safe crew culture for Indigenous workers.

- **What Indigenous Nation(s) and territories are your worksites or crews closest to?**
- **Have you established contact with any local Indigenous Nation(s) about your operations, contracts, or hiring opportunities?**
- **Are Indigenous crew members part of your current workforce or operations? If not, do you have plans to include them in the future?**

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Diversity in Hiring

In this module, we'll help you reflect on who tends to join your crews, who doesn't, and what you might do to broaden the tent and welcome more perspectives.

- **When you consider your hiring experience over the past few years—who tends to apply for roles with your company?**

- Some workers—like women, Indigenous crew members, LGBTQ2S+ folks, or newcomers—can face added barriers in forestry. **Based on what you've seen or experienced, what practices or ideas (big or small) could help underrepresented workers feel more welcome and supported?**

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Harassment Prevention & Reporting

If people don't feel safe to speak up, the whole crew suffers. This module will help you write down—in your own words—how your company handles disrespectful or abusive behaviour.

- **Consider what harassment means in the context of the work that your company does. How does your company define harassment?**

- **If an incident is reported within your company**, what should an employee expect at the start of the process? Consider how a crew member would initially reach out for support (e.g., a confidential phone call, private form, designated leader, or external support) and how they will know their concern has been received.

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Crew Culture Builder

Fill this out together at the start of the season (think tail-gate exercise). Post it in camp. Revisit it if things get off track. A respectful crew doesn't just happen—it's built, by all of you.

- **How do we want to treat each other in camp, in the van, and on the block?**
- **What kinds of jokes or comments cross the line?**
- **What makes a new crew member feel welcome—or not?**
- **What's one thing each person can do to help build a solid crew culture this season?**

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

Demo the Crew Standards Kit

Take it for a test drive, or join the pilot program

THE COMPASS PROGRAM

Canada

BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

APPENDIX F – Employer Standards Kit

Cover Page

Employer Standards Kit

How the company meets its obligations—and shows it clearly.

The expectations placed on forestry employers have changed. Licensees, government partners, and workers themselves are asking more — about how companies handle harassment, discrimination, accommodation, and workplace safety. The days of running a crew on informal systems and good intentions are not gone, but they are no longer enough on their own.

The Employer Standards Kit is built for contractors who want to get ahead of that reality rather than react to it. It walks company leaders through the legal obligations that matter most in field-based operations — not through policy templates or legal summaries, but through guided questions that help them see how their company actually operates and where the gaps are.

The output isn't a completed course. It's a set of policies and standards that reflect how the company genuinely works — and that can hold up if they're ever reviewed.

Table of Contents

1. Protected Grounds of Discrimination

- Pressure-Test Your Decisions
- Work Assignment, Opportunity, and Everyday Decision-Making
- Housing, Camps, and Facilities
- Discipline, Feedback, and Claims Management

2. Discrimination in Hiring

- How We Hire
- Knowing What the Job Actually Requires
- Asking the Right Questions
- When Someone Shares a Health Condition
- The Disabilities You Can't See
- Keeping It Consistent

3. Duty to Accommodate

- Knowing When Accommodation Applies
- Finding What's Possible
- Working It Out Together
- Where the Limits Are
- Keeping a Record

4. Duty to Prevent

- Setting the Standard
- Leaders as Reporting Points
- Making It Safe to Speak Up

5. Duty to Recognize

- Spotting It Early
- Knowing When to Act
- When the Leader Is the Problem

6. Duty to Respond

- When a Concern Is Raised
- Responding Early
- When You Need to Move Fast
- Responding the Same Way Every Time
- Following Through

Protected Grounds of Discrimination

Discrimination can be a tricky topic to discuss. This module is not about moralizing our work — it's about building a defensible operational practice that meets the Human Rights Code and makes your crew stronger. The standard here isn't perfection. It's awareness and consistency.

In fast-moving field operations, discrimination rarely looks like an obvious act. It shows up in everyday decisions that feel purely practical: who gets which work, how crews are structured, how flexibility gets applied, how issues get handled. No single decision feels significant. But over time, patterns form. And patterns have consequences.

When those patterns work against people, the business impact is real:

- Replacing a seasonal worker costs an estimated 30–50% of their annual wages in recruiting, onboarding, and lost productivity
- Crews with unresolved tension produce less, make more errors, and burn out faster
- A single Human Rights complaint can take 12 to 24 months to resolve and cost tens of thousands in legal fees, lost time, and reputation damage
- Licensees and government partners are increasingly screening contractors on workplace practices. How you run your crew affects whether you get the contract

The operators who engage seriously with this aren't doing it because someone told them to. They're doing it because they've seen what happens when patterns go unaddressed — and what a well-run, consistent operation does for retention, reputation, and the ability to attract better people season after season.

The question becomes: "If a decision made on your crew was reviewed externally — could you demonstrate that it was based on the job, applied consistently, and free from the influence of personal characteristics?"

Pressure-Test Your Decisions

Most leaders in this industry make hundreds of small decisions every season — who gets what work, how resources get divided, how flexibility gets applied. The vast majority of those decisions are made quickly and in good faith.

The challenge isn't intent. It's that over time, patterns can form without anyone noticing — and those patterns can start to look like preferential treatment, even when that was never the goal.

Things like familiarity, instinct, and past experience naturally shape how we read people. That's not a character flaw — it's how fast-moving environments work. But it's worth pausing occasionally to check that decisions are landing on job requirements, not assumptions.

The Human Rights Code identifies specific characteristics that can't factor into workplace decisions: Indigenous identity, race, colour, ancestry, place of origin, political belief, religion, marital status, family status, disability, sex, sexual orientation, gender identity or expression, age, and unrelated criminal convictions. Most leaders already know this. The harder part is recognizing when those factors are quietly influencing decisions that feel purely practical.

Where in your daily operations could a decision — about work assignments, crew accommodations, or shared facilities — unintentionally land harder on one group than another?

Consider: Are there patterns on your crew around who gets flexibility, who gets scrutiny, or who gets the benefit of the doubt?

Work Assignment, Opportunity, and Everyday Decision-Making

On most crews, work isn't assigned through a formal system. It happens quickly, often in the moment — and experienced leaders get good at reading who's ready for what: who to trust with a task, who needs more direction, who can handle pressure, who might struggle.

That instinct is valuable. It's built from seasons of watching people perform under pressure, and it's part of what makes a good crew leader effective.

The thing worth paying attention to is what happens over time. When the same people consistently get access to higher-responsibility work, better opportunities, or more visible roles, and others don't, patterns start to form. Sometimes those patterns are purely merit-based. Sometimes familiarity, comfort, or assumptions are quietly doing some of the work.

The strongest operations are ones where leaders can look back at how opportunity moved through their crew and see a pattern that reflects what the job actually required, not just who felt like the right fit in the moment.

Over the past season, who on your crew got access to the most responsibility, the best work, or the clearest path to stepping up — and what drove those decisions?

Consider: Is there anyone who might have been ready for more, but didn't get the chance to show it?

Housing, Camps, and Facilities — Privacy and Dignity

If your operation doesn't include remote camps or employer-provided housing, this section may not apply — though the principles around privacy and dignity are worth a quick read regardless.

Running crews in remote locations means you're responsible for more than the work. You're responsible for the environment people come back to at the end of the day. That's a real part of the job, and most operators take it seriously.

What doesn't always get considered is how housing and placement decisions land for different people on the crew.

Everyone needs some level of privacy and personal space to reset — but what that looks like varies. Some workers are more vulnerable in shared living situations. Some personality combinations create friction that carries straight into the workday. And when the same workers consistently end up in less comfortable setups, or feel like they weren't considered in how space was arranged, it affects how safe and respected they feel — and how long they stay.

Small things compound. A bathroom ratio that doesn't work for everyone. A tent or bunk assignment that puts someone in an uncomfortable situation. Frictions that seem minor but build into withdrawal, conflict, or early exits.

The goal isn't a perfect setup — it's making placement and facility decisions thoughtfully, so they don't quietly create a two-tier experience on your crew.

When you set up camp or assign living spaces, how much thought goes into whether the setup works for everyone — not just logistically, but in terms of comfort, privacy, and dignity?

Consider: Has a housing or placement decision ever created tension or made someone feel like an afterthought? What was behind it?

Discipline, Feedback, and Claims Management

When something goes wrong, leaders are expected to respond.

A mistake is made. A complaint comes in. Someone reports an issue with another worker.

In those moments, decisions are often made quickly: Was it serious? Was it intentional? Does this person usually perform well?

Most responses feel reasonable in the moment. But when issues are handled informally, inconsistently, or based on gut reads — patterns form. And patterns create risk.

- One worker gets a warning, another gets written up for the same thing
- Someone gets the benefit of the doubt because they're experienced or well-liked
- Some issues get documented, others get handled with a conversation and forgotten
- Similar complaints lead to different levels of follow-up

This is where discrimination shows up — not through obvious intent, but through how consistently situations are handled across different people.

From the crew's perspective, it starts to feel like consequences depend on who you are, not what happened. That's where trust breaks down.

Think about the last time you had to address a performance issue or a complaint on your crew. Would that situation have been handled the same way if a different person was involved?

Consider: Where might similar situations be getting inconsistent responses on your crew — and what's driving that?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

Decision Making How decisions are made on your crew are based on job requirements, not assumptions or personal characteristics. ☐ Confident ☐ Needs Work ☐ Not in Place

Work Assignment and Opportunity Opportunity moves through your crew based on what roles require, and that pattern is consistent across supervisors. ☐ Confident ☐ Needs Work ☐ Not in Place

Housing and Facilities Camp and living arrangements are made thoughtfully, with dignity and comfort considered for everyone. ☐ Confident ☐ Needs Work ☐ Not in Place

Discipline and Feedback Similar situations are handled consistently, regardless of who is involved, and decisions are documented and defensible. ☐ Confident ☐ Needs Work ☐ Not in Place

Discrimination in Hiring

Hiring in forestry can often happen fast — through referrals, Facebook groups, word of mouth, and gut reads on whether someone can handle the work. That's the reality of the industry, and it works. Until it doesn't.

When time pressure is high and the pool feels limited, instinct fills the gaps. Leaders are trying to quickly assess whether someone will be able to handle the demands of the work. That's a reasonable thing to do. But when assumptions replace clearly defined job requirements, those decisions can unintentionally create discrimination risk and become very difficult to defend.

The Human Rights Code requires employers to focus on whether someone can perform the essential duties of the job, not on assumptions about their ability, health, or background. Most operators already think this way. The gap is usually in the documentation, not the intent.

When hiring practices create unintentional barriers, the business impact is real:

- Informal networks limit your talent pool and shrink it further every season
- A human rights complaint related to hiring can be filed up to 12 months after the fact, often long after the details are forgotten
- Without documented job requirements and a consistent process, defending a hiring decision becomes nearly impossible
- Contractors who demonstrate fair, structured hiring are increasingly preferred by licensees and government partners

The operators who get this right aren't running formal HR departments. They're just clear on what the job requires, consistent in how they assess it, and careful about the questions they ask.

The question becomes: "If a hiring decision your company made was reviewed externally — could you demonstrate it was based on clearly defined job requirements, not assumptions about the individual?"

How We Hire

Forestry hiring often happens through referral networks, Facebook groups, and word of mouth. That's not a problem — it's how the industry works, and it brings in people who already understand what the job demands.

The thing worth paying attention to is what happens when those networks become the only filter. When hiring is driven purely by who you know, the same kinds of people tend to get in, and the same kinds of people tend to get left out. Over time that limits your talent pool, and it can create legal exposure if a hiring decision is ever questioned.

The Human Rights Code requires that hiring decisions focus on whether someone can perform the essential duties of the job. Social media profiles, photos, and personal connections can all introduce information that has nothing to do with job performance — and that's where unintentional bias gets its foot in the door.

When you think about the last few people you hired, how did they come to you, and what made you decide they were the right fit?

Consider: Was there anything in that process that was based on the person rather than what the job required?

Knowing What the Job Actually Requires

In demanding industries, hiring decisions often come down to a fast read on whether someone can handle the work. Experienced operators get good at that read.

Having clear job requirements will optimize that instinct — and make hiring decisions more objective and defensible. When the physical and operational demands of a role are written down, hiring conversations naturally stay focused on what the job actually needs. It takes the guesswork out, for the leader doing the hiring and for the candidate trying to understand what they're walking into.

How clearly defined are the physical and operational demands of each role in your operation — and do those requirements get communicated the same way to every candidate?

Consider: If a hiring decision was questioned, could you point to a written job requirement that justified it?

Asking the Right Questions

Most hiring conversations in forestry are already focused on the right things: can you do the work, have you done it before, when can you start.

Where legal risk quietly enters is when conversations drift into personal territory. Health, family situation, where someone is from. Usually it's just small talk or genuine curiosity — not intent. But under the Human Rights Code, some of those questions create exposure regardless of how they were meant.

Staying focused on functional ability and job requirements keeps the conversation clean and the decision defensible.

Are there questions that come up regularly in your hiring conversations that touch on personal circumstances rather than the job itself?

Consider: What would it look like to keep every hiring conversation focused strictly on what the role requires?

When Someone Shares a Health Condition

Sometimes candidates volunteer personal health information during hiring. These moments can feel delicate to navigate, especially when there's a genuine question about whether someone is a good fit for the demands of the job.

The Human Rights Code doesn't require employers to hire someone who can't perform the essential duties of a role. But it does require exploring whether reasonable adjustments could allow them to. These conversations need to be approached carefully — keeping the focus on function, not diagnosis.

Having a clear sense of what to do when these conversations arise can make the exploration process more consistent, respectful and defensible.

If a candidate or new hire disclosed a health condition that could affect their work, how would your leaders currently navigate that conversation?

Consider: Who in your organization is responsible for training leaders in how to navigate these situations when they come up?

The Disabilities You Can't See

Not all disabilities are visible. Conditions like seizure disorders, chronic illness, mental health conditions, or fertility-related diagnoses may not come up during hiring — and may not be obvious once someone is on the crew.

Because these conditions aren't immediately visible, they can be misread. A performance issue that's actually a symptom. A request for flexibility that seems unreasonable without context. Leaders who approach these situations with curiosity rather than assumption tend to get much better outcomes — for the worker and for the crew.

How might your leaders currently recognize when a performance issue could actually signal a health limitation, and how prepared are they to navigate that conversation?

Consider: What kinds of invisible conditions might realistically exist within your workforce?

Consistency and Structure in Hiring Decisions

Most operators already know what good hiring looks like. The challenge is making sure that knowledge is rooted in a defensible process — consistent across different supervisors, different crews, and the inevitable time pressure of a busy season.

A repeatable hiring flow does two things at once: It protects the company from legal exposure by keeping decisions documented and justifiable, and it improves quality control in hiring decisions.

Interviews, evaluations, and assessments can all be turned into straightforward workflows that aren't hard to execute but make a real difference in consistency. Tools like a ParQ, when validated and applied the same way for every candidate, can be a legitimate and useful part of that process.

A good hiring flow isn't about adding bureaucracy. It's about making sure the judgment calls your best supervisors already make are shared, repeatable, and defensible.

What does your current hiring process look like from first contact to offer — and how consistently is that process followed across your supervisors and crews?

Consider: Where in that flow could a simple tool or checklist make decisions easier to execute and defend?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

Hiring Process Your hiring process is consistent across supervisors and crews, and decisions can be explained based on job requirements. ☐ Confident ☐ Needs Work ☐ Not in Place

Job Requirements The physical and operational demands of each role are clearly defined and communicated the same way to every candidate. ☐ Confident ☐ Needs Work ☐ Not in Place

Interview Questions Your hiring conversations stay focused on functional ability and job requirements, and avoid personal territory. ☐ Confident ☐ Needs Work ☐ Not in Place

Health Disclosures and Accommodation Your leaders know how to navigate conversations about health conditions or limitations respectfully and consistently. ☐ Confident ☐ Needs Work ☐ Not in Place

Consistency Across Supervisors Hiring decisions are made the same way regardless of which supervisor or crew leader is doing the hiring. ☐ Confident ☐ Needs Work ☐ Not in Place

Duty to Accomodate

Occasionally a worker discloses a limitation, medical condition, or personal circumstance that affects how they can perform their job. These moments can feel uncertain to navigate — especially in operational environments where crew dynamics, safety requirements, and production pressures are all in play at the same time.

Under the Human Rights Code, employers have a duty to explore reasonable ways to accommodate workers with protected characteristics, up to the point of undue hardship. Protected characteristics include things like disability, injury, family status, religion, and pregnancy — not just obvious physical limitations. The duty applies more broadly than most operators realize.

When these situations are ignored or handled poorly, the consequences extend beyond legal risk:

- Financial penalties and costly investigations
- Public decisions through human rights complaints
- Damage to company reputation and worker trust
- The loss of good workers who could have continued contributing with minor adjustments

The operators who handle accommodation well aren't running complicated processes. They approach these conversations with curiosity rather than defensiveness, explore what's actually possible, and document their thinking along the way.

For company leaders, the challenge is translating this legal principle into thoughtful, real-time decisions that balance fairness, safety, and operational realities.

The question becomes: "If a worker disclosed a limitation today, could you demonstrate that reasonable options were explored and that decisions were made thoughtfully and fairly?"

Knowing When Accommodation Applies

Accommodation doesn't always begin with a formal request. Sometimes a worker discloses something directly. Other times it shows up indirectly — through observations, requests for schedule changes, or shifts in how someone is performing.

The duty to accommodate applies across a broader range of situations than most operators realize. It's not just physical injury or disability. It includes family obligations that affect availability, religious observance that affects scheduling, pregnancy, and other personal circumstances tied to protected characteristics, including mental health.

Leaders often struggle to recognize when a situation might require an accommodation conversation rather than simply a yes or no. Missing that moment, or avoiding the conversation, is where exposure quietly builds.

How prepared are your leaders to recognize when a situation might require exploring accommodation rather than simply saying yes or no?

Consider: What signals from a worker might make someone hesitate to disclose a challenge or limitation — and what could make that easier?

Finding What's Possible

Accommodation isn't about automatically saying yes to every request. It's about genuinely exploring whether reasonable adjustments could allow a worker to continue performing the essential duties of their role.

In operational environments, those adjustments might look like temporary changes to tasks, scheduling flexibility, modified duties, or reassignment of certain responsibilities. The goal isn't to remove the demands of the job — it's to consider whether practical adjustments could allow the work to continue safely and effectively.

Leaders who approach these conversations with curiosity tend to find more options than those who approach them looking for reasons it won't work.

When a worker discloses a limitation affecting their work, what process does your company move through to evaluate whether an adjustment is possible?

Consider: How prepared are your leaders to explore possible adjustments — and is there support available to help them think it through?

Working It Out Together

Accommodation conversations tend to go better when they're approached as a collaboration rather than a decision being made about someone. Workers often have valuable insight into what adjustments might actually help them continue performing their role — and that knowledge is worth drawing on.

At the same time, employers must consider the operational realities of the workplace. Safety requirements, crew dynamics, and production demands are all legitimate factors.The goal is a conversation that takes both seriously: the worker's circumstances and the operational constraints. One that works toward a solution that's respectful, practical, and documented.

How might leaders balance listening to the worker’s perspective while also considering operational and safety realities?

Consider: What would it look like to make accommodation conversations feel collaborative rather than adversarial on your crews?

Where the Limits Are

The duty to accommodate does not require employers to create unsafe conditions or fundamentally change the nature of a job. There are real limits, and understanding where those limits exist is one of the most important aspects of accommodation.

In operational environments, those limits often sit at the intersection of safety requirements, crew dynamics, and production demands. A requested adjustment that creates risk for other workers, or that fundamentally changes what a role requires, may not be reasonably implementable. The key is being able to explain that clearly and respectfully when it's the case.

What creates risk isn't saying no to an accommodation request. It's saying no without exploring the options first, or without being able to show that the decision was made thoughtfully.

How would your leaders communicate a limit clearly and respectfully when one exists?

Consider: What kinds of situations in your workplace might create practical limits on accommodation, and how prepared are your leaders to navigate those conversations?

Keeping a Record

Accommodation situations can become difficult when leaders are unsure who is responsible, what steps should be taken, or how decisions should be documented. Clear internal processes help leaders respond consistently and thoughtfully when these situations arise.

Documentation isn't about creating paperwork for its own sake. It's about being able to show that the conversation happened, that options were explored, and that decisions were made thoughtfully and fairly. Without that record, even a well-handled accommodation situation can be difficult to defend if it's ever questioned.

In forestry operations, where leaders are often making these calls in the field without HR support, knowing what to document and how to document it matters more, not less.

What documentation or internal practices could help ensure accommodation conversations are handled consistently and thoughtfully across your supervisors and crews?

Consider: Who within your organization is responsible for supporting leaders when accommodation questions arise, and how clear is that to everyone involved?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

Recognizing When Accommodation Applies Your leaders can identify when a situation might require an accommodation conversation — not just obvious physical limitations, but the full range of protected characteristics. ☐ Confident ☐ Needs Work ☐ Not in Place

Exploring What's Possible Your company has a clear process for evaluating whether reasonable adjustments could allow a worker to continue performing the essential duties of their role. ☐ Confident ☐ Needs Work ☐ Not in Place

Collaborative Conversations Your leaders approach accommodation conversations with curiosity and openness, and workers feel comfortable raising limitations or requesting support. ☐ Confident ☐ Needs Work ☐ Not in Place

Operational Limits Your leaders can clearly and respectfully communicate when an accommodation request cannot be reasonably implemented, and can explain why. ☐ Confident ☐ Needs Work ☐ Not in Place

Documentation and Process Your company has a clear process for documenting accommodation conversations, the options explored, and the decisions made. ☐ Confident ☐ Needs Work ☐ Not in Place

Duty to Prevent

Employers are responsible for preventing and addressing bullying, harassment, and psychological harm. Most operators understand that when something goes wrong, they need to respond. What's less understood is that the legal obligation starts much earlier than that — before any complaint is filed, before any incident occurs.

Under the Human Rights Code and OHS legislation, employers have a duty to prevent, meaning they are required to have clear systems, expectations, and leadership standards in place before problems arise.

One concept worth understanding here is vicarious liability. A company can be held legally responsible for the actions of its leaders even if the company didn't direct those actions, if it can't demonstrate that reasonable steps were taken to prevent the issue and address it appropriately.

When this duty isn't met, the business impact is real:

- Legal liability that extends beyond the individual involved to the company itself
- Reputational damage that affects contracts, referrals, and recruitment
- Operational disruption at the worst possible time
- Complaints that are impossible to defend without documented systems and responses

Prevention is where most companies have the biggest opportunity. Not because they're doing nothing, but because what they're doing informally hasn't been made explicit, consistent, or documented. A crew leader who sets a strong tone isn't enough on its own if that standard isn't shared, communicated, and reinforced across every supervisor and every season.

The question becomes: "Could you demonstrate that your organization had clear standards and systems in place before any issue arose — and that those standards reached every worker?"

Setting the Standard

Expectations around behaviour don't communicate themselves. In fast-moving field operations, what's acceptable and what isn't is often assumed rather than stated — and assumptions create gaps.

Leaders set the tone through what they say, what they ignore, and what they consistently reinforce. When that tone is deliberate and backed by clear written expectations, workers know where the line is. When it isn't, the line shifts depending on who's watching.

This is where vicarious liability enters. A company can be held legally responsible for the actions of its leaders even if the company didn't direct those actions. The question an external reviewer will ask isn't just what happened — it's what the company had in place beforehand to prevent it.

Clear policies, documented training, and consistent leadership expectations aren't administrative busywork. They're the evidence that your company took its responsibilities seriously before anything went wrong.

How does your company currently communicate its expectations around respectful behaviour and workplace conduct to new and returning workers — and how consistent is that across your crews and supervisors?

Consider: What would it take to make sure every worker, every season, starts with a clear understanding of the standard?

Leaders as Reporting Points

A clear reporting process only works if people are willing to use it. And whether someone comes forward often comes down to one thing: how safe they feel approaching the person they're supposed to report to.

Leaders set that tone through everyday behaviour. How they respond when someone raises a small concern. Whether they stay composed under pressure. Whether they treat sensitive information with discretion. These things are noticed, and they determine whether workers see their supervisor as someone they can come to, or someone to avoid.

This isn't just a leadership quality issue. Under OHS legislation, due diligence and accountability for how concerns are handled sits with both the company and the individual leader. How your leaders show up in these moments is part of your company's compliance picture.

How would your crew members currently describe the approachability of their direct supervisor — and what specific behaviours are your leaders demonstrating that either build or undermine that trust?

Consider: What does your company do to support leaders in modelling the kind of behaviour that makes reporting feel safe?

Making It Safe to Speak Up

OHS requires that workers know three things: what behaviour is unacceptable, how to report a concern, and who to report it to. Most operators have a sense of this — but when reporting pathways are unclear or unused, issues stay hidden and the company loses the ability to respond before things escalate.

In field-based operations, workers often raise concerns informally first with a comment to a crewmate, or a quiet word to a supervisor. By the time it becomes a formal complaint, it's usually been building for a while. Clear reporting pathways give workers somewhere to go earlier, which is better for everyone.

If a worker on your crew needed to raise a concern today, how would they do it — and how clearly has that pathway been communicated to every person on your crew?

Consider: What might make someone hesitate to use that process, and what could remove that barrier?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

Behavioural Standards Your company has clearly defined what respectful workplace behaviour looks like, and those expectations are communicated to every worker at the start of every season. ☐ Confident ☐ Needs Work ☐ Not in Place

Leadership Tone Your supervisors consistently model the behaviour and communication style that makes workers feel respected and safe. ☐ Confident ☐ Needs Work ☐ Not in Place

Reporting Pathways Every worker on your crew knows what to do if they have a concern, who to go to, and what to expect when they do. ☐ Confident ☐ Needs Work ☐ Not in Place

Documentation and Training Your company has written policies and can demonstrate that leaders have been trained on expectations around respectful workplace conduct. ☐ Confident ☐ Needs Work ☐ Not in Place

Duty to Recognize

Most serious workplace issues don't arrive as formal complaints. They build from smaller signals — shifts in crew dynamics, tension that wasn't there last week, someone who's gone quiet. By the time something becomes obvious, it's usually been developing for a while.

Under the Human Rights Code and OHS legislation, employers have a duty to recognize, meaning they are required to actively monitor what's happening on the ground and act when something warrants a closer look, even if nothing has been formally reported.

One concept worth understanding here is vicarious liability. A company can be held legally responsible for the actions of its leaders even if the company didn't direct those actions, if it can't demonstrate that reasonable steps were taken to recognize and address issues appropriately.

When this duty isn't met, the business impact is real:

- Small issues that could have been addressed early become formal complaints
- Workers disengage or leave because they don't believe anyone is paying attention
- The company loses the ability to respond early — when responses are simplest and least costly
- Liability builds quietly, without anyone realizing it until it's too late to contain

Experienced operators already apply strong situational awareness to physical risk. This module asks you to bring that same deliberate attention to the people on your crew.

The question becomes: "Could you demonstrate that your organization was actively monitoring crew dynamics — and that your leaders knew when and how to act on what they noticed?"

Spotting It Early

Most serious workplace issues don't arrive as obvious incidents. On a crew, they more often show up as patterns: repeated jokes at one person's expense, someone who’s gone quiet, dismissive communication, exclusion from group dynamics, or one person consistently being the target of frustration.

These behaviours can be easy to overlook or minimize in the moment, but if they aren't recognized early they can meet the threshold of harassment over time.

Leaders who catch these patterns early will have the power to respond and prevent escalation. Leaders who miss them, often find themselves managing the fallout.

What behaviours on your crew would clearly trigger a response from your supervisors right now, and are there patterns that might currently be getting overlooked?

Consider: How confident are you that your supervisors would recognize early warning signs of an issue in real time, not just in theory?

Knowing When to Act

Experienced operators track their environment constantly — weather, terrain, equipment, risk. That same situational awareness applies to the people on the crew, but it doesn't always get the same deliberate attention.

Most leaders know they need to respond to a formal complaint. What's less understood is that the duty to respond begins the moment a leader becomes aware of a concern, however informally it was raised. A comment overheard. A worker mentioning something in passing. A situation that gets flagged indirectly. Each of these can trigger a legal obligation to act, even if nothing has been officially reported.

These moments are easy to miss in a fast-moving operation where there's always something more pressing. But missing them is where liability quietly builds.

How well do your leaders currently read the social environment of their crew — and would they recognize when something has shifted enough to warrant a closer look?

Consider: What would it take to bring the same awareness your leaders apply to physical risk into how they monitor crew dynamics?

When the Leader Is the Problem

Reporting processes are built on the assumption that a worker can bring a concern to their supervisor. But what happens when the supervisor is the source of the problem?

This is one of the most common and least addressed gaps in workplace response systems. Workers in this situation often have nowhere obvious to turn — so they say nothing, disengage, or leave. And because the concern never gets raised formally, the company never has the opportunity to respond.

For a response process to be truly functional, there needs to be a clear path for workers to raise concerns about the people above them, without fear of retaliation and without the concern disappearing into the same chain of command that created the problem.

If a worker had a concern about their direct supervisor, how clear is it to them where they could go, and how confident are you that concern would actually reach someone with the authority to act on it?

Consider: What does your current process look like for concerns that involve a leader or supervisor directly?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

Early Signal Recognition Your supervisors actively monitor crew dynamics and would notice when something has shifted enough to warrant a closer look. ☐ Confident ☐ Needs Work ☐ Not in Place

Awareness Beyond the Obvious Your leaders would recognize early signals across different domains — not just overt harassment, but signs of uneven treatment, accommodation needs, or crew tension building beneath the surface. ☐ Confident ☐ Needs Work ☐ Not in Place

Legal Trigger Point Your leaders understand that the duty to respond begins the moment they become aware of a concern — however informally — and would act accordingly. ☐ Confident ☐ Needs Work ☐ Not in Place

Escalation When the Leader Is Involved There is a clear pathway for concerns that involve a supervisor directly, and workers know where to go if their immediate leader is the source of the problem. ☐ Confident ☐ Needs Work ☐ Not in Place

Duty to Respond

When a concern reaches a leader — however informally — the clock starts. What happens next **determines whether a company meets its legal obligations or falls short of them.**

Under the Human Rights Code and OHS legislation, employers have a duty to respond, meaning they are required to act appropriately the moment a concern comes to their attention. That obligation doesn't begin when a formal complaint is filed. It begins the moment someone in a leadership position becomes aware that something may not be right.

One concept worth understanding here is vicarious liability. A company can be held legally responsible for the actions of its leaders even if the company didn't direct those actions, if it can't demonstrate that reasonable steps were taken to respond appropriately when issues arose.

When this duty isn't met, the business impact is real:

- Delayed action allows situations to escalate and harm to continue
- Informal handling with no documentation leaves the company unable to demonstrate due diligence
- Inconsistent responses across supervisors expose the company to claims of differential treatment
- Without a clear investigation process, outcomes lack credibility and closure

Most companies don't fail here because they ignored a serious complaint. They fail because the response was delayed, undocumented, or handled by someone who wasn't sure what they were supposed to do. This module helps make sure that doesn't happen on your crew.

The question becomes: "Could you demonstrate that when a concern arose, your organization responded promptly, consistently, and in a way that was documented and defensible?"

When a Concern Is Raised

The first moments after a concern is raised matter more than most leaders realize. How a supervisor initially responds — whether they take it seriously, stay composed, and make the worker feel heard — sets the tone for everything that follows.

The most common early breakdowns are quiet ones. A concern gets minimized. A supervisor reacts defensively. The worker is told it will be looked into, and then nothing happens. Those first responses are noticed — not just by the person who raised the concern, but by everyone watching.

Leaders don't need to have all the answers in that first moment. They do need to know what their immediate next step is.

When a concern was last raised on your crew, what happened in the first 24 hours — and did the person who raised it feel like it was taken seriously?

Consider: What would a confident, composed first response look like for your supervisors — and do they know what that is?

Responding Early

One of the most common breakdowns in workplace response isn't ignoring a serious complaint, it's waiting too long to act on it.

Delays happen for understandable reasons. The situation feels unclear. A leader hopes it will resolve itself. Escalating feels like an overreaction. But waiting allows situations to become more complex, more entrenched, and harder to resolve. It also makes the company's response harder to defend, because the timeline becomes part of the story.

Early action doesn't mean overreacting. It means having a clear sense of what the first step is, and taking it.

When a concern surfaces on your crew, what typically causes your leaders to wait rather than act — and what would earlier action have looked like in a recent situation?

Consider: Where in your operation are concerns most likely to sit unaddressed longer than they should?

When You Need to Move Fast

In some situations, there may be a need to take immediate steps to reduce risk or prevent further harm, even before a full understanding of the situation is reached.

This might include:

- separating individuals
- adjusting work assignments
- changing supervision or crew structure
- providing support to affected workers

These aren't conclusions about what happened — they're practical steps to prevent further harm while the situation is assessed. When there is ongoing risk of harm, waiting for the full picture isn't an option.

Leaders often hesitate here because acting feels like taking sides. But protective action and investigation are separate things. One stops the harm. The other determines what happened.

What kinds of situations in your work might require quick protective steps, and who has the authority to make those calls?

Consider: If a situation required immediate action, how clear is it what leaders should do first?

Responding the Same Way Every Time

When workers see similar situations handled differently, they draw conclusions about who matters, who gets protected, and whether the system works for them. Once formed, that perception is hard to undo.

Fairness isn't just about what actually happened. It's about whether the process felt consistent and impartial to the people watching it. In a crew environment where everyone knows everyone's business, how a situation is handled sends a signal to the whole team — not just the people directly involved.

How do workers on your crew currently perceive the fairness of how concerns and conflicts get handled — and what might be shaping that perception?

Consider: What impact might inconsistency in how situations are handled be having on trust within your crews?

Following Through

A response process that doesn't have a clear ending is almost as problematic as no response at all. When workers raise a concern and never hear back — no outcome, no acknowledgment, no clarity on what happened — it signals that the process doesn't actually work.

Following through means ensuring that investigations are fair, timely, and documented. It means ensuring that: the findings are recorded, the people involved have some sense of resolution, and that the company can demonstrate (if ever reviewed externally) that the process was completed and not just started.

Companies should have clear investigation procedures, including:

- how to make a complaint
- how complaints are received / handled
- who receives complaints
- who conducts investigations
- how privacy will be maintained
- how findings are documented

Who in your company is currently responsible for leading and documenting the investigation process, and how clear is it to your leaders when a situation requires a more formal investigation?

Consider: After a situation is addressed, how clear is it that there has been follow-through and resolution for everyone involved?

Where Do You Stand?

Take a moment to rate your confidence in each area. Your responses will shape the action plan included in your Employer Standards printout.

First Response *Your leaders know what to do in the first moments after a concern is raised — and would respond in a way that makes the worker feel heard and taken seriously.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

Early Action *Your leaders have a clear sense of when to act on a concern rather than wait — and understand that delay is itself a risk.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

When the Leader Is the Problem *There is a clear pathway for workers to raise concerns about a supervisor directly — and that pathway reaches someone with the authority to act.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

Protective Action *Your leaders know when immediate protective steps are required and who has the authority to make those calls.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

Consistency *Similar concerns are handled at a similar level across your supervisors and crews — and workers perceive the process as fair.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

Investigation and Follow Through *Your company has a clear process for investigating concerns, documenting findings, and communicating resolution to those involved.* ☐ *Confident* ☐ *Needs Work* ☐ *Not in Place*

APPENDIX G – Leadership Standards Kit

Cover Page

Leadership Standards Kit

How supervisors and leads handle people, pressure, and conflict.

In BC's silviculture industry, leadership rarely comes with a title. It comes with a radio, a crew, and a block to get done by end of day.

The people this kit is built for didn't necessarily seek out a leadership role — they earned it through experience, reliability, and the trust of the people around them. They set the tone on the ground, manage conflict before it becomes a problem, and make hundreds of small decisions every season that shape how a crew performs and how people feel showing up to work.

Most of them do this without formal training. And most of them do it well.

The Leadership Standards Kit gives those people a structured space to reflect on how they lead — their awareness under pressure, how they communicate, how they influence the people around them, and how they make decisions when things get hard.

It doesn't teach leadership from the outside in. It surfaces what experienced operators already know, builds on it, and helps them lead with more intention in the moments that matter most.

Table of Contents

1. Metacognition and Self Awareness
    - Personal Experience
    - Self Awareness
    - Under Pressure
    - Pressure Signals
    - Recognizing What's Working
    - The Growth Edge
    - Practicing Objectivity
    - Maintaining Capacity
2. Responding vs. Reacting
    - Anchor in Your Experience
    - Goal Setting
    - Exploration
    - Strategy Design
    - Deployment
    - Outcome Analysis
    - Which Steps Come Naturally
3. Influence
    - Leading by Example
    - Rolling with the Punches
    - Your Ideal Leadership Model
    - Leveraging our Personality and Character
    - Internal vs. External Motivation
    - Reinforcing the Right Behaviours
    - Leading from Behind
4. Communication
    - Authority Without Authoritarianism
    - Curiosity
    - Empathy
    - Reflexive Listening
    - Interrupting
5. Leadership Field Guide
    - Container Building
    - Instructions and Plans
    - Running Meetings
    - Preventing Issues
    - Dispute Resolution
    - Dealing with Upset Conditions
    - Skill Development

Metacognition and Self Awareness

Humans are wired to pick up on small signals from each other. Tone, posture, facial expressions, even subtle shifts in energy. Most people can tell when someone is stressed, frustrated, or trying to hide it.

That means performing calm usually isn't enough. Crews can feel when a leader is tense or reactive, even if nothing is being said.

Strong leaders develop the ability to notice their own reactions and regulate them, so the steadiness they bring to the crew is real and not just performative. These are the leaders people trust.

Self Awareness is a lifelong practice, and it isn't always the easiest path in the moment. The more effective response often requires more effort than reacting on instinct. It can feel slower, less comfortable, and harder on the ego.

Everyone starts at a different place. Some of this comes naturally, and some of it is developed over time. Being self-aware isn't always comfortable. It means noticing where you're still learning, and that can create friction.

That's part of the process.

The goal here isn't to get everything right. It's to see things clearly enough to make better decisions over time.

Personal Experience

Elite operators maintain awareness of their internal condition the same way they track weather, fatigue, or equipment.

Becoming aware of your own state is a skill. It takes practice at first, but quickly becomes second nature.

Think about a moment on the job when things weren't going smoothly. Maybe equipment was failing, the weather had turned, the crew was getting frustrated, or you were under pressure to keep things moving.

Bring that situation to mind. Who was there, what was happening, and what were the stakes and pressures?

Self Awareness

In situations like the one you described, leaders are expected to solve external problems.

But one of the most important variables in navigating that problem is the leader’s internal state.

Your level of stress, frustration, fatigue, or focus can influence how you communicate, make decisions, and guide the crew through the situation.

Take a moment to reflect on that situation (or ones like it) and how aware you were of your own internal state while leading in that moment.

When you reflect on that situation, how aware were you of your own internal state while it was happening — and at what point did you notice it starting to affect how you were showing up?

Consider: What's one early signal that tells you your internal state is starting to influence your leadership?

Under Pressure

Every leader has certain situations that test their patience or make it harder to stay steady. Sometimes it's repeated mistakes, time pressure, equipment problems, fatigue, or communication breakdowns.

Becoming aware of these patterns is an important part of leadership. When you know what tends to push your buttons, you're better able to manage your reactions before they affect the crew.

Take a moment to think about the situations that challenge your composure the most.

What types of situations tend to frustrate or stress you the most on the job?

Consider: What patterns have you noticed that make it harder to stay calm — and what are the early signs that you're starting to get pushed past your limit?

Pressure Signals

As we know, our internal state doesn't stay internal for long. Stress, frustration, fatigue, or pressure often shows up in how we speak, make decisions, and communicate with the people around us.

Sometimes this happens subtly — a sharper tone, shorter patience, quicker decisions, or less willingness to listen.

Being aware of these patterns is an important part of leadership. When you know what tends to push your buttons, you're better able to manage your reactions before they affect the crew.

When your pressure points come up, how do they tend to influence how you speak, make decisions, or communicate with your crew?

Consider: How might your crew experience you when you're under strain — and does that match how you see yourself in those moments?

Recognizing What's Working

Self-awareness is a skill that develops over time. But it can easily become counterproductive if every reflection turns into self-criticism.

If self-reflection feels like constant self-correction, people tend to either avoid it or stay surface-level.

Being self-aware isn't just about noticing where things go wrong. It's also about recognizing where your instincts, decisions, and behaviours are already working.

That balance matters. It makes it easier to stay open, accurate, and willing to look at things clearly without shutting down or becoming defensive.

What would someone else say you tend to handle well, that you might dismiss?

Consider: What do you tend to do well that you rarely give yourself credit for?

The Growth Edge

Learning about our inner state is a lifelong practice. We are constantly evolving and encountering new situations that test us in ways we haven't been tested before.

The growth edge isn't where you're failing. It's where you're still figuring it out. Every experienced leader has one — the situations that still get under their skin, the patterns they keep noticing in themselves, the moments where they wish they'd handled it differently.

That's not a problem to solve. It's information to work with.

The leaders who keep growing aren't the ones who have eliminated their edges. They're the ones who know where their edges are and factor that into how they lead.

With that in mind, picture yourself coming to the end of next season.

What would you be most proud of in how you strengthened your self-awareness as a leader — and what does success in this area actually look like for you going forward?

Consider: What is one pattern or tendency you'd like to have a better handle on by the end of next season?

Practicing Objectivity

It's unrealistic to hold yourself to a standard of perfection. Humans make mistakes. It's unavoidable, and learning from them is part of how you become a more effective leader.

One of the most useful shifts in self-awareness is learning to treat situations as **information**, not as a reflection of your identity.

When everything feels personal, it becomes harder to stay clear, honest, and open.

When you treat situations as data instead:

- You can let things roll off your back
- Stay objective about what happened
- Keep improving without getting stuck

The goal isn't to get everything right. It's to notice what's happening, extract something useful, and apply it going forward.

Think of a situation you've been hard on yourself about. What does it show you when you look at it as information?

Consider: What did it show you about yourself and what you need — and what have you done differently since then?

Maintaining Capacity

Leading with self-awareness takes effort.

It requires more mental energy and emotional control than reacting on instinct, especially over long days and under pressure.

If you want to lead with consistency and integrity, you have to be realistic about what that requires. Your capacity isn't fixed. It needs to be maintained. You can't expect consistent leadership from inconsistent capacity.

That means paying attention to fatigue, recovery, and the habits that allow you to keep showing up effectively.

Where do you need to treat your own capacity as a priority and not something you just push through?

Consider: What is one habit or boundary that helps you maintain your energy over time?

Metacognition and Self Awareness

In fast-paced environments, quick reactions can feel necessary. Especially when risk feels high. The truth is, when pressure or risk goes up—we are biologically hardwired to act before thinking.

When our nervous system detects any type of threat, the brain reallocates resources from deliberate cognition to rapid defensive action. In short, our ability to plan, reason or manage impulse becomes biologically de-prioritized.

Strong leaders know the difference between reacting and responding. Reacting is automatic. Responding is trained.

Some of the best leaders rarely move straight from problem to action. Instead, they move through a simple mental sequence — often without realizing it:

- **Goal Setting:** clarifying the objective
- **Exploration:** understanding the situation
- **Strategy Design:** choosing the best approach
- **Collaborative Planning:** aligning the crew
- **Deployment:** executing the plan
- **Audit:** reviewing outcomes and learning afterward

Let's explore what this sequence looks like for you personally.

Anchor in Your Experience

Think of a situation at work where things went sideways and it took some effort to work through it. Maybe conditions changed, equipment failed, communication broke down, or the crew hit a problem nobody expected.

The situation might have felt messy, unclear, or pressured in the moment.

Take a minute to replay that situation in your mind.

What was happening? What made it challenging? What was at stake?

Jot a few notes down below, and use that experience as the reference point as you work through the next questions.

Exploration

Exploration isn't just about understanding the situation. It's also about opening up the range of possible ways forward, before committing to a plan. It's about scoping out, so we can collect as much data as possible.

When we take a moment to explore, we're less likely to run into avoidable roadblocks or default to routine solutions. It gives us a chance to see the situation more clearly and consider better options.

Exploration involves two things:

- **Situational awareness** — understanding what's really happening
- **Option generation** — considering different ways the problem might be solved

Thinking back to your personal story, consider the following:

Looking back at that situation, what were you most focused on in the moment — and what might you have been missing?

Consider: What are some of the things you could have done in advance to make the situation easier, and looking back, what didn't you know at the time that you know now?

Strategy Design

When we step into roles of accountability, it's important to challenge the assumptions we carry about what leadership is supposed to look like.

Many of us were taught that strong leadership means top-down decision making — the leader analyzes the situation, makes the call, and delegates the work.

In practice, strong strategies rarely come from working in isolation. The people closest to the work often hold critical information about feasibility, timelines, risk, and operational constraints.

Effective leaders take the time to gather that intelligence before making decisions. They ask questions, test assumptions, and invite perspectives from the people doing the work.

This isn't about consensus. The leader is still accountable for the final call. What changes is how the decision is built.

Strong leaders treat strategy as something that emerges from good information and grounded discussion.

In that situation, whose input did you actually seek out before deciding — and whose perspective might have been useful that you didn't get?

Consider: What signals, feedback, or perspectives might have helped clarify the situation?

Deployment

The fastest way to execute is, paradoxically, to slow down before acting. When we take care of the steps that come before action, deploying our strategy is usually the most straightforward part of the process.

The crew knows what's happening, what the plan is, and what comes next.

But when those earlier steps are rushed or skipped, execution can feel chaotic: people ending up working at cross-purposes, decisions can change mid-stream, or effort becomes wasted.

Looking back on the situation you described earlier, think about how the plan actually moved into action.

Did people know their role, or were things being figured out on the fly?

Consider: How clearly did everyone understand the plan before work began, and were there moments where a quick pause to regroup might have saved time later?

Outcome Analysis

Our jobs may have routine elements, but no two moments are exactly the same. Every day we deal with a unique constellation of variables: weather, terrain, equipment, people, timing, emotions. There is no guidebook, no script, and no perfect template.

Because of that, one of the most important tools a leader can develop is **themselves**. The stronger our awareness, judgment, and adaptability become, the better we can respond to whatever the situation demands.

One of the simplest ways to build that capacity is to treat every situation as **information.**

By paying attention, gathering information — both about what's happening around us and what's happening within us — we gradually sharpen our ability to read situations and respond more effectively over time.

Once a situation has concluded, it can be valuable to run a quick audit of what worked and what didn't. The goal isn't to assign blame or prove anything right or wrong. It's simply to gather insight that might help you respond more effectively next time.

The key is to stay objective and keep the ego out of the process. Treat the moment like information.

Looking back on the situation you described earlier, consider the following:

If you ran that situation again tomorrow, what would you line up differently before starting?

Consider: What parts of your response worked well, and was there a moment where a different decision might have changed the outcome?

Which Steps Come Naturally

Every leader moves through this sequence differently. Some steps feel intuitive. Others get skipped under pressure, or collapsed into something faster.

Understanding your own patterns in this sequence is part of developing a more consistent response mindset.

Which steps in this sequence do you tend to move through naturally, and which ones do you tend to skip when things get pressured?

Consider: What can you do in a moment, going forward, that you can return to this process, and how can you notice and pull yourself out of reactivity and re-center into a response mindset?

Influence

Feeling responsible for outcomes is an important part of leadership — that sense of accountability pushes us to pay attention and take problems seriously.

But in dynamic environments, not everything is within our control. Weather shifts, equipment fails, conditions change, people make mistakes. Trying to control every variable can quickly become exhausting and counterproductive.

Strong leaders learn to balance responsibility with perspective. They stay engaged, support the crew, and guide decisions — but they also recognize when a situation needs patience, adjustment, or time to unfold.

Ultimately, the leader of a crew will determine whether a team is: reactive and dependent OR coordinated and self-directed.

Let's explore the levers you can pull to stay balanced and reflexive.

Leading by Example

Leaders shape crew behaviour by holding the standard.

Tone of voice, patience, accountability, curiosity — these signals often influence the crew more than formal instructions.

When leaders show consistency, integrity, and respect in how they approach the work and their team, it sets the tone for everyone else. Over time, the crew begins to mirror those behaviours.

Leading by example isn't about perfection. It's about showing up consistently and modelling the standards you expect from others.

What behaviours do you hope your crew picks up from you?

Consider: In pressure situations, what signals might your crew be taking from how you respond — and are there habits or attitudes you try to model consistently on the job?

Rolling with the Punches

Pressure is part of the job. Things will go sideways — conditions shift, equipment fails, plans fall apart. In those moments, people aren't just looking for direction. They're watching how you handle it.

Not once — but repeatedly.

Over time, your crew builds a pattern of what to expect from you:

- Do you stay steady, or do you get sharp and reactive?
- Do you keep things clear, or does everything speed up and get scattered?
- Do you handle problems directly, or does tension creep into how you communicate?

People don't decide if you're "safe to approach" based on a single moment. They decide based on repeated experience. Not perfect. Not emotionless. Just predictable enough that people know what they're walking into when they come to you.

Tone of voice, pace, body language, and decision-making all send signals.

How can you show up in a way that makes people want to come back to you with problems in the future?

Consider: What specific behaviours — tone, pacing, reactions — might make someone hesitate before approaching you, and where are you consistent versus unpredictable?

Your Ideal Leadership Model

Most people don't build their leadership style from scratch. They piece it together from leaders they've worked under — good and bad.

Over time, you start to notice:

- Who kept things running smoothly
- Who people respected and listened to
- Who crews actually performed well under

The strongest leaders you've seen likely weren't the loudest or most controlling. They had ways of operating that made the work clearer, the crew more aligned, and problems easier to handle.

Whether you realize it or not, you've already started to copy parts of that.

The question is: are you doing it intentionally — or by default? What you model becomes your baseline. And if you haven't defined that baseline, you'll fall back on whatever's familiar when pressure hits.

Think of 1–2 leaders you've worked under who ran a strong crew. What behaviours earned your respect or made the crew run better?

Consider: Which of those behaviours have you actually adopted in your own leadership?

Leveraging our Personality and Character

People are very good at detecting inauthenticity. Which is why we can't just "act like a leader" — we actually have to take stock of our personality and figure out what our unique expression of leadership feels like.

Every leader brings different strengths to the role. Some lead through humour, others through calm steadiness, directness, curiosity, or vulnerability. Over time, leaders learn which parts of their personality help them connect with their team and navigate difficult situations.

Leadership becomes more natural when we lean into those authentic strengths rather than trying to imitate someone else's style.

What personal qualities help you connect with people on the crew, and in your personal life?

Consider: Are there traits you rely on naturally when things get difficult — and how have you seen your leadership style evolve over time?

Internal vs. External Motivation

When leadership becomes too top-down, crews start to rely on constant direction.

Every decision runs through one person. Questions stack up. Momentum slows. And the leader ends up carrying more pressure than they need to.

It works — for a while. But it doesn't scale, and it doesn't hold under pressure.

With a few small alignment tweaks, a crew can shift from top-down authority to **autonomous collaboration**. Not as a buzzword, but as a practical advantage.

Autonomous collaboration is when a crew can operate as a unit without needing constant direction — because each person understands the goal well enough to make decisions, solve problems, and support others on the fly.

It's a team where:

- Individuals take initiative without going off-track
- People communicate because it helps the work — not because they're told to
- Problems get handled early, often by the crew, before they escalate
- The leader isn't the only one holding the plan together

Everyone is independent in action, but aligned in outcome.

When things slow down, what do you default to: stepping in and directing, or stepping back and clarifying?

Consider: Where might your current approach be creating dependency instead of alignment?

Reinforcing the Right Behaviours

Culture on a crew isn't something that gets announced or written down. It develops through hundreds of small signals over time.

What leaders notice, acknowledge, and respond to quietly tells people what matters. When effort, accountability, and initiative are recognized, those behaviours tend to grow. When good work goes unnoticed, or when shortcuts and negativity are tolerated, those patterns can spread just as quickly.

Over time, crews learn what earns attention — and what doesn't.

Strong leaders pay attention to these moments. They make a point of acknowledging when someone handles something well, solves a problem, or supports the crew. These small signals help shape a culture where people take pride in the work and in supporting each other.

What kinds of behaviours tend to get your attention on the job?

Consider: When someone handles something well, do you tend to acknowledge it — and how might noticing and reinforcing those moments influence the culture over time?

Leading from Behind

Effective leaders know that the fastest or easiest move isn't always the one that serves the crew best.

When things speed up, it's natural to default to what's efficient in the moment — stepping in, making the call, or pushing things through.

But strong leaders run a quick check before they act:

"Is this the easiest move for me — or the best move for the crew as a whole?"

Those two options often lead to very different outcomes.

- The easiest move solves the immediate problem
- The best move strengthens the crew's ability to move without you

Sometimes stepping in is the right call. But often, taking a moment to clarify, involve others, or set direction more clearly leads to better alignment — and less friction overall.

Over time, these decisions shape how your crew operates. Are they dependent on you OR capable without you?

Effective leaders don't just solve problems — they build crews that can solve them too. What would "supporting the team to succeed" look like in your next high-pressure moment?

Consider: Where do you tend to step in quickly instead of setting others up to solve it — and where do you tend to default to the easiest move?

Communication

Communication is not just about exchanging information. It is one of the primary ways leaders shape behaviour on a team.

How you listen, how you respond, and how you handle disagreement all send signals about what is safe, expected, and valued within the group.

When leaders react quickly, dismiss concerns, or jump to conclusions, people learn to hold information back. But when leaders model curiosity, composure, and thoughtful decision-making, something different happens: people become more willing to speak up, share observations, and take responsibility for solving problems.

Over time, these small signals shape the culture of a crew.

Strong communication isn't about saying the right thing in every moment. It's about consistently modelling the behaviours that encourage honesty, accountability, and good thinking under pressure.

In this section, we'll explore several communication habits that help leaders influence those dynamics in practical, everyday situations.

Authority Without Authoritarianism

The goal of effective communication is to build mutual trust between yourself and each member of the crew. Trust doesn't develop overnight. It forms gradually through consistent experience — when people see how you think, how you make decisions, and how you handle challenges over time.

One way leaders build this trust is by sharing their thinking openly. When people understand the reasoning behind a decision, they're better able to align their efforts and contribute useful information that might improve the plan.

Phrases like "This is what I'm thinking..." or "I'm curious how it might work if..." invite dialogue and help others see the direction you're considering.

At the same time, leadership sometimes requires clear direction. Situations involving safety, timing, or specialized knowledge may call for decisive action rather than extended discussion.

Strong leaders learn to balance both approaches. They invite input when it improves the plan, but they don't abdicate responsibility for the decision.

Over time, this balance builds credibility. When people see that you genuinely consider input — but also step forward when leadership is needed — they're far more likely to trust your judgment and support your decisions.

How often do you share your thinking when explaining a decision or plan?

Consider: Are there moments when inviting input could strengthen the outcome, and are there situations where being more direct might actually create greater clarity for the crew?

Curiosity

Leading with curiosity is one of the simplest ways to improve communication.

When someone brings forward information, concerns, or ideas, it's natural to jump quickly to conclusions or solutions. But when people feel their perspective is being dismissed, rushed past, or superficially acknowledged, they often stop sharing important details.

Curiosity slows that process down. Instead of assuming we already understand, we stay open long enough to explore what the other person is actually trying to communicate.

This doesn't mean every perspective is correct, or that every conversation needs to happen immediately. It simply means approaching the moment with genuine interest in understanding what someone is seeing, experiencing, or thinking.

When people feel heard rather than judged, they're far more likely to share information that helps you and the whole crew make better decisions.

When someone raises a concern or idea, how do you usually explore it with them? What kinds of questions help you better understand where they're coming from?

Consider: Over time, what changes might you notice in your team's behaviour if curiosity became a consistent part of how you show up in conversations?

Empathy

Empathy is often mistaken for agreement. In practice, it's something much simpler and more useful: taking the time to understand what someone else is seeing, experiencing, or reacting to.

People interpret situations through their own vantage point. They may notice risks you haven't seen yet, feel pressure you're not aware of, or interpret events differently based on their role in the work.

Empathy helps leaders access that perspective. By pausing long enough to understand where someone is coming from, you gather information that might otherwise stay hidden.

Understanding someone's experience doesn't mean you have to agree with their conclusion. Decisions may still go in a different direction. But when people feel that their perspective was genuinely considered, they are far more likely to stay engaged and cooperative.

In that sense, empathy isn't about being soft. It's about seeing the full situation.

When someone brings you a concern, disagreement, or frustration, how do you usually respond first — by trying to solve the issue, or by trying to understand what they're experiencing?

Consider: Think about a recent situation where someone reacted strongly to something on the job — what might they have been seeing or feeling that wasn't immediately obvious to you?

Reflexive Listening

Reflexive listening takes a little practice at first, but once it becomes familiar it can quickly turn into one of the most effective communication habits a leader can develop.

At its core, reflexive listening helps ensure that what we think we heard is actually what the other person meant to communicate. It creates alignment, psychological safety and connection. It's also a powerful de-escalation tool.

In essence, reflexive listening shows that we are genuinely trying to understand, rather than simply waiting for our turn to respond.

The process is simple and can be broken into three steps:

1. Reflect what you heard Briefly summarize the person's point in your own words.

2. Use a qualifier Speak from curiosity rather than certainty. Phrases like "It sounds like...", "What I'm hearing is...", or "As I understand it..." signal that you are checking your understanding, not declaring it.

3. Invite clarification End your reflection with a question that allows the other person to confirm or correct your interpretation. Examples include: "Did I get that right?", "Am I missing anything?", or "Did I understand that correctly?"

When these steps are combined, the conversation might sound something like:

"Thanks for sharing this with me. It sounds like you felt unsafe around another crew member because of 'xyz'. Did I understand that correctly?"

Small moments like this can dramatically improve trust and clarity in communication.

What situations in your daily work might benefit most from slowing down and confirming understanding before moving toward a solution?

Consider: What opportunities will you have in the next few days to practice reflexive listening — and what signals might tell you that the other person feels better understood?

Interrupting

Most people interrupt without realizing it. It's not always impatience — sometimes it's enthusiasm, or the instinct to solve things quickly. But the impact is the same: the other person stops talking, and you stop learning.

There's a useful distinction between waiting to respond and actually listening. Waiting to respond means your attention has already shifted to what you're going to say next. Actually listening means staying with what the other person is communicating until they've finished.

The difference shows. People can feel when they're being heard versus managed.

In high-pressure environments, the instinct to cut in and direct is strong. But interrupting — even with good intentions — can signal that efficiency matters more than understanding. Over time, that signal shapes whether people bring you the full picture or just the parts they think you'll act on.

When you notice yourself starting to interrupt or redirect a conversation, what's usually driving it — and what might you be missing by moving on too quickly?

Consider: What would it look like to stay in the conversation a little longer before stepping in with a solution or direction?

Leadership Field Guide

Over the previous sections, you've explored how awareness, influence, communication, and emotional signals shape the way leaders respond to situations.

Engineering crew culture can sometimes feel abstract. In reality, there are concrete tools leaders can use to reliably and repeatedly shape a healthy, intentional culture on their team.

This final step is an opportunity to turn the ideas you've explored into a practical approach — designed by you, for you — that you can rely on during the workday.

Your leadership field guide doesn't need to be complicated. It's simply a set of habits and structures you can return to when leading meetings, solving problems, preventing issues, and working through difficult moments with your crew.

By the end of this section you will have a short leadership playbook you can return to when running meetings, solving problems, or guiding your crew through difficult situations.

Container Building

One powerful way to shape crew culture intentionally is through container building.

A container is a shared agreement about what the group is doing and how you want to work together while doing it. It creates alignment around the objective and gives everyone the opportunity to contribute to the conditions that will help the team succeed.

Containers can be useful at the start of a season, a new project, a weekly meeting, or any moment when alignment matters.

A simple container often includes three elements:

Objective What are we working toward? Why does this matter?

Group Agreements What behaviours or expectations will help us reach that objective?

Accountability What will we do if we drift away from those agreements?

When done well, containers encourage collaboration, alignment, and accountability. They create space for people to speak up about what they need in order to do their best work.

Reflection

- What situations in your work might benefit from creating a shared container?
- How might you invite your crew to contribute to the agreements that shape how you work together?
- What simple agreements could help your team stay aligned and productive?
- How will you revisit or reset those agreements if the group begins to drift?

Your approach

Capture 2–3 practices you want to use when establishing alignment with your crew.

Instructions and Plans

Modern leadership research shows that trust increases dramatically when people understand how decisions are made, even if they don't fully agree with them. When leaders explain their thinking and the reasoning behind a plan, it helps the crew see the bigger picture and align their efforts more effectively.

At the same time, communication isn't complete simply because instructions have been given. Communication is only complete when understanding has been confirmed.

Even clear instructions can be interpreted differently depending on someone's experience, role, or assumptions. Taking a moment to check understanding helps ensure everyone is working from the same plan and can move forward confidently.

When people understand both the objective and the reasoning behind a decision, they are far more capable of acting independently and solving problems without waiting for constant direction.

Reflection

- When explaining a plan or giving instructions, how will you confirm that everyone understands the same thing?
- What expectations or responsibilities need to be clarified so people can act confidently without waiting for permission?
- What habits could help you check assumptions or misunderstandings before work begins?
- How will you share your reasoning so the crew understands why the plan matters, not just what to do?

Your approach

Capture 2–3 practices you want to use when explaining plans or giving instructions.

Running Meetings

Meetings are one of the most direct tools leaders have for creating alignment and maintaining information flow. When they're clear and purposeful, meetings help crews understand the objective, surface important information early, and move forward with confidence.

Meetings need to be a two-way conversation, not a one-way flow of information. When leaders do most of the talking, the crew receives a briefing. When leaders create space for input, ideas, and reframes, the crew builds ownership over the plan.

The difference shows up in how people act after the meeting ends. A crew that was briefed waits for direction. A crew that was consulted moves with more confidence and catches problems earlier.

Structure helps make this happen. Without it, meetings default to whoever talks most — usually the leader. A few simple habits can shift that dynamic:

Open with the objective, not the agenda Start by naming what you're trying to accomplish together, not just what you're going to cover. This gives people a reason to engage rather than just listen.

Ask before you tell Before sharing your read on a situation, ask the crew what they're seeing. You'll often get information you didn't have, and people are more likely to support a plan they helped shape.

Name what you need from people If you want input, ask for it explicitly. "Does anyone see a problem with this?" rarely works. "What's one thing that could go wrong here?" works better.

Check understanding before closing End with a quick check — not "does everyone get it?" but "what's your first step when we leave here?" The answer tells you whether the plan actually landed.

The goal is to move from "we had a meeting" to "the meeting actually improved how we work together."

Think about how you want meetings to function on your crew. What will you do differently at your next crew meeting to ensure everyone understands the plan?

Reflection

- What does your team need from you for meetings to be clear, useful, and focused?
- What do you need from your team so meetings lead to better decisions rather than just updates?
- How will you create space for people to raise concerns, observations, or ideas before work begins?
- What habits will help you confirm that everyone understands the plan and the next steps before the meeting ends?
- What signals will tell you that a meeting has actually improved clarity and alignment for the crew?

Your approach

Capture 2–3 practices you want to use when running meetings with your crew.

Preventing Issues

High-performing crews don't succeed because they make fewer mistakes. They succeed because issues surface earlier, while they are still easy to correct.

Most preventable problems happen for one of two reasons:

- Someone noticed something but didn't speak up
- The process for raising or responding to an issue wasn't clear

Strong leaders reduce these risks in two ways: by making sure the right systems are in place, and by making it clear that speaking up is part of the job.

When people know how to raise concerns — and trust that those concerns will be taken seriously — small issues are far more likely to surface before they grow into larger problems.

Reflection

- How will you make it clear that raising concerns, mistakes, or uncertainties is expected on your crew?
- What signals from you might unintentionally make people hesitant to speak up?
- What existing systems — safety reporting, hazard assessments, incident reporting — should your crew clearly understand and feel comfortable using?
- What simple crew-level habits could help issues surface earlier?

Your approach

Capture 2–3 practices you want to use to help issues surface early and be addressed quickly.

Dispute Resolution

Disagreement and tension are inevitable when people work closely together under pressure. Differences in expectations, communication styles, or stress levels can create friction on any crew.

Strong leaders don't try to avoid these moments — they prepare for them.

When everyone understands how concerns should be raised and how disagreements will be handled, issues are far more likely to surface early and be resolved constructively.

A useful approach during conflict is to slow the situation down, acknowledge the issue clearly, and reconnect everyone with the shared objective. When people feel heard and the goal is clear, it becomes much easier to find a way forward.

Many disputes can be resolved by:

- **Naming the issue clearly** so everyone understands what the concern is
- **Reducing pressure** by acknowledging the situation without escalating it
- **Re-centering the objective** so the group remembers what you are trying to accomplish together
- **Exploring solutions or compromises** that help the work move forward
- **Confirming commitment** to the path forward

Handled well, conflict can actually strengthen trust and alignment within a crew.

Reflection

- Before issues arise, how will you make sure everyone knows how to raise a concern or address a disagreement on the crew?
- When tension or conflict appears, how will you slow the situation down and name the issue clearly?
- If a situation starts turning into blame or finger-pointing, how will you redirect the conversation toward understanding the problem and solving it?
- How will you make sure people feel heard while keeping the conversation focused on the work that needs to get done?
- What signals will tell you that the group has genuinely re-aligned and is ready to move forward?

Your approach

Capture 2–3 practices you want to use when addressing disagreement or conflict on your crew.

Dealing with Upset Conditions

Field work rarely goes exactly as planned. Weather, fatigue, equipment issues, or setbacks can quickly create frustration or low morale on a crew.

In these moments, leaders play an important role in helping the group stay steady and focused. Ignoring the discomfort usually increases tension, while acknowledging it can release some pressure and help the team reset.

A useful approach is to slow the moment down and guide the group through a few simple steps:

Name the issue Acknowledge the frustration, discomfort, or challenge openly. Take accountability where relevant.

Release some pressure Let people know their reaction makes sense and that the difficulty is being recognized.

Re-center the objective Remind the group what the team is trying to accomplish together.

Explore ways to improve the situation Look for adjustments that could make the work easier or more manageable.

Find commitment moving forward Agree on the next step and move forward together.

Handled well, these moments can actually strengthen trust and resilience on a crew. Use the questions below to think about how you want to respond when conditions become difficult.

Reflection

- When morale drops or frustration rises on your crew, how will you acknowledge the situation without letting it derail the work?
- How might you help release pressure while keeping the team focused on the objective?
- What kinds of adjustments, compromises, or small wins might help the group regain momentum?
- What signals will tell you that the team has reset and is ready to move forward?

Your approach

Capture 2–3 practices you want to use when guiding your crew through difficult conditions.

Skill Development

Leadership is not something we master all at once. It develops through attention, experimentation, and reflection over time.

As you've worked through the previous sections, you've explored a range of leadership capacities — from awareness and communication to influence, emotional signals, and culture building.

No one develops all of these skills at the same pace. What matters most is noticing where you're curious and interest naturally go. The areas that spark your attention are often the best places to begin experimenting and building skill.

Use the questions below to reflect on where you want to focus your development.

Reflection

- Of the leadership capacities explored in this guide, which ones are you naturally gravitating toward?
- Which ideas or approaches are you most curious to experiment with in your daily work?
- Where do you see the greatest opportunity to strengthen your leadership impact?
- What small experiments could you try in the coming weeks to develop those skills?

Your approach

Capture 2–3 leadership skills or practices you want to actively experiment with as you continue developing your leadership approach.

APPENDIX H – Crew Standards Kit

Cover Page

Crew Standards Kit

How crews work together—and what's expected day to day.

A crew that works well doesn't happen by accident. It's shaped by how people are brought in, what they're told upfront, how conflict gets handled, and whether everyone understands what's expected of them.

The Crew Standards Kit gives contractors the tools to define that culture deliberately — before misunderstandings turn into problems. It covers the respectful workplace statement that sets the tone for the season, the harassment prevention and reporting process workers need to know about, and the crew culture conversation that helps a team build shared expectations from day one.

It's designed to be used in the field, not in an office. The questions are plain, the process is fast, and the output is something a crew can actually use.

Table of Contents

1. Respectful Workplace Statement
    - What Respect Looks Like Here
    - What We're Already Doing Well
    - Where We Want to Go
    - Why It Matters
2. Indigenous Partnerships and Respect
    - Whose Territory We're On
    - Building Relationships
    - Indigenous Workers on Our Crews
    - Practices and Commitments
3. Diversity in Hiring
    - Who's in Our Communities
    - Who Tends to Apply
    - Who We've Worked With
    - Removing Barriers
    - Our Diversity Statement
4. Harassment Prevention and Reporting
    - How We Define Harassment
    - How to Report a Concern
    - Who to Go To
    - How We Handle It
5. Crew Culture Builder
    - How We Treat Each Other
    - Where the Line Is
    - Welcoming New Members
    - Our Commitment This Season

Respectful Workplace Statement

Crafting Your Respectful Workplace Statement - Section 1
A Respectful Workplace Statement is a short message that tells your crew, clients, and future hires what kind of workplace you're committed to creating. It's not just about legal compliance—it's about setting the tone.

Use this short module to create a statement that reflects what you value and what kind of culture you're trying to build. Don't worry about getting the words perfect—we'll help you shape it.

Crafting Your Respectful Workplace Statement - Section 2
Take a moment to think about great workplaces that you have seen and been a part of. Which qualities do you feel are present in workplaces that feel respectful? Examples: clear communication, people have each other's backs, zero tolerance for harassment or bullying, fair treatment for everyone, jokes don't cross the line, new crew feel welcome, conflicts get dealt with, everyone pulls their weight, you feel safe being yourself, etc.

Crafting Your Respectful Workplace Statement - Section 3
Your company has a culture that is uniquely yours. Take a moment to think about the qualities that make your company a great place to work. What are 2–3 things your crew or company already does to support respect or inclusion?

Tip: Think about small things too—like how you train new planters, how jokes get handled, or how you back your team when there's a problem.

Crafting Your Respectful Workplace Statement - Section 4
As your company culture evolves over the next few years, what would you love to see more of in your company culture? What kind of workplace are you trying to build long-term?

Tip: Imagine someone new joins your crew in a few years. What do you hope they'd say about working with you?

Crafting Your Respectful Workplace Statement - Section 5
When we have worked in this industry long enough, we've all seen crews fall apart because someone didn't feel safe, or good workers leave because of conflict or disrespect. In your own words—why does creating a respectful, inclusive workplace matter for your company's success?

Examples: it widens our hiring pool, helps retain workers season to season, builds a stronger team that can work through conflict, makes new hires feel welcome faster, improves safety and communication, we've had incidents in the past we don't want to repeat, etc.

Diversity in Hiring

Diversity in Hiring and Culture - Section 1
Forestry crews are often made up of people from all over Canada, each bringing different experiences, backgrounds, and perspectives. Canada's diversity is one of its strengths, and reflecting that diversity on your crew can lead to better problem-solving, stronger teamwork, and a richer camp culture.

In this module, we'll help you reflect on who tends to join your crews, who doesn't, and what you might do to broaden the tent and welcome more perspectives.

Diversity in Hiring and Culture - Section 2
When you consider your hiring experience over the past few years— who tends to apply for roles with your company?

Example: mostly men, mostly white workers, students/seasonal workers, experienced bush workers, people from big cities

Diversity in Hiring and Culture - Section 3
When you consider your operating experience over the past few years, have you worked with or hired any of the following:Indigenous workers, women, LGBTQ2S+ folks, new immigrants, racialized workers, and workers with disabilities?

Diversity in Hiring and Culture - Section 4
Some workers—like women, Indigenous crew members, LGBTQ2S+ folks, or newcomers—can face added barriers in forestry.

Based on what you've seen or experienced, what practices or ideas (big or small) could help underrepresented workers feel more welcome and supported?"

Need a little inspiration? Explore Forestry Together's Resource Library .

Diversity in Hiring and Culture - Section 5
Take a moment to reflect on what's working well in your company culture right now, and the type of diversity you'd like to see grow or evolve in your crews over the next few years. Write a short statement about your current crew culture and diversity goals. You can use this example structure to guide you:

At [Company Name], we work in communities with all kinds of people—[e.g., rural towns, Indigenous Nations, small cities]."

Right now, our crews are mostly made up of [e.g., young men, students, experienced planters], but we're starting to think more about who's missing.

We've worked with [e.g., Indigenous workers, women, queer folks, immigrants] in the past, and we want to make sure that anyone who can do the job feels safe joining our team.

That might mean changing how we [e.g., post jobs, train people, or support workers with different needs]—and we're open to that. Respect means making room.

This statement will be included in your editable Respectful Workplace printout for your team.

Diversity in Hiring and Culture - Section 6
Forestry crews bring together people from all over Canada—a country known for its mix of cultures, backgrounds, and perspectives.

When you think about the communities where you recruit or operate, **does your crew reflect that diversity of cultures, genders, and experiences?**If not, what might be getting in the way?

Indigenous Partnerships & Respect

Indigenous Partnerships & Respect - Section 1
Most planting in BC takes place on Indigenous land—whether we recognize it or not. Many crews travel through, camp on, or work near Indigenous communities.

Building respectful relationships isn't about checking a box. It starts with knowing whose territory you're in, being mindful of how your work affects local Nations, and creating a safe crew culture for Indigenous workers.

This section will help you reflect on what respectful engagement could look like in your operation—starting from where you are, not where you think you should be.Your responses will be included in your editable Respectful Workplace printout for your team.

Indigenous Partnerships & Respect - Section 2
What Indigenous Nation(s) and territories are your worksites or crews closest to? If you're unsure, you can begin by identifying the traditional territory where your operations take place through the links below:

- British Columbia Assembly of First Nations
- Government of BC First Nations A–Z Listing

Indigenous Partnerships & Respect - Section 3
Have you established contact with any local Indigenous Nation(s) about your operations, contracts, or hiring opportunities?If yes, what steps or practices have you implemented to build and maintain these relationships? If no, do you have plans or strategies to initiate this in the future?

Indigenous Partnerships & Respect - Section 4
Are Indigenous crew members part of your current workforce or operations?If not, do you have plans to include them in the future?

Indigenous Partnerships & Respect - Section 5
Think about the steps you have taken—or seen others take—to make Indigenous crew members and communities feel supported and respected, both in day-to-day operations and camp culture. Based on your knowledge of the local Indigenous territories where you operate, please describe:

- Any practices you currently implement to show respect and build trust with the specific Indigenous communities you work with.

- Ideas or actions you could implement to improve support in the coming seasons (e.g., cultural awareness training, local partnerships, recognition of traditions).
- How you might adapt your camp culture or daily operations to better reflect these values.

Harassment Prevention and Reporting

Safe Crews: Harassment Prevention & Response - Section 1
Harassment and bullying aren't just about legal risk—they're about crew safety, trust, and team performance.

If people don't feel safe to speak up, the whole crew suffers. This module will help you write down—in your own words—how your company handles disrespectful or abusive behaviour. Remember that this doesn't have to be perfect. It's okay for these policies and procedures to be a work in progress (something is always better than nothing).

Some of these answers will be included in your Respectful Workplace printout for your team.

Safe Crews: Harassment Prevention & Response - Section 2
Consider what harassment means in the context of the work that your company does. How does your company define harassment?

Need some guidance? Check out the BC Government's definitions for reference. Examples might include: offensive jokes, threats, unwanted physical contact, intimidation, bullying, discrimination based on identity, etc.

Safe Crews: Harassment Prevention - Section 3
If an incident is reported within your company, what should an employee expect at the start of the process? Consider how a crew member would initially reach out for support (e.g., a confidential phone call, private form, designated leader, or external support) and how they will know their concern has been received.

Need some guidance? Check out WorksafeBC's Bullying & Harassment Guide

Safe Crews: Harassment Prevention & Response - Section 4
When it comes to harassment complaints, it's important that workers know who they can trust to listen and respond. Who on your leadership team is the best point of contact?Consider someone approachable, fair, and equipped to handle sensitive situations.

Include their name, role, and contact details.

Safe Crews: Harassment Prevention & Response - Section 5

The complainant plays an active role in upholding confidentiality and professionalism during the complaint process—starting from the moment an incident occurs.

When someone brings forward a harassment complaint, what standards of conduct and responsibilities does your company expect from them?Consider confidentiality, communication, and conduct during the investigation.

For example: you might include guidelines like avoiding spreading rumours, keeping details within the appropriate reporting channels, and cooperating with any interviews or fact-finding steps.

Safe Crews: Harassment Prevention & Response - Section 6
The respondent (the person accused of harassment) also has a responsibility to uphold professionalism and fairness throughout the complaint process. What expectations will your company set for the respondent during the process?

Consider how they should maintain professionalism while the matter is being reviewed, steps they should take to avoid retaliation or intimidation, and how they will be expected to cooperate with the investigation.

Safe Crews: Harassment Prevention & Response - Section 7
The company is responsible for ensuring that the complaint process is handled fairly, confidentially, and without bias. What standards will your company commit to while handling harassment complaints?

Consider how confidentiality will be maintained, steps will you take to ensure fairness to all parties, and how to prevent further exposure or escalation.

Safe Crews: Harassment Prevention & Response - Section 8
Once a report is received by your leadership team—what are the steps taken to handle it internally?

Consider who is involved in the review process, what steps will need to be included in the review process, and what a reasonable response timeframe will be.

Need some guidance? Check out WorksafeBC's Bullying & Investigation Guide

Crew Culture Builder

Crew-Culture Agreement Builder - Section 1
Every crew has its own culture—and the best ones build it together.

This collaborative agreement exercise is a chance for crew leads and crew members to name what respect looks like on your team. It's not about rules from above, it's about setting expectations that everyone agrees to.

Fill this out together at the start of the season (think tail-gate exercise). Post it in camp. Revisit it if things get off track. A respectful crew doesn't just happen—it's built, by all of you.

Some of these answers will be included in your Respectful Workplace printout for your team.

Crew-Culture Agreement Builder - Section 2
The collaborative Crew Agreement is a guided exercise that will walk your crew through a conversation on what respect looks and feels like in your company. It's a simple and powerful way to inspire a productive and positive culture.

The group conversation will take 30-45 minutes to complete. When and how will you complete this agreement with your crew?

Examples: add-on to a season kick-off tailgate meeting, campfire activity, small group workshop.

Crew-Culture Agreement Builder - Section 3
When you run your crew through this exercise, you'll want to capture the answers and make them shareable.

Who will you delegate to transcribe what's said? How will they take notes? When and how will you transform those notes into a shareable printed or digital copy for your crews?

Example: 'The Crew Boss will take notes, type them up and email them to all of our crew members. They will also print out a copy to post at camp.'

Crew-Culture Agreement Builder - Section 4
What message do you want to give your crew about why this agreement matters?

Example: 'This agreement is about making sure everyone on the crew knows what to expect from each other. We work better, safer, and with less stress when we're on the same page about how we communicate and treat one another.'

Crew-Culture Agreement Builder - Section 5
Before jumping into this collaborative agreement-building process with your crew, it's important to lay down some quick ground rules on how your crew will join the conversation.
Would you like to add any 'ground rules' in addition to the Compass Template listed below?

- Listen without interrupting
- Assume people mean well
- Speak from your own experience
- Don't name names from past seasons
- Keep it real, but respectful

Crew-Culture Agreement Builder - Section 6
This crew agreement template is a solid starting point, but you might want to add your own conversation points as well. Please review the Compass Template below, and you'll have a chance to contribute your own prompts next.

Defining Respect
- What does a respectful crew look like to you?
- How do we want to treat each other in camp, in the van, and on the block?
- What kinds of jokes or comments cross the line?
- What makes a new crew member feel welcome—or not?

Taking Action
- How do we handle it if someone's being disrespected or made uncomfortable?
- What steps should the crew agree on?
- What would make people feel safe speaking up?
- If you had a problem with someone, how would you want it to be dealt with?

Accountability
- How do we hold each other to this agreement if someone's not upholding it?
- What do we do if someone crosses a line or causes harm?
- Who can people go to if there's a problem?

Collaborative Culture

- What's one thing each person can do to help build a solid crew culture this season?

Crew-Culture Agreement Builder - Section 7
Our company builds crew culture collaboratively, meaning that it's important to us that our culture is responsive, adaptive and that each team member is a steward of our shared culture.

Our crew will gather to discuss and share what would make this season feel respectful and aligned—and I need a list of group prompt questions that are worded in a way that will facilitate a casual and approachable group discussion. Write out a bullet point list based on my desired questions.

APPENDIX I – User Dashboard for the Crew Standards Kit (UX Example)

THE COMPASS PROGRAM

CREW STANDARDS KIT

Crew Standards Kit
How crews work together—and what's expected day to day.

This toolkit helps you clearly define how people relate to the company, to each other, and to the land—before misunderstandings turn into issues.

LEADERSHIP STANDARDS KIT

Leadership Standards Kit
How supervisors and leads handle people, pressure, and conflict.

This toolkit supports the people who set the tone on the ground—often without formal leadership training, but with real responsibility.

EMPLOYERS STANDARDS KIT

Employer Standards Kit
How the company meets its obligations—and shows it clearly.

This toolkit helps employers translate legal and regulatory expectations into clear, realistic policies people can understand and follow.

Purpose-built tools for companies juggling crews, compliance, and incident risk without drowning in paperwork.

Canada
British Columbia

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

How it Works

The Compass Program is delivered through a portal hosted on cachelife.ca, where contractors can sign up to access the Respectful Workplace tools.

Each kit is designed as an alternative to traditional training modules. Rather than delivering content for users to absorb and apply later, the program uses guided questions to help leaders think through their own operations — surfacing knowledge they already have and translating it into practical policies and standards that reflect how their company actually works.

The language is plain, the questions are grounded in real field experience, and the process is designed to meet each company where they are.

Examples Attached

The following screen captures illustrate the UX design of the dashboard and the tool interface—which applies to all modules.

Canada
British Columbia
Funding provided through the Canada-British Columbia Labour Market Development Agreement.

UX EXAMPLE

User Dashboard for the Crew Standards Kit

UX EXAMPLE
Q+A Prompts for the Workplace Conduct Policy Module

Crafting Your Respectful Workplace Statement

A Respectful Workplace Statement is a short message that tells your crew, clients, and future hires what kind of workplace you're committed to creating. It's not just about legal compliance—it's about setting the tone.

Use this short module to create a statement that reflects what you value and what kind of culture you're trying to build. *Don't worry about getting the words perfect —we'll help you shape it.*

Start

Module 1 of 5

UX EXAMPLE
Q+A Prompts for the Workplace Conduct Policy Module

Crafting Your Respectful Workplace Statement

Take a moment to think about great workplaces that you have seen and been a part of. **Which qualities do you feel are present in workplaces that feel respectful?**

Examples: clear communication, people have each other's backs, zero tolerance for harassment or bullying, fair treatment for everyone, jokes don't cross the line, new crew feel welcome, conflicts get dealt with, everyone pulls their weight, you feel safe being yourself, etc.

< Previous Next >

1 of 4 Steps Complete

UX EXAMPLE
Q+A Prompts for the Workplace Conduct Policy Module

Crafting Your Respectful Workplace Statement

Your company has a culture that is uniquely yours. Take a moment to think about the qualities that make your company a great place to work. **What are 2–3 things your crew or company already does to support respect or inclusion?**

Tip: Think about small things too—like how you train new planters, how jokes get handled, or how you back your team when there's a problem.

< Previous | Next >

2 of 4 Steps Complete

UX EXAMPLE
Q+A Prompts for the Workplace Conduct Policy Module

Crafting Your Respectful Workplace Statement

As your company culture evolves over the next few years, what would you love to see more of in your company culture? **What kind of workplace are you trying to build long-term?**

Tip: Imagine someone new joins your crew in a few years. What do you hope they'd say about working with you?

< Previous Next >

3 of 4 Steps Complete

UX EXAMPLE
Q+A Prompts for the Workplace Conduct Policy Module

Crafting Your Respectful Workplace Statement

When we have worked in this industry long enough, we've all seen crews fall apart because someone didn't feel safe, or good workers leave because of conflict or disrespect. **In your own words—why does creating a respectful, inclusive workplace matter for your company's success?**

Examples: it widens our hiring pool, helps retain workers season to season, builds a stronger team that can work through conflict, makes new hires feel welcome faster, improves safety and communication, we've had incidents in the past we don't want to repeat, etc.

< Previous | Submit

4 of 4 Steps Complete

APPENDIX J – Role Directory (UX Example)

Role directory Website Capture

Footer in All Pages

THE Cache

© WFCA 2025

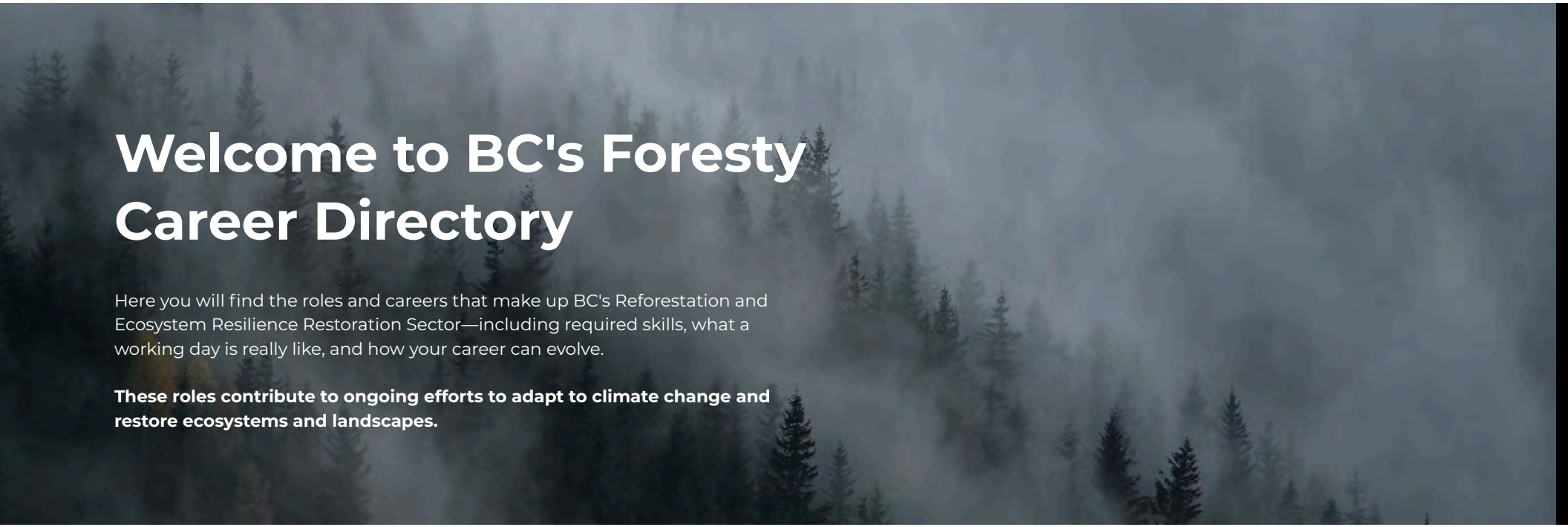
Members of the Cache project team are grateful to live, work, and be in relationship with people from across many traditional and unceded territories, covering all parts of the land known as British Columbia, Canada. We thoughtfully offer this acknowledgement recognizing that reconciliation with Indigenous Peoples' is a commitment we all share as Canadians. We are grateful to live on this land and are committed to reconciliation, decolonization, and building relationships in our communities and workplaces. Land acknowledgements are one small step towards reconciling the relationships between settlers and Indigenous Peoples, in Canada. Reconciliation is a current and ongoing process. Being mindful of our participation is another step on the path of healing. Learn more about land acknowledgements and moving beyond them here: https://native-land.ca/resources/territory-acknowledgement/

Canada

BRITISH COLUMBIA

This program is funded by the Government of Canada
and the Province of British Columbia.

Role Directory Library & Filter Page



Welcome to BC's Foresty Career Directory

Here you will find the roles and careers that make up BC's Reforestation and Ecosystem Resilience Restoration Sector—including required skills, what a working day is really like, and how your career can evolve.

These roles contribute to ongoing efforts to adapt to climate change and restore ecosystems and landscapes.

Apply Filters

Seasonality

Spring-Fall | Spring–Fall | Year-round | Summer | Spring–Summer | Fall

Experience Level

Select one

Category

Resource Development Restoration | Recovery | Preparation | Emergency Response | Hazard Reduction

Physical Demand

All | Moderate | Moderate High | High

Filter | Reset

41 listings

Junior Archaeological Assessment Technician

Support archaeological field assessments that shape how land is managed across BC, conducting careful survey and documentation in natural and cultural landscapes with real heritage significance.

Learn More >

Brushing Spacing Wildfire Fuels Crew Leader

Run a skilled field crew through vegetation management work, directing production and quality across treatments that reduce wildfire risk and improve forest health across BC.

Learn More >

Native Seed Laboratory Technician

Source the plant material that feeds BC's native plant nurseries, collecting seed and cuttings from the right populations at the right time across diverse and ecologically significant landscapes.

Learn More >

Emergency Flood Response Crew Leader

Lead field teams through active flood response, coordinating people, managing materials, and making fast decisions that protect communities and infrastructure when it counts most.

Learn More >

Native Plant/Restoration Project Manager

Deliver ecological restoration projects from planning through installation, coordinating nurseries, contractors, and field crews to restore native plant communities across BC's landscapes.

Learn More >

Senior Forest Technician

Conduct complex stand assessments like site evaluations, silviculture surveys, and monitoring work with real independence, bringing technical precision and professional judgment to every site.

Learn More >

Wildland Firefighter (Type 1 Crew)

Fight wildfire on the front lines as part of a tight, highly trained crew, building hand guard lines, managing hose lays, and protecting ecosystems and communities across BC.

Learn More >

Brushing, spacing, wildfire fuels worker

Shape the future forest by clearing competing vegetation and reducing wildfire fuel loads, working in cutblocks and stands where the treatments you complete improve forest health for decades.

Learn More >

Commercial Thinning Harvester Operator

Operate advanced harvesting equipment through juvenile forest stands, making continuous species and spacing decisions that improve stand structure, resilience, and long-term timber value.

Learn More >

Senior Archaeological Assessment Technician

Lead field archaeological assessments in forest and resource management contexts, designing surveys, making significance calls, supervising staff, and producing records that shape land-use decisions.

Learn More >

Conifer Seedling Nursery Worker

Tend the seedlings that supply BC's reforestation programs, doing precise, plant-focused production work in a controlled nursery environment where attention to detail directly affects forest outcomes.

Learn More >

Native Plant Restoration Planner/Forecaster

Shape ecological restoration by translating species science and site goals into production forecasts, procurement plans, and planting programs that put the right plants in the right places.

Learn More >

Wildfire Structural Protection Crew Leader

Lead teams protecting homes and infrastructure from active wildfire, coordinating rapid deployments, directing technical setup, and keeping crews effective in one of the most dynamic roles in fire.

Learn More >

Wetland Restoration / Bio Engineering Crew Leader

Lead a crew through technically demanding ecological construction in wetland and riparian environments, directing structure installation where the ecological and regulatory stakes are high.

Learn More >

Indigenous Relations Manager

Build and maintain relationships between a forest or restoration organization and the Indigenous communities whose territories it operates in. Substantive, respected, and increasingly essential work.

Learn More >

Tree Runner/Onsite Seedling Stock Distribution Operator

Keep planting operations running at full speed by delivering seedlings directly to crews in the field, playing a key logistical role in some of BC's largest reforestation contracts.

Learn More >

Native Plant Installation Worker

Restore degraded landscapes by planting native species across riparian areas, hillsides, and meadows, doing hands-on work with visible results that will regenerate ecosystems for decades.

Learn More >

Conifer Seedling Nursery Grower

Grow the seedlings that reforest BC, managing full crop cycles and making daily decisions on irrigation, nutrition, and crop health for stock that ends up in the ground province-wide.

Learn More >

Wildland Firefighter Crew Leader

Lead a crew on the fire line, directing operations, maintaining safety, and being the decisive link between ground conditions and incident command during active fire suppression.

Learn More >

Emergency Flood Response Worker

Protect communities and infrastructure on the front lines of active flood events, building berms, installing barriers, and deploying mitigation measures where the work genuinely matters.

Learn More >

Silviculture Regeneration Surveyor

Assess reforested areas against legal and ecological standards, collecting the field data that determines whether stands are succeeding and drives management decisions across BC's working forest.

Learn More >

Invasive Plant Management Technician

Protect native ecosystems by identifying, surveying, and treating invasive plant populations, combining botanical knowledge with methodical field survey and treatment across diverse habitat types.

Learn More >

Project Forester

Plan and oversee silviculture and forest management work from prescription through field delivery, bridging ecology and operations as the professional accountable for getting it right.

Learn More >

Danger Tree Faller

Provide critical safety support in forestry, wildfire, and restoration operations by assessing and felling hazard trees, bringing advanced certification and field judgment to every site.

Learn More >

Native Seed and Plant Collector

Process and prepare native seed collections that supply nurseries and restoration programs, running viability tests and maintaining the records that ecological restoration depends on.

Learn More >

Junior Forest Technician

Build a professional forestry career from the ground up, collecting the field data that informs forest management through plot surveys, stocking assessments, and stand evaluations across BC.

Learn More >

Tree Planting Project Manager

Own the full delivery of large-scale planting contracts, managing crews, logistics, client relationships, and compliance across multiple sites from pre-season planning through final reporting.

Learn More >

Prescribed / Cultural Burn Crew Leader

Lead a crew through live burn operations, deploying people to ignition and holding positions and coordinating with the burn boss to deliver burns that restore ecosystems and shape landscapes.

Learn More >

Camp cook

Run a remote field camp that keeps crews operational, managing accommodation, logistics, supplies, and safety in environments where your organizational skill directly supports the mission.

Learn More >

Native Plant Nursery Worker

Propagate and care for the native plants going into ecological restoration projects across BC, doing hands-on horticultural work where quality directly shapes restoration outcomes in the field.

Learn More >

Prescribed Burn Boss

Take charge of controlled burns from plan to completion, making go/no-go calls, directing crews, and managing fire behavior in real time to

Native Plant Nursery Grower/Manager

Manage the production quality and daily operation of a native plant nursery, making growing

Bulldozer Wildfire Line Locator

Work at the cutting edge of wildfire suppression, scouting terrain, reading fire behavior, and directing heavy equipment to build control

Tree Planter

Reforest landscapes across BC, planting thousands of seedlings a day in spectacular backcountry terrain, building real physical capacity and contributing to forests that will stand for generations.

Wildfire Structural Protection Crew Person

achieve ecological and fuel management goals.

Learn More >

decisions for an ecologically specific plant list and delivering stock that meets restoration standards.

Learn More >

lines that protect people and landscapes

Learn More >

Learn More >

Deploy to protect homes and infrastructure from active wildfire, installing sprinkler systems, clearing vegetation, and setting up water supply in fast-moving, high-stakes field conditions.

Learn More >

Prescribed/Cultural Burn Crew Workers

Work on the ground during controlled burns, igniting, holding, and extinguishing fire as part of a skilled crew doing ecologically important work that restores fire-adapted landscapes across BC.

Learn More >

Conifer Cone Picker / Climber

Climb into the forest canopy to harvest seed cones that supply BC's reforestation pipeline, contributing directly to the province's seed supply in a skilled, specialized role few people ever do.

Learn More >

Conifer Seedling Nursery Facility Manager

Run a full-scale nursery operation across production, people, infrastructure, and client relationships, overseeing the facility that supplies seedlings to reforestation projects across the province.

Learn More >

Bio-engineering Crew Worker

Build landscape-stabilizing structures like log cribs, live stakes, rock weirs, and bank reinforcements, doing skilled ecological construction that protects slopes and restores waterways.

Learn More >

Camp Manager

Feed and fuel field crews in remote camp settings, running a high-volume kitchen where your consistency and craft directly support the people doing critical work in the field every day.

Learn More >

Tree Planting Crew Leader

Lead a high-performing planting crew in the field, driving production, maintaining quality, and developing the people doing some of the most physically impressive work in BC's forest sector.

Learn More >

Role Directory Full Page Layout UX Example

Junior Archaeological Assessment Technician

Recovery

A Junior Archaeological Assessment Technician supports field assessments that determine whether planned forest or restoration activities might affect heritage resources. You're doing shovel testing, surface survey, and basic documentation in the field under the supervision of a professional archaeologist. It's careful, methodical work in natural and cultural landscapes — and it matters, because what you find (or don't find) shapes what happens to the land.

Entry-level

Experience Level

Spring-Fall

Seasonality

Moderate

Physical Demands

People drawn to this work tend to be genuinely curious about what the landscape holds — the material record of human presence across millennia. Even in jurisdictions where negative results are the norm, there's a quality of attention the work requires that many find deeply engaging. You're learning to read the ground in a way that has both ecological and cultural dimensions. The field settings are often beautiful. The purpose is real.

A DAY IN THE LIFE

A field day is structured by the assessment design — a transect, a grid of shovel tests, a surface survey of a specific area. You're moving systematically through terrain, opening tests, reading the profile, recording what you see. The work is careful and repetitive, but every site is a little different. When something comes up — a stain in the soil, a flake — the day changes. Documentation is rigorous throughout.

WORKING CONDITIONS

Forest terrain in spring through fall conditions — varied by region, project, and season. The physical demands are moderate and manageable. The conditions are often beautiful, and the work has an intellectual quality that makes field days engaging even when results are routine.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with field assessment season and project timelines. Winter and off-season work may include report preparation or data processing.

REQUIRED EDUCATION & TRAINING

REQUIRED SOFT SKILLS

- Methodical documentation and observation discipline
- Attention to sediment, stratigraphy, and spatial context
- Physical endurance across day-long systematic survey work
- Professional care for heritage material and cultural sensitivity
- Communication with supervising archaeologist

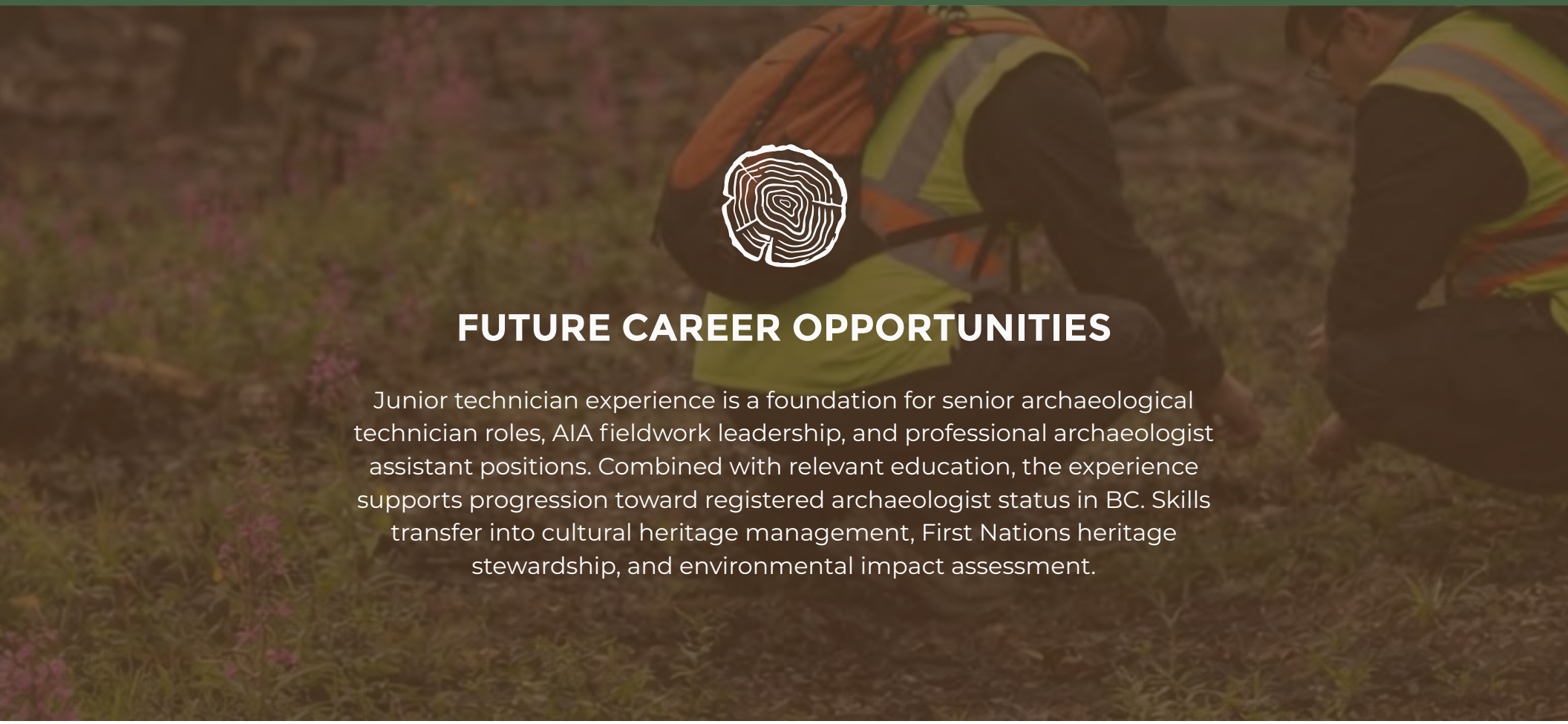
REQUIRED HARD SKILLS

- Post-secondary education or training in archaeology, anthropology, or a related field is typically preferred
- On-the-job training in shovel test protocols and documentation is typically provided
- Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required
- WHMIS certification is typically required

ON THE JOB LEARNING

- Archaeological shovel test and survey technique
- Sediment stratigraphy and subsurface reading
- Heritage resource documentation and field recording
- Systematic survey methodology and spatial awareness
- Cultural sensitivity and heritage protection practice

- Valid driver's licence is commonly required
- Knowledge of BC First Nations cultural heritage and consultation context is an asset



FUTURE CAREER OPPORTUNITIES

Junior technician experience is a foundation for senior archaeological technician roles, AIA fieldwork leadership, and professional archaeologist assistant positions. Combined with relevant education, the experience supports progression toward registered archaeologist status in BC. Skills transfer into cultural heritage management, First Nations heritage stewardship, and environmental impact assessment.

THE Cache

© WFCA 2025

Members of the Cache project team are grateful to live, work, and be in relationship with people from across many traditional and unceded territories, covering all parts of the land known as British Columbia, Canada. We thoughtfully offer this acknowledgement recognizing that reconciliation with Indigenous Peoples' is a commitment we all share as Canadians. We are grateful to live on this land and are committed to reconciliation, decolonization, and building relationships in our communities and workplaces. Land acknowledgements are one small step towards reconciling the relationships between settlers and Indigenous Peoples, in Canada. Reconciliation is a current and ongoing process. Being mindful of our participation is another step on the path of healing. Learn more about land acknowledgements and moving beyond them here: https://native-land.ca/resources/territory-acknowledgement/

This program is funded by the Government of Canada
and the Province of British Columbia.

APPENDIX K – Career Directory Role Descriptions

Native Plant Restoration Planner/Forecaster

Advanced

As a restoration planner, you develop the species selection, production forecasts, and planting plans that guide ecological restoration projects — from site analysis through procurement and implementation planning.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Low**

> *This role suits people who are equally comfortable in a plant community and at a computer — who want to apply ecological knowledge practically rather than purely in research. You're solving real logistical problems with ecological variables: which species, from which seed zone, in what quantities, for which window. Getting that right means restoration projects succeed. Getting it wrong means they don't. The stakes are real and the intellectual challenge is genuine.*

A DAY IN THE LIFE

A typical day involves some combination of research, analysis, and coordination. You might spend the morning reviewing reference ecosystem data and refining a species mix for a new project, and the afternoon in a call with a nursery to work through procurement timelines. Occasionally you're in the field doing site assessments. The planning work is continuous and multi-project, and the botanical knowledge you bring to it is what makes the plans worth following.

WORKING CONDITIONS

Primarily office-based with regular field excursions for site assessment. The role is intellectually demanding rather than physically demanding. Year-round work with planning intensity tied to project cycles. The field visits are a meaningful part of staying connected to the ecological realities that the desk work is meant to serve.

CYCLICAL NATURE OF ROLE

Year-round with planning cycles tied to project timelines and seasonal restoration windows. Procurement planning typically extends one to three years ahead of installation.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Analytical thinking and ecological problem-solving
- Multi-project coordination and planning discipline

Required Hard Skills

- Post-secondary education in ecology, botany, restoration science, forestry, or a related field is typically required

On the Job Learning

- Applied restoration ecology and species selection methodology
- Native plant community

• Written communication for plans and technical documentation • Collaborative relationship with nurseries, contractors, and clients • Attention to detail in species selection and production forecasting	• Applied knowledge of BC native plant communities and ecosystems is required • Experience in restoration planning, ecological consulting, or related roles is typically preferred • Valid driver's licence is required Familiarity with BEC (Biogeoclimatic Ecosystem Classification) system is typically expected • GIS and mapping software experience is an asset	assessment and reference ecosystem analysis • Production forecasting and nursery procurement planning • Multi-project planning and documentation • Cross-disciplinary collaboration across ecology, contracting, and client management

FUTURE CAREER OPPORTUNITIES

Restoration planning experience is a pathway into senior ecological consulting, restoration program management, and environmental stewardship roles within government, First Nations organizations, and the private sector. Skills transfer into habitat planning, biodiversity assessment, and environmental impact review. Some planners develop into policy advisory or academic roles.

Senior Forest Technician

Advanced

As a senior forest technician, you independently conduct complex field assessments — evaluating stands, completing surveys, and producing technical reports that directly inform forest management decisions.

Experience Level	Seasonality	Physical Demands
Advanced	**Spring–Fall**	**Moderate**

> *Senior techs tend to be people who are deeply competent in the field and find genuine satisfaction in that competence. The work requires you to hold a lot of technical knowledge and apply it independently under variable conditions. You're making professional assessments that carry weight. For people who have built their forestry career from the ground up, this role reflects that investment in a way that is very directly legible.*

A DAY IN THE LIFE

You head out with a clear assessment objective and the knowledge to execute it independently. Whether you're doing a regeneration survey, a stand evaluation, or a site-specific assessment, the work is technically demanding and self-directed. You're reading the forest, making calls, and producing data that will matter. At the end of the day, you're writing up what you found in a form that can be acted on.

WORKING CONDITIONS

Field-based across varied forest terrain — the same as junior roles but with greater independence and more complex assessments. You're responsible for the quality of your work in a way that requires both technical depth and professional discipline. Spring through fall is typical with some variation by role and employer.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with fieldwork season. Some roles extend depending on project scope and employer needs.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Independent professional judgment and field decision-making
- Precision and accountability for data accuracy
- Technical report writing and

Required Hard Skills

- Significant field experience in forest surveying and technical assessment is required
- Post-secondary training or diploma in forestry or natural resource technology is

On the Job Learning

- Advanced forest stand assessment and evaluation technique
- Independent field judgment and professional accountability

communication • Ability to supervise and mentor junior technicians • Ecological curiosity and ongoing self-development	typically required • Progress toward or completion of RFT (Registered Forest Technologist) designation is an asset • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • Valid driver's licence is required Advanced • GPS, data collection, and GIS skills are typically expected	• Technical reporting and data quality management • Silviculture survey and regeneration assessment expertise • Ecological site characterization and stand dynamics knowledge

FUTURE CAREER OPPORTUNITIES

Senior technician experience is a foundation for RFT designation, professional forestry consulting, forest operations supervision, and senior roles in inventory, monitoring, and stewardship. Some technicians develop into project foresters, timber cruise leads, or ecological assessment specialists. The technical credibility built in this role is broadly respected across the sector.

Conifer Cone Picker / Climber

Experienced

As a cone picker, you climb conifer trees during the fall seed harvest window to collect cones by hand — working at height using rope systems or ladders and contributing directly to BC's reforestation seed supply.

Experience Level	Seasonality	Physical Demands
Experienced	**Fall**	**High**

> *There's a novelty to this work that draws people in, and a skill to it that keeps them. Climbing to harvest cones from a stand of trees in full fall colour, with a focused crew and a clear purpose, is a genuinely distinctive work experience. The season is short, which creates intensity. The seed you collect will become seedlings that become forests. That chain is long but it's real, and workers who think about it tend to find it meaningful.*

A DAY IN THE LIFE

The day is determined by the trees — which stands are ready, which species are prime, where the cone crop is concentrated. You gear up, get to the site, and start the climb. Once you're in the canopy, the work is focused and methodical: move through the crown, strip the cones, keep the bag manageable, come down. Repeat across the stand. By end of day the collection is tallied and bagged out. The window is short and the pace reflects that.

WORKING CONDITIONS

You're in the forest, working at height, in fall conditions. Temperature and weather variability are real factors. The work is focused and technical, and the environment — canopy-level in a mature conifer stand — is genuinely extraordinary. Safety discipline is non-negotiable, which is part of what makes good pickers valued.

CYCLICAL NATURE OF ROLE

Highly seasonal — typically a fall-only role of four to eight weeks timed with cone maturity. Some workers combine this role with other seasonal silviculture positions across the year.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Composure and focus at height • Attention to safety protocol compliance	• No formal education is required • Climbing technique training is typically provided by the	• Rope-based tree climbing and canopy access technique • Fall protection and height

• Physical resilience and endurance across demanding climbing shifts • Adaptability to changing site conditions and tree access challenges • Basic communication with ground crew and supervisors	employer • Comfort with heights is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Fall protection and working-at-height training is required • Valid driver's licence is an asset	safety management • Seed cone identification and harvest quality assessment • Physical conditioning for climbing demands • Focused, precision work in dynamic environmental conditions

FUTURE CAREER OPPORTUNITIES

Cone picking experience contributes to a broader silviculture skill set and demonstrates height comfort and field discipline valued across the sector. Some workers move into climbing arborist roles, seed orchard work, or broader silviculture contracting. The seasonal intensity and specialized nature of the work tends to attract workers building varied field portfolios.

Prescribed / Cultural Burn Crew Leader

Advanced

As a burn crew leader, you direct your crew during prescribed and cultural burn operations — deploying people to ignition and holding positions, monitoring safety, and keeping the burn boss informed in real time.

Experience Level	Seasonality	Physical Demands
Advanced	**Spring–Fall**	**High**

> *Leading a burn crew is for people who have worked in fire and want more responsibility within it. You're not just executing — you're directing, watching, and making the calls that keep your crew safe and the operation running. The combination of technical fire knowledge and leadership under pressure is what makes this role a step up, and why people who are ready for it find it genuinely engaging.*

A DAY IN THE LIFE

A burn day under your leadership starts with the briefing — you're absorbing the burn boss's plan and translating it for your crew. Once you're in it, you're deploying people, checking in continuously, watching the fire and watching your crew simultaneously. Communication with the burn boss is constant. When conditions shift, you adjust. You don't relax until mop-up is complete and the crew is out clean.

WORKING CONDITIONS

Same fire environment as the crew — smoke, heat, terrain — with the added responsibility of making sure everyone performs and stays safe. Prescribed burns are highly structured but not fully predictable. Leading well in that environment is a real accomplishment.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with burn windows and weather conditions. Timing is weather and fuel condition dependent.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Leadership under fire conditions
- Clear and fast communication with burn boss and crew
- Crew safety accountability and situational awareness

Required Hard Skills

- Significant experience in fire operations, forestry, or related fieldwork is required
- S-100, S-185, and S-130 or equivalent certifications are typically required
- S-200 Crew Leader or equivalent certification is

On the Job Learning

- Prescribed burn crew direction and safety oversight
- Fire behavior monitoring and operational adaptation
- ICS communication and chain-of-command

• Composure and decision-making under dynamic conditions • Ability to adapt crew deployment rapidly to fire behavior changes	commonly required • ICS-200 or equivalent is typically required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • WHMIS certification is required Valid driver's licence is required	coordination • Leadership accountability in high-consequence environments • Mop-up and fire extinguishment crew management

FUTURE CAREER OPPORTUNITIES

Crew leader experience in prescribed burning is a direct pathway to burn boss certification, fire operations management, and fuels planning roles. Skills transfer into wildland fire management, cultural fire stewardship, and ecological restoration program leadership. Some crew leaders develop into training and certification roles within fire organizations.

Native Plant Installation Worker

Entry-level

As a native plant installation worker, you plant and establish native species on restoration sites — doing the hands-on ground work that turns restoration plans into functioning plant communities.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *People drawn to native plant installation tend to care about landscapes and want to work in them purposefully. It's satisfying work — you're putting plants in the ground that belong there, in places that have been degraded, and you can see the difference you're making. The ecological knowledge you develop on the job — learning to read a site, to know which plants are supposed to be where — is genuinely interesting and accumulates over time.*

A DAY IN THE LIFE

The day starts at the site — understanding the plan, getting oriented to what's going in where. Then it's the physical work: prepping the ground, placing plants according to the prescription, mulching, staking where needed. The species mix keeps it interesting. You're learning the landscape as you plant it. By the end of the day, a section of ground looks entirely different from how it started.

WORKING CONDITIONS

Restoration sites vary significantly — riparian, upland, urban edge, industrial reclamation. You're outdoors in spring and fall conditions predominantly, doing physical work in environments that are actively being restored. The work is purpose-driven and the results accumulate.

CYCLICAL NATURE OF ROLE

Spring and fall planting windows are primary deployment periods. Some maintenance and monitoring work extends through the growing season.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Attention to planting quality and prescription compliance
- Physical stamina across sustained outdoor work
- Ability to follow restoration plans and direction from crew leaders

Required Hard Skills

- No formal education is required
- Experience with outdoor or plant-based work is an asset
- On-the-job training in restoration installation techniques is typically

On the Job Learning

- Native plant installation and restoration site technique
- Field botanical identification and site reading
- Restoration plan interpretation and species placement

• Curiosity about native plants and restoration ecology • Team communication and basic coordination	provided • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Valid driver's licence is commonly required • Basic native plant identification is an asset	• Physical conditioning across outdoor restoration environments • Ecological awareness and landscape observation

FUTURE CAREER OPPORTUNITIES

Installation experience is a pathway into crew leadership, restoration project supervision, and native plant nursery roles. Workers develop botanical field skills and restoration site knowledge that supports advancement into ecological monitoring, habitat assessment, and restoration planning. Some move into environmental consulting or conservation management.

Brushing Spacing Wildfire Fuels Crew Leader

Experienced

As a crew leader, you direct a brushing, spacing, or fuels crew through daily operations — assigning work, checking quality, managing safety, and keeping production on track across the full shift.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Fall**	**High**

> *The crew leader role in brushing and spacing suits workers who are experienced enough to run the work independently and want to take on more. Leading a crew through a physically challenging contract — keeping quality up, keeping people safe, keeping morale intact — is genuinely demanding and genuinely satisfying when it goes well. You're the person the crew looks to. That weight, when you're ready for it, is part of what makes the role worth doing.*

A DAY IN THE LIFE

You're in the block before anyone else has their saw running. You've thought through the terrain, figured out who should be where, and you know what quality should look like in this particular stand. From there, it's a day of checking, adjusting, troubleshooting, and keeping people moving. You're covering more ground than anyone on the crew — not because you're planting or cutting the most, but because you're watching everything at once. At end of day, you report and make sure everyone's out clean.

WORKING CONDITIONS

Same forest and brush conditions as the crew — but with the added responsibility of watching everyone else while the work is happening around you. Long days in the block are standard. Leading in that environment requires both physical capability and the presence of mind to manage people through fatigue.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with vegetation management and fuels reduction contracts. Fuels work may extend into shoulder seasons tied to fire risk and project timing.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Field leadership and crew motivation under physical demand
- Clear communication and task direction

Required Hard Skills

- Field experience in brushing, spacing, or fuels work is typically required
- At least one full season Brush saw and chainsaw safety certification is

On the Job Learning

- Field crew supervision and task management
- Treatment quality oversight and prescription compliance
- Safety management in high-

• Safety management and hazard awareness • Problem-solving with equipment and terrain challenges • Accountability for both crew performance and treatment quality	required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is required Valid driver's licence is commonly required • Supervisory or leadership training is an asset	hazard environments E • quipment accountability and troubleshooting • Performance coaching in physically demanding conditions

FUTURE CAREER OPPORTUNITIES

Crew leader experience in vegetation management is a pathway into project management, silviculture consulting, and senior field supervision roles. Skills transfer into prescribed fire operations, fuels planning, and restoration contracting. Some crew leaders develop into training or safety coordination roles within their organizations.

Indigenous Relations Manager

Advanced

As an Indigenous Relations Manager, you build and manage the relationships, consultation processes, and agreements between your organization and the Indigenous Nations and communities whose territories you work in.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Low**

> *People in this role tend to be driven by a genuine belief that the forest sector needs to operate differently on Indigenous territories — and that meaningful, sustained relationship-building is how that change happens. It's work that requires navigating complexity with patience and integrity. When it goes well, it results in partnerships that improve ecological outcomes and create real opportunities for Indigenous communities. That's a meaningful professional contribution that very few roles in the sector can claim.*

A DAY IN THE LIFE

No two days are the same, but the relational work is always the centre of it. You might spend a morning preparing for a government-to-government consultation meeting, an afternoon in a call with a Nation's resource management team about a project in their territory, and an evening reviewing a draft agreement. Field visits, community meetings, and internal education all factor in. The work is long-term — relationships that matter aren't built in a single meeting.

WORKING CONDITIONS

Primarily meetings, coordination, travel, and planning work — with field site visits periodically. The role requires comfort navigating government, community, and project environments simultaneously. It's not physically demanding, but it requires sustained relational investment and a high degree of cultural awareness.

CYCLICAL NATURE OF ROLE

Year-round, aligned with project timelines, consultation cycles, and community engagement schedules. Intensity varies with project activity and regulatory review periods.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Cultural humility and genuine respect for Indigenous rights, governance, and knowledge	• Post-secondary education in Indigenous studies, political science, natural resources, law, or a related field is	• Consultation and accommodation process management

systems • Relationship-building and trust development over the long term • Diplomatic communication across government, community, and organizational contexts • Navigating conflict and complexity with patience and integrity • Cross-cultural communication and facilitation	typically preferred • Direct experience working with or within Indigenous communities or governments is typically required • Understanding of BC Indigenous rights and title law, UNDRIP, and consultation obligations is required • Knowledge of BC forest practice and environmental regulation is an asset • Valid driver's licence is required • Lived experience within Indigenous communities is a significant asset	• Indigenous rights and title frameworks in BC • Long-term relationship-building with Indigenous governments • Cross-cultural facilitation and organizational change work • Land-based agreement development and stewardship

FUTURE CAREER OPPORTUNITIES

Indigenous relations experience in the forest and restoration sector is a pathway into senior government affairs roles, reconciliation advisory positions, Indigenous economic development management, and leadership within Indigenous organizations and resource companies. The expertise is increasingly critical and transferable across the natural resources sector.

Conifer Seedling Nursery Facility Manager

Advanced

As a facility manager, you oversee all aspects of seedling production operations — from crop planning and staff management to regulatory compliance and client relationships.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Moderate**

> *Facility managers in the nursery sector tend to be people who grew into the role through years of grower experience and found they were equally engaged by the management side as the production side. Owning a facility means owning outcomes — when the operation runs well, it's a genuine achievement. There's also a real connection to the broader reforestation sector: the stock leaving your facility ends up in the ground across the province.*

A DAY IN THE LIFE

A facility manager's day rarely looks the same twice. You might start with a crop walk with your growers, move into a staffing issue, take a call with a client about an order, and spend the afternoon on a compliance review. The production calendar anchors everything, but the management work — the people, the infrastructure, the relationships — fills the rest. Keeping a living production system running at scale is genuinely complex, and the people who do it well tend to thrive on that complexity.

WORKING CONDITIONS

You're in and out of the greenhouse, across the facility, and into the office throughout any given day. The physical environment is moderate — you're not doing heavy field work, but you're also not desk-bound. Year-round operations mean no off-season, and peak periods require full organizational focus.

CYCLICAL NATURE OF ROLE

Year-round management role with peak intensity during spring production and fall shipment periods. Planning cycles for upcoming seasons overlap with current year operations.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Operational leadership and staff management
- Client relationship management Strategic planning and production forecasting

Required Hard Skills

- Extensive experience in nursery operations or plant production management is typically required
- Post-secondary education in horticulture, plant science, forestry, or business is

On the Job Learning

- Full-facility operations management
- Production planning and multi-season forecasting
- Staff leadership and organizational development

• Problem-solving across production, people, and infrastructure challenges • Accountability for facility-wide outcomes	commonly preferred • Pesticide applicator certification (BC) is required • WHMIS and occupational health and safety management knowledge is required • Occupational First Aid (OFA Level 2 or higher) is commonly required • Valid driver's licence is required • Experience with financial management or budgeting is typically expected	• Client and contract management • Regulatory compliance and quality system management

FUTURE CAREER OPPORTUNITIES

Facility management experience opens pathways into senior operations roles within reforestation organizations, nursery consulting, and executive positions in the forest nursery sector. Skills transfer into broader horticultural production management, supply chain leadership, and environmental restoration program development.

Emergency Flood Response Worker

Entry-level

As a flood response worker, you help protect infrastructure and communities from flood damage — building barriers, installing diversions, reinforcing banks, and managing materials in the field under emergency conditions.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**High**

> *This role attracts people who like being useful when it counts. There's no ambiguity about what you're doing or why — you're helping keep water from destroying things people care about. The work is immediate and visible. When the sandbag wall holds, when the diversion works, you know it. And the crew that comes together in those conditions tends to be tight, because everyone's in it together under real pressure.*

A DAY IN THE LIFE

The day might start with a briefing on water levels and where the pressure points are. From there, you're loading, hauling, and building — sandbags, stakes, diversions, whatever the site needs. The pace is driven by conditions. Some days are a controlled grind; others are urgent. You're watching the water, watching the ground, and staying close to the crew. By the end, you can see what held and what didn't. That feedback loop is fast and real.

WORKING CONDITIONS

Expect to be wet, muddy, and on the move. You're working near water, often in rain or spring runoff conditions, and the terrain is usually unstable. It's unglamorous work, but the purpose is immediate and the results are visible. Crews tend to be close-knit because the conditions demand it.

CYCLICAL NATURE OF ROLE

Flood response is most active during spring snowmelt and fall storm seasons. Post-wildfire landscapes often require additional flood response due to increased runoff and debris flow risk. Work is emergency-driven, meaning schedules are demand-based and can activate quickly with little notice.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Physical endurance and resilience • Ability to work quickly and carefully in urgent conditions	• No formal education is required • Occupational First Aid (OFA Level 1) with Transportation	• Flood mitigation and water management technique • Heavy material handling and site logistics

• Team communication and coordination • Situational awareness near water • Calmness and focus under pressure	Endorsement is commonly required • WHMIS certification is required • Swift Water Awareness training is a strong asset and may be required • ICS-100 (Incident Command System) is often required • Valid driver's license is typically required	• Terrain reading and drainage awareness • Team coordination in emergency conditions • Physical endurance and work pacing under pressure

FUTURE CAREER OPPORTUNITIES

Experience in flood response builds directly into roles in erosion control, slope stabilization, civil construction, and restoration contracting. Some workers move into crew leadership or emergency response coordination. Others transition into fuels management, trail building, or broader restoration roles where understanding water movement and terrain is a key advantage.

Camp Manager

Experienced

As a camp manager, you oversee the day-to-day operations of a remote field camp — managing accommodation, food service logistics, supplies, safety, and the general flow of camp life for incoming and outgoing crews.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Summer**	**Low–Moderate**

> *Camp managers tend to be people who are energized by keeping complex things running smoothly. There's no single task that defines the role — it's everything from making sure the propane doesn't run out to coordinating a resupply mid-week to handling a maintenance issue at 6am. The satisfaction is systemic: when the camp runs well, operations run well, and that connection is visible. In a remote setting, a good camp manager makes a real difference to every person who passes through.*

A DAY IN THE LIFE

The day starts early and covers a lot of ground. You're checking in with the cook, confirming the supply order, responding to whatever came up overnight, and making sure the accommodations are ready for any crew movement. From there, it's coordination — calls, check-ins, problem-solving. A camp manager rarely has a predictable day, but the goal is always the same: keep things running so the people doing the field work can focus on the field work.

WORKING CONDITIONS

Camp managers work in remote settings — sometimes far from services or supply chains — and need to be comfortable managing operations with limited resources. The work is not glamorous, but it's important, and the best managers are the ones who run camps that crews actually look forward to returning to.

CYCLICAL NATURE OF ROLE

Camp manager roles are tied to field operation seasons — most active during planting, fire, and survey seasons, typically spring through summer. Some positions run year-round in permanent camp facilities. The role follows crew deployment schedules and may require rapid setup or breakdown of camp operations.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Strong organizational and logistical thinking • Adaptability and practical	• Experience in camp operations, hospitality, or logistics management is	• Remote operations management and logistics • Supply chain coordination

problem-solving • Communication across crew, contractors, and supervisors • Composure under pressure and in remote settings • Leadership and reliability in an autonomous environment	typically required • FoodSafe certification is typically required • Occupational First Aid (OFA Level 1 or higher) is commonly required • WHMIS certification is required • Valid driver's license is required • Vehicle with appropriate rating may be required for supply runs	under constraint • Multi-function operational oversight • Crew welfare and camp culture management • Problem-solving in resource-limited environments

FUTURE CAREER OPPORTUNITIES

Camp management experience is valued across multiple field-intensive industries including forestry, wildfire, mining, and construction. Experienced camp managers can move into larger-scale operations management, logistics coordination, or project support roles. Some transition into field operations management or contracting, where logistical competence is a key differentiator.

Bulldozer Wildfire Line Locator

Advanced

As a line locator, you scout terrain ahead of bulldozer operators during wildfire suppression — identifying where control lines should be built and directing dozers through conditions in real time to maximize containment effectiveness.

Experience Level	Seasonality	Physical Demands
Advanced	**Summer**	**High**

> *This is a role for people who are fully comfortable in fire environments and want to be where the decisions are being made. You're out in front — reading the terrain, reading the fire, and making calls that affect how the whole operation unfolds. There's a real respect for Line Locators in the fire community, because the work requires experience and judgment that can't be shortcut. For people who've built up that expertise, it's a deeply satisfying place to be.*

A DAY IN THE LIFE

You're out ahead of the dozer, moving through terrain that's often steep, smoke-filled, and close to active fire. You're reading how the fire is moving, what the terrain is doing, and where a line will hold. When you've identified the route, you're communicating it clearly to the operator and keeping them oriented as conditions shift. The pace is driven by fire behavior, and there's rarely time to second-guess. The work demands your full attention and your full experience.

WORKING CONDITIONS

You're operating in some of the most dynamic and hazardous field conditions in any forest sector role — steep terrain, smoke, proximity to active fire, and the pressure of making route decisions that affect the whole suppression effort. The role requires a high degree of personal composure, deep experience, and total situational awareness. It's not an environment for people who are still developing their fire instincts.

CYCLICAL NATURE OF ROLE

Line locator work is tied directly to wildfire activity, concentrated in BC's fire season from June through September. Work is incident-driven and demand-based, with no fixed schedule during deployment. Off-season activities may include training, fire planning, or fuels management roles.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Advanced situational awareness in active fire environments	• Significant wildfire suppression experience is required (typically 3 or more seasons)	• Advanced fire behavior and terrain assessment • Real-time route decision-

• Confident decision-making under time pressure • Clear communication with equipment operators • Fire behavior and terrain reading • Composure in hazardous and dynamic conditions	• Bulldozer Line Locator training is required (BC Wildfire Service or equivalent) • S-215 or equivalent heavy equipment operations in fire course is typically required • S-200 Crew Boss (Single Resource) or equivalent is often required • Occupational First Aid (OFA Level 1 or higher) is required • ICS-200 or higher is typically required • WHMIS certification is required	making under pressure • Heavy equipment coordination in dynamic field environments • Situational awareness and safety planning in active fire • Communication within incident command structures

FUTURE CAREER OPPORTUNITIES

Line locator experience carries weight in fire operations leadership and is recognized across the sector as requiring advanced expertise. Some move into incident command or operations section roles, fire management planning, or heavy equipment operations coordination. Others transition into prescribed fire planning, fuels management leadership, or training roles teaching fire behavior and terrain assessment.

Native Seed Laboratory Technician

Experienced

As a seed lab technician, you process, test, and catalogue native plant seed collections — ensuring quality, viability, and proper storage for use in nursery production or seed banking.

Experience Level	Seasonality	Physical Demands
Experienced	**Year-round**	**Low**

> *Lab technician work in seed processing suits people who appreciate precision and find satisfaction in systematic, detail-oriented tasks. You're doing work that requires genuine botanical knowledge and careful technique — not just following a protocol mechanically, but understanding why the protocol matters. The connection to restoration and seed conservation gives the work a larger purpose, even when you're spending hours at a cleaning bench.*

A DAY IN THE LIFE

A typical lab day is structured around whatever is in the queue — incoming collections to process, test runs to check, inventory to update. You might spend several hours cleaning a large seed lot, then shift to running germination tests, then update the database. The work is quiet and focused. The satisfaction is in doing it consistently well.

WORKING CONDITIONS

Indoor lab environment: controlled, clean, and quiet. The work is sedentary with fine motor demands. It suits people who can maintain focus and consistency across repetitive precision tasks. Year-round work with workflow tied to collection cycles.

CYCLICAL NATURE OF ROLE

Year-round with workflow intensity tied to collection seasons. Fall tends to bring higher processing volumes following summer and fall collection periods.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Precision and consistency in repetitive technical tasks
- Meticulous data recording and documentation
- Patience and sustained focus across long bench sessions

Required Hard Skills

- Post-secondary training in plant science, biology, horticulture, or a related field is an asset
- Experience with lab work or seed handling is helpful
- On-the-job training in specific protocols is typically

On the Job Learning

- Seed processing and cleaning technique
- Germination testing and viability analysis
- Seed lot documentation and inventory management
- Native plant seed

• Methodical approach to protocol compliance Communication with program coordinators and nursery staff	provided • WHMIS certification is required • Attention to detail and data management skills are required • Familiarity with native BC plant species is an asset	identification and morphology • Cold storage and seed bank protocols

FUTURE CAREER OPPORTUNITIES

Seed lab experience is a foundation for roles in seed bank management, native plant nursery production coordination, botanical research, and restoration program support. Some technicians develop into seed program coordination, procurement planning, or conservation seed banking careers. Skills transfer into quality assurance, research support, and ecological monitoring roles.

Danger Tree Faller

Advanced

As a danger tree faller, you assess and fall hazardous trees in forest, wildfire, and restoration settings — applying advanced chainsaw technique and professional judgment to safely remove threats to workers and operations.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**High**

> *Danger tree falling is for people who have developed serious chainsaw expertise and find deep satisfaction in applying it to high-consequence problems. Every hazard tree is a technical puzzle. You're reading the lean, the wood condition, the crown, the terrain, and making a plan that brings it down safely every time. The skill required and the stakes involved create a professional gravity that experienced fallers find genuinely compelling.*

A DAY IN THE LIFE

The work follows the hazards. You might be called to a planting block to fell a stem that's hanging over the crew, or to a wildfire perimeter to clear trees threatening operations. Every tree is assessed on its own terms. The saw goes in after you're satisfied with the read and the plan. There's no rushing that process. The job is to get it right every time.

WORKING CONDITIONS

Variable — wherever hazardous trees require attention. Wildfire perimeters, cutblocks, steep terrain, standing deadwood. The conditions are often the reason the trees are hazardous in the first place. High alertness and technical precision are required throughout every shift.

CYCLICAL NATURE OF ROLE

Year-round work driven by project needs, wildfire activity, and operational requirements. Volume varies with wildfire season and forest management activity.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Professional judgment and risk assessment discipline • Composure and deliberate decision-making in hazardous environments • Communication with	• Advanced chainsaw operator certification is required • BC Danger Tree Assessor training or equivalent is required	• Advanced chainsaw and falling technique under high-risk conditions • Hazard tree assessment and risk mitigation • Exclusion zone management

supervisors and crews about exclusion zones and hazard status • Self-awareness and willingness to pause when conditions change • Accountability for the safety of others in the work area	• Significant falling experience is required • Occupational First Aid (OFA Level 2 or higher) with Transportation Endorsement is commonly required • WHMIS certification is required V • alid driver's licence is required • Falling Supervisor certification may be required for some operations	and site safety coordination • Wood condition and structural assessment • Professional judgment and accountability in safety-critical environments

FUTURE CAREER OPPORTUNITIES

Danger tree faller experience is highly valued across the forest and fire sectors and supports advancement into falling supervisor roles, operational safety management, and training positions. Some fallers develop into arboriculture, urban tree management, or consultation roles. The certification and experience are portable across BC's resource sector.

Wildfire Structural Protection Crew Person

Experienced

As a structural protection crew person, you deploy and install sprinklers, wrap systems, and water supply setups to protect buildings from wildfire — moving quickly between properties based on fire movement and incident command direction.

Experience Level	Seasonality	Physical Demands
Experienced	**Summer**	**High**

> *What draws people to this role is the combination of technical problem-solving and genuine consequence. You're not just moving materials — you're making decisions about which properties to prioritize, how to set up a water system on the fly, and how to keep everything operational while a fire is moving. When a structure survives because of a setup you put in place, that's something you carry with you.*

A DAY IN THE LIFE

Deployments can start on short notice — loading trailers and heading out within hours of a callout. On site, you're assessing the property, clearing vegetation, setting up hose and sprinkler lines, and making sure water is flowing before the fire gets close. The work is fast and technical. You might leapfrog between several properties in a day. Between deployments, you're doing gear checks, restocking, and staying ready. It's a role that demands both readiness and composure.

WORKING CONDITIONS

You're working in active wildfire environments — smoke, heat, the sound of equipment and radio traffic — often near the fire front or in areas under immediate threat. The setups are physical and technical, and the stakes are tangible. Between deployments, there's downtime in camp or emergency accommodations, but the readiness expectation is constant.

CYCLICAL NATURE OF ROLE

Structural protection work is active during BC's wildfire season, typically June through September. Deployments are demand-driven and may last days to weeks depending on fire behavior. Workers may transition between structural protection, fuels management, and suppression roles across the season.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Situational awareness and composure under pressure • Adaptability and field	• S-100 Basic Wildfire Suppression Safety is required	• Pump and water system installation and management • Rapid field deployment and

improvisation • Team coordination and communication • Attention to detail in time-critical setups • Physical readiness and deployment stamina	• S-185 Fire Entrapment Avoidance is required • BC Wildfire Service Structure Protection Strategies course (WSPP-115) is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is required • ICS-100 is required • WHMIS certification is required • Class 5 Driver's License is required	site triage • Tactical decision-making in emergency conditions • Fireground coordination and communication • Physical readiness and equipment troubleshooting

FUTURE CAREER OPPORTUNITIES

Structural protection experience opens pathways into fire suppression, fuels management, fire logistics coordination, and site planning roles. Some workers develop into structural protection specialists or crew leaders. The skills are also transferable to emergency services, disaster response, and wildfire risk planning for municipalities and communities.

Tree Planter

Entry-level

As a tree planter, you reforest harvested land by hand — carrying seedlings across cutblock terrain and planting them to quality standards set by the contract. Your output directly determines your earnings.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Summer**	**High**

> *There's a specific kind of satisfaction in planting work that's hard to find in most jobs — the combination of physical output, tangible result, and financial reward tied directly to your own effort. Your daily production is visible and countable. When you get better, you make more. The crew culture is intense in a way that tends to produce real friendships, and working in remote forest settings, away from offices and screens, is genuinely appealing to a lot of people. Many planters come back season after season. The ones who do will tell you the work got into them in a way they didn't expect.*

A DAY IN THE LIFE

You're up before light, eating whatever you can move fast on. The ride to the block is when the crew wakes up. By the time the truck stops, you're loading bags, figuring out your piece of the land, and starting your count. For the next eight to ten hours, you're moving — bag heavy to light, heavy again. The rhythm takes over after a while. By mid-season it's almost meditative. At the end of the day, numbers are tallied, someone might cook, and you sleep hard. Then you do it again.

WORKING CONDITIONS

You're outside in whatever the season brings — rain, heat, early snow in shoulder months. The terrain is uneven, often slash-covered, and the load is real. It gets easier as you get stronger and faster, but it's never easy. Remote camp settings are common, which means living close with your crew for weeks at a time. That part either suits you or it doesn't.

CYCLICAL NATURE OF ROLE

Seasonal employment, typically April through August with regional variation. Work intensity peaks mid-season. Many planters return for multiple consecutive seasons.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Physical resilience and tolerance for sustained discomfort • Self-motivation and output	• No formal education is required • On-the-job training is provided by the employer or	• High-output manual labour under sustained physical demand • Microsite identification and

consistency • Adaptability to variable terrain and weather • Ability to take direction and follow quality standards • Basic team communication and situational awareness	crew leader • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required or provided • WHMIS certification is typically required • Chainsaw safety training may be required depending on contract • Valid driver's licence is an asset	quality planting technique • Self-pacing and production management • Remote living and team cohesion in austere conditions • Land reading and terrain navigation on foot

FUTURE CAREER OPPORTUNITIES

Tree planting is a direct pathway into crew leadership, quality checking, project supervision, and silviculture contracting. Many experienced planters move into Crew Leader roles within one to three seasons. Others develop into quality control, project management, or silviculture consulting. The physical and logistical skills transfer well into brushing, spacing, surveying, and other field roles.

Conifer Seedling Nursery Grower

Experienced

As a nursery grower, you manage conifer seedling crops from sowing through shipping — directing irrigation, nutrition, pest management, and environmental conditions while supervising the workers who carry out daily production tasks.

Experience Level	Seasonality	Physical Demands
Experienced	**Year-round**	**Moderate**

> *Growers tend to be people who are genuinely interested in plant biology and find satisfaction in understanding what a crop needs and delivering it. There's a diagnostic quality to the work — you're reading the seedlings, interpreting what you see, and adjusting. When a crop comes through a growing cycle in excellent condition, that's a real professional result with real downstream consequences. The combination of science, decision-making, and team management makes this one of the more substantive roles in the nursery.*

A DAY IN THE LIFE

You start the day walking the crop — checking for anything that needs attention. From there, you're making calls: adjust the irrigation, flag a pest issue for treatment, shift workers to where the priority is. There's a mix of hands-on work and coordination, and the diagnostic part — figuring out what a seedling needs — is always running in the background. Production schedules keep things structured, but biological variability keeps things interesting.

WORKING CONDITIONS

Greenhouse and outdoor nursery environments — structured and controlled but physically demanding across a full shift. You're on your feet, moving through beds and bays, managing a team and a crop simultaneously. Peak season is intense. The work has a clear biological logic to it, and that structure is part of what makes it sustainable over time.

CYCLICAL NATURE OF ROLE

Year-round with peak intensity during spring growing season and fall shipment periods. Growing cycle management requires consistent presence across the full production year.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Diagnostic observation and attention to plant health • Production planning and	• Experience in nursery work, horticulture, or plant production is typically	• Applied conifer physiology and crop management • Production scheduling and

scheduling • Team supervision and task delegation • Communication with facility management and clients • Adaptability to biological variability and production challenges	required • Post-secondary education in horticulture, plant science, or forestry is commonly preferred • Pesticide applicator certification (BC) is typically required • WHMIS certification is required Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • Valid driver's licence is typically required Irrigation systems training or experience is an asset	operational planning Integrated pest management and disease response • Team supervision and performance management • Quality standard development and enforcement

FUTURE CAREER OPPORTUNITIES

Nursery grower experience is a pathway into facility management, production consulting, and senior roles in commercial nursery and reforestation organizations. Skills transfer into native plant nursery management, greenhouse horticulture operations, and plant science research. Some growers move into procurement, quality assurance, or reforestation planning roles.

Native Seed and Plant Collector

Entry-level

As a native seed and plant collector, you gather seeds and propagative material from native plant populations in the field — working within collection protocols to ensure provenance integrity and population health.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *This role attracts people with genuine botanical curiosity — people who find plant identification satisfying and the act of being in native landscapes for a purpose deeply engaging. The work is observational and physical in equal measure. You're reading the landscape, reading the plants, and making judgment calls about timing and quality that affect what ends up in production. It's hands-on science in the field.*

A DAY IN THE LIFE

A collection day starts with a plan — which species, which sites, what phenological stage you're targeting. In the field, you're navigating to populations, assessing what's ready, and collecting to protocol. Some plants cooperate; some require patience or returning on a different day. Documentation is part of every collection event. At the end of the day, material is bagged, labeled, and handled for transport. The work moves with the season.

WORKING CONDITIONS

You're in native plant communities — meadows, riparian areas, forests, alpine zones — depending on the target species. The terrain and conditions vary as much as the plants do. It's field work that rewards botanical literacy and patience.

CYCLICAL NATURE OF ROLE

Seasonal, primarily spring through fall, with timing dictated by species phenology. Different species require collection across different windows throughout the growing season.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Botanical observation and species identification curiosity • Methodical documentation and data recording	• Experience with plant identification or botanical fieldwork is preferred • Post-secondary training in botany, ecology, horticulture, or related field is an asset	• Native plant identification and phenological assessment • Seed collection protocols and provenance

• Physical adaptability to varied terrain and conditions • Timing judgment and collection decision-making • Self-directed work in remote settings	• On-the-job training in collection protocols is typically provided • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Valid driver's licence is typically required	documentation • Field navigation across diverse BC ecosystems • Botanical observation and ecological literacy • Seed handling and cold-chain management

FUTURE CAREER OPPORTUNITIES

Seed collection experience is a foundation for roles in native plant nursery production, restoration planning, botanical consulting, and ecological field work. Some collectors develop into collection program coordination, seed bank management, or restoration science roles. The botanical skills developed transfer broadly across conservation and ecological work.

Emergency Flood Response Crew Leader

Experienced

As a flood response crew leader, you direct a field team through active flood mitigation work — coordinating tasks, monitoring conditions, and ensuring the crew stays safe and effective as the situation evolves.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Fall**	**High**

> *This role suits people who want to be in the middle of it — doing the work and shaping how the crew does it. Leading a team in emergency conditions is different from leading in a normal field setting. The stakes are visible and the pace is real. When the crew performs well and the flood mitigation holds, you know your leadership made a difference. That's a very specific kind of satisfaction that people come back for.*

A DAY IN THE LIFE

The day starts with a site assessment and briefing — you're reading the water, figuring out where the risk is, and directing the crew to where they're most needed. From there, you're moving between people and checking work, adjusting when conditions shift. There's physical work woven through it, but your main job is to keep everything coordinated and safe. At the end, you debrief with supervisors and get the crew ready for the next round.

WORKING CONDITIONS

You're in the same conditions as the crew — wet, muddy, near water — but with the added layer of responsibility for how everyone is doing. Keeping the crew focused, communicating clearly upward, and making the right calls fast is what this role is about. The environment is demanding but the purpose is clear.

CYCLICAL NATURE OF ROLE

Work follows the same seasonal pattern as flood response operations — most active during spring and fall. Schedules are demand-driven and may require rapid mobilization. Off-season periods may involve training, preparedness planning, or related field work.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Leadership under emergency conditions • Clear and fast	• Field experience in flood response, construction, or emergency operations is	• Emergency field leadership and crew coordination • Real-time site assessment

communication • Decision-making under changing conditions • Crew accountability and safety awareness • Composure and adaptability	typically required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • WHMIS certification is required • ICS-100 or ICS-200 is typically required • Swift Water Awareness training is commonly required • Valid driver's license is required	and decision-making • Flood mitigation technique and material knowledge • Communication under pressure and within command structures • Adaptability and operational resilience

FUTURE CAREER OPPORTUNITIES

Crew leadership experience in emergency response opens pathways into field supervisory roles, emergency operations coordination, and project management in restoration and civil construction. Some people move into incident command training or develop into safety coordination roles. Others branch into infrastructure protection consulting or senior restoration leadership.

Invasive Plant Management Technician

Entry-level

As an invasive plant management technician, you identify, survey, and treat invasive plant populations across natural areas and restoration sites — protecting native ecosystems through targeted, knowledge-driven intervention.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *This role attracts people who have a genuine interest in plant ecology and want to work at the conservation interface. You're in natural areas, developing deep familiarity with both the invasive species you're targeting and the native communities they're competing with. The work has a clear ecological purpose and the botanical knowledge it builds is directly applicable to broader restoration and conservation careers.*

A DAY IN THE LIFE

A field day is shaped by the survey or treatment objective. You're navigating through habitat, identifying target species, assessing populations, and treating according to protocol. Manual removal is physically demanding; chemical treatment requires precise application and documentation. You're developing a detailed picture of the landscape as you work through it. At the end of the season, you can see where the pressure has shifted.

WORKING CONDITIONS

Varied habitat types across BC — riparian zones, meadows, roadsides, forest edges, alpine areas depending on target species. You're outdoors across the growing season in variable conditions. The botanical knowledge requirement grows with experience and makes the work more engaging over time.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with growing season and treatment windows. Timing is species-specific and varies by treatment method and region.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Botanical observation and species identification curiosity • Methodical documentation and data recording	• Experience with outdoor work or plant identification is helpful (on-the-job training is typically provided) • Pesticide applicator certification (BC) is typically	• Invasive and native plant species identification across • BC habitats Herbicide application and pesticide compliance

• Protocol compliance for chemical treatment applications • Physical adaptability across varied terrain and conditions • Self-directed work with attention to treatment quality	required for chemical treatment work Invasive species identification training is required (often provided by employer) • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required WHMIS certification is required • Valid driver's licence is commonly required • GPS and field data collection experience is an asset	• Population survey methodology and treatment documentation • GPS mapping and spatial data collection • Ecosystem observation and habitat assessment

FUTURE CAREER OPPORTUNITIES

Invasive plant management experience is a foundation for ecological monitoring, restoration program coordination, and botanical field work across conservation and resource management sectors. Skills transfer into weed management program coordination, ecological consulting, and native plant restoration. Some technicians develop into regional invasive species program management or environmental compliance roles.

Senior Archaeological Assessment Technician

Advanced

As a senior archaeological assessment technician, you lead field assessments independently — designing and executing surveys, supervising junior staff, and producing the field data that informs regulatory heritage reviews.

Experience Level	Seasonality	Physical Demands
Advanced	**Spring-Fall**	**Moderate**

> *Senior technicians in archaeological assessment tend to be people who have developed genuine expertise in the field and want to exercise it with more autonomy. The combination of archaeological knowledge, Indigenous cultural awareness, and ecological field competency this role requires is unusual and valued. You're making professional assessments that inform regulatory decisions. The responsibility is real and the work is substantive.*

A DAY IN THE LIFE

You design the assessment approach, brief junior staff, and execute the field program. On a complex site, you might be making judgment calls throughout the day — what to test, when something warrants closer investigation, when a feature needs detailed documentation. Supervising junior technicians is part of the day's work. At the end, your field records need to be complete and defensible. The professional archaeologist relies on the quality of what you produce.

WORKING CONDITIONS

Forest and natural terrain across varied BC landscapes — the same field settings as junior roles but with greater independence and professional accountability. You're responsible for the quality of what comes out of the field. That accountability is part of what makes the role meaningful.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with field assessment season. Some off-season work may include data processing, report support, or compliance documentation.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Independent professional judgment in field assessment contexts • Mentorship and supervision of junior technical staff	• Significant field experience in archaeological assessment is required • Post-secondary education in archaeology, anthropology, or related field is typically	• Independent archaeological survey and assessment execution • Site significance evaluation and professional field

• Cultural sensitivity and heritage protection ethic • Methodical documentation discipline under independent conditions • Communication with supervising archaeologist and project team	required • Strong familiarity with BC heritage legislation and AIA requirements is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • Valid driver's licence is required • Understanding of BC First Nations cultural heritage and consultation processes is required	judgment • Heritage documentation to regulatory standards • Junior staff supervision and technical mentorship B • C heritage legislation and AIA framework expertise

FUTURE CAREER OPPORTUNITIES

Senior technician experience is a strong foundation for registered archaeologist status in BC, AIA project management, cultural heritage program coordination, and First Nations heritage stewardship roles. The combination of technical field expertise and regulatory familiarity is directly applicable to environmental consulting and government heritage management positions.

Prescribed/Cultural Burn Crew Workers

Experienced

As a burn crew worker, you support ignition, holding, and mop-up operations during prescribed and cultural burns — working under the direction of a burn boss to use fire as a precise ecological tool.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Fall**	**High**

> *Working on a prescribed burn crew gives you a direct relationship with fire as an ecological tool — not just as something to suppress. The intentionality of it, the discipline required to use fire precisely in the landscape, attracts people who want to understand fire rather than just fight it. The crew culture on prescribed burns tends to be technically engaged and ecologically motivated. It's a role that builds specific and highly valued skills.*

A DAY IN THE LIFE

A burn day starts with a briefing — conditions, the prescription, escape routes, contingencies. From ignition, you're executing: torch work, holding line, watching the fire. The burn boss is directing, you're executing with precision. Fire behavior is always in the background — you're reading it even when you're focused on your task. Mop-up at the end is methodical and necessary. You don't leave until the burn is cold.

WORKING CONDITIONS

Fire environments — smoke, heat, variable terrain, and the managed uncertainty of working with a living force. The work is highly structured despite the dynamic conditions: prescribed burns run on protocol, and the discipline of that protocol is what keeps them safe. Crew cohesion in this context is built quickly and held tightly.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with burn windows. Timing is highly dependent on weather, fuel conditions, and approvals. Cultural burns may have distinct timing tied to Indigenous protocols and seasonal practices.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Composure and alertness in fire environments
- Precise execution of burn boss direction

Required Hard Skills

- S-100 Basic Wildfire Suppression Safety is commonly required
- S-185 Fire Entrapment

On the Job Learning

- Prescribed fire operations and ignition technique
- Fire behavior observation and situational awareness

• Situational awareness and fire behavior observation • Team communication and perimeter coordination • Physical endurance across demanding burn operations	Avoidance is commonly required • Prescribed fire crew training (S-130 or equivalent) may be required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is required • Valid driver's licence is an asset • Previous wildland fire or forestry field experience is an asset	• Perimeter holding and mop-up technique • Fire safety protocol compliance and crew communication • Physical conditioning in fire environments

FUTURE CAREER OPPORTUNITIES

Prescribed burn crew experience is a direct pathway toward burn boss certification, fire operations planning, and fuels management roles. Skills transfer into wildland firefighting, cultural fire stewardship, and ecological restoration involving fire. Some crew workers develop into training roles, fire effects monitoring, or prescribed fire program coordination.

Native Plant Nursery Worker

Entry-level

As a native plant nursery worker, you propagate, tend, and prepare native plant stock for restoration use — working through production tasks across a range of species under the direction of nursery growers.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *People who gravitate toward native plant nursery work tend to be drawn by the plants themselves — the diversity of species, the ecological story behind each one, and the tangible connection to landscape-scale restoration. The work environment is purposeful and the pace is manageable. You're contributing to something genuinely meaningful without the physical extremity of field planting work.*

A DAY IN THE LIFE

The day follows the production schedule — which beds need watering, what's ready for transplanting, what's being packed for an upcoming order. You're moving through the nursery, tending plants that may have come from seed you processed earlier in the year. The diversity of species keeps it interesting. By the end of the shift, whatever you tended is a little closer to ready for the ground.

WORKING CONDITIONS

Greenhouse and outdoor nursery environments — structured, plant-focused, and physically moderate. It can be warm and repetitive, but the botanical diversity of native plant production keeps the work engaging. The seasons shape the production cycle in a way that becomes familiar.

CYCLICAL NATURE OF ROLE

Spring through fall with some year-round positions in facilities that maintain winter propagation, cold stratification, or inventory management operations.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Attention to plant condition and quality
- Reliability across repetitive production tasks
- Ability to follow protocols and production schedules
- Basic communication with growers and team members

Required Hard Skills

- No formal education is required Interest in or experience with plants, horticulture, or ecology is an asset
- On-the-job training is provided
- WHMIS certification is

On the Job Learning

- Native plant propagation and production technique
- Botanical observation and plant health assessment
- Greenhouse and nursery systems operation
- Production protocol adherence and quality

• Curiosity about native plant species is a significant asset	typically required • Pesticide applicator certification may be required depending on responsibilities • Valid driver's licence is an asset	consistency • Ecological literacy through direct engagement with native species

FUTURE CAREER OPPORTUNITIES

Native plant nursery worker experience is a pathway into grower and manager roles within native plant and restoration nurseries. Skills transfer into seed collection, restoration installation, ecological field work, and horticultural production broadly. Some workers develop deep botanical specialization that supports advancement into ecological consulting or restoration science.

Tree Runner/Onsite Seedling Stock Distribution Operator

Entry-level

As a tree runner, you keep planting crews stocked with seedlings throughout the shift — moving stock from cache to block, managing tree health, and coordinating with crew leaders to make sure production never slows down for lack of trees.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Summer**	**Moderate**

> *People in this role often describe it as a way into the industry without the full physical commitment of planting — you're working hard, you're learning how the operation fits together, and you're valued because when you do your job well, the whole crew does their job well. For people considering planting long-term, it's also a good way to see the work up close before committing to the bag.*

A DAY IN THE LIFE

The day starts at the cooler — loading boxes and getting a sense of how much stock the crew will need and where. From there, you're running: moving boxes out to cache positions, checking in with crew leaders, resupplying bags when planters come back for trees. You're covering a lot of ground and staying two steps ahead of the crew. When it works well, nobody runs out and nobody notices you've been at it all day. That invisibility is actually what the job is about.

WORKING CONDITIONS

You're on a cutblock, moving around in whatever the weather is doing, carrying boxes and covering ground between cache points. It's physical and repetitive but not as extreme as planting. Camp or remote settings are common. The work has its own rhythm and the crew depends on you to maintain it.

CYCLICAL NATURE OF ROLE

Seasonal employment aligned with tree planting contracts, primarily spring through summer. Duration and intensity vary by contract and employer.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Reliability and consistency throughout the shift • Attention to logistics and anticipating crew needs	• No formal education is required On-the-job training is provided — experience in planting or fieldwork is an asset	• Seedling handling and stock management • Field logistics coordination and cache management

• Basic communication with crew leaders • Physical endurance for sustained movement and carrying • Adaptability to changing block conditions and priorities	• Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Valid driver's licence is commonly required • Experience with ATV or UTV operation is an asset where applicable	• Operational awareness within a planting contract • Physical conditioning and sustained field mobility • Communication and coordination with crew leaders

FUTURE CAREER OPPORTUNITIES

Experience as a tree runner is a natural stepping stone into planting, crew leadership, and broader silviculture field roles. Workers gain practical knowledge of planting operations, logistics, and contract delivery that is directly applicable to advancement in the sector. Some move into nursery, brushing, or surveying roles depending on interest.

Brushing, spacing, wildfire fuels worker

Entry-level

As a brushing, spacing, or fuels worker, you use a brush saw to clear competing vegetation, release crop trees, or reduce fuel loads — working through forest terrain over long shifts in all weather.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**High**

> *People who stay in this work tend to value its directness — you can see exactly what you did at the end of the day. There's a real skill to running a saw efficiently through difficult brush over a long shift, and getting good at it brings a specific kind of physical confidence. The outdoor environment, the seasonal rhythm, and the crew culture are draws for a lot of workers. It's also meaningful work: the stands you thin or treat are measurably healthier, more fire-resilient, and more productive because of it.*

A DAY IN THE LIFE

You gear up — saw, harness, PPE — and head into the block. The first hour is finding your rhythm. After that, it's movement and cutting, movement and cutting, with the saw doing most of the communication. You're reading the stand as you go: which trees to release, what spacing looks right, where the fuels are densest. By the end of the shift you've covered real ground and done real work. The block looks different because you were in it.

WORKING CONDITIONS

You're in the forest, in the brush, in the weather. It's physically extreme — the saw is heavy, the terrain is uneven, and the conditions vary. Heat, rain, biting insects, and thick slash are part of the job. So is the satisfaction of watching a stand open up and a crop tree get light for the first time.

CYCLICAL NATURE OF ROLE

Spring through fall with work often extending through summer and into early fall. Fuels work may extend later in the season tied to fire season activity and risk periods.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Physical endurance and tolerance for sustained manual labour
- Attention to safety protocols and PPE compliance

Required Hard Skills

- No formal education is required
- Brush saw safety training is required — typically provided by employer

On the Job Learning

- Brush saw operation and maintenance
- Vegetation management and treatment prescription compliance

• Ability to follow treatment prescriptions consistently • Self-motivation and production discipline • Basic communication with crew leaders and fellow workers	• Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is required • PPE training and chainsaw safety orientation are required • Valid driver's licence is an asset	• Physical conditioning under sustained occupational demand • Stand assessment and crop tree identification • Safety management in high-noise, high-hazard environments

FUTURE CAREER OPPORTUNITIES

Brushing and spacing experience is a foundation for crew leadership, contract supervision, and broader silviculture field careers. Skills transfer into wildfire fuels management, prescribed burning, trail construction, and restoration work. Many workers advance into crew leader or project management roles within one to three seasons.

Bio-engineering Crew Worker

Entry-level

As a bio-engineering crew worker, you construct erosion control and slope stabilization structures using natural materials — doing the hands-on installation work that protects landscapes from failure and supports ecological recovery.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**High**

> *People drawn to bio-engineering work tend to appreciate the constructive and ecological logic of it — you're building structures that do something, and over time those structures become part of the living landscape. There's a craft dimension to the work that distinguishes it from more repetitive field labour. Watching a bank you stabilized come back into vegetation over subsequent seasons is a specific and satisfying thing.*

A DAY IN THE LIFE

Work is site-specific and the day is shaped by what's being built. You might spend it placing and securing live stakes on a riparian bank, or assembling a log crib structure on a failing slope. The work is physical and purposeful — heavy material, uneven ground, and a clear structural objective. By end of day, something stands that wasn't there before, and it will be there for a long time.

WORKING CONDITIONS

Slopes, stream banks, riparian zones — you're working in places where erosion or instability has been identified, which means the terrain is often challenging and the footing is rarely flat. It's genuinely physical work with a clear construction output. Spring and fall are the primary deployment windows.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with restoration and construction windows. Timing varies by project, site conditions, and contractor.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Physical stamina and tolerance for demanding construction conditions
- Attention to structural detail and installation quality
- Ability to follow restoration

Required Hard Skills

- No formal education is required
- Experience with outdoor or construction work is an asset
- On-the-job training in bio-engineering techniques is

On the Job Learning

- Bio-engineering structure installation and construction technique
- Riparian and slope work safety and site assessment
- Natural material handling

plans and crew leader direction • Safety awareness on slopes and near water • Team communication and basic coordination	typically provided • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is required • Swift Water Awareness training is an asset for riparian work • Valid driver's licence is an asset	and native plant installation • Restoration plan interpretation and implementation • Physical conditioning under demanding construction conditions

FUTURE CAREER OPPORTUNITIES

Bio-engineering field experience is a pathway into crew leadership, restoration project supervision, and civil or environmental construction management. Skills transfer into erosion control consulting, stream restoration, fluvial geomorphology, and natural infrastructure design. Some workers develop into bio-engineering specialization through additional training and experience.

Prescribed Burn Boss

Advanced

As a Burn Boss, you plan, authorize, and direct prescribed burn operations — reading conditions, briefing the crew, directing ignition, and managing fire behavior to ensure the burn achieves its goals safely and effectively.

Experience Level	Seasonality	Physical Demands
Advanced	**Spring–Fall**	**Moderate**

> *There's a particular satisfaction in being the one who decides it's go time — and being right. A Burn Boss carries the full weight of the operation: the planning, the read on conditions, the crew's execution. When a burn runs the way you planned it and the landscape responds the way you anticipated, it's a deep kind of professional fulfillment that's specific to this work. It also requires genuine expertise, which is part of what makes it worth reaching.*

A DAY IN THE LIFE

Burn days start well before ignition — checking weather against the prescription, walking the site, and deciding whether conditions are right. You brief the crew, walk through escape routes and contingencies, and confirm everyone's ready. When it's go time, you're directing the ignition pattern, watching fire behavior, and adjusting as the burn progresses. You're in constant communication with the crew and with any incident management above you. At the end, you assess the outcome and document everything.

WORKING CONDITIONS

A Burn Boss operates in outdoor environments across variable conditions including smoke, wind, and changing terrain. The role involves field presence throughout operations but is more cognitively than physically demanding. Decision-making pressure is significant — the go/no-go call is yours, and so are the consequences.

CYCLICAL NATURE OF ROLE

Prescribed burning follows seasonal windows tied to weather, fuel moisture, and regulatory conditions — most often early spring and late fall in BC. Work can be intermittent, with extended waiting periods for the right conditions. Off-season activities include burn planning, training, and fuels management work.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Advanced fire behavior judgment and situational awareness	• Burn Boss Trainee (BBT) and certified Burn Boss (BB) designation is required	• Advanced fire behavior assessment and prediction • Burn plan development and

• Decisive leadership under dynamic conditions • Clear communication across crew and command structures • Composure and risk tolerance • Accountability for complex operational outcomes	• Extensive prescribed fire and fire suppression experience is required • S-230 Crew Boss (Single Resource) or equivalent is typically required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • ICS-200 or higher is required • WHMIS certification is required • Valid driver's license is required	operational execution • Decision-making under uncertainty with real consequences • Leadership and crew management in dynamic environments • Ecological understanding of fire as a land management tool

FUTURE CAREER OPPORTUNITIES

Burn Boss experience opens pathways into senior fire management, prescribed fire planning, provincial or agency leadership roles in fire operations, and ecological land management. Some Burn Bosses move into training and certification roles, teaching the next generation of fire professionals. Others advance into fire ecology research, Indigenous-led burning programs, or environmental consulting.

Project Forester

Advanced

As a project forester, you develop prescriptions, coordinate contractors, manage regulatory compliance, and ensure that silviculture and forest management work gets done correctly and to professional standards.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Low**

> *Project foresters are the people who make forest management actually happen on the ground. There's a real satisfaction in seeing a prescription you developed get executed well — a cutblock reforested properly, a treatment applied correctly, a monitoring result that confirms the stand is responding. The combination of professional accountability, field presence, and planning work suits people who want a career with genuine ecological consequence and professional standing.*

A DAY IN THE LIFE

The work moves between the field and the office throughout the season. A morning site visit to review planting quality, an afternoon on prescription development, a call with a contractor about a survey result. The regulatory dimension is always present — forest management in BC is a compliance-intensive environment. Staying ahead of it while keeping operations moving is the core challenge of the role.

WORKING CONDITIONS

Mostly office and vehicle-based, with regular field visits to project sites. The professional accountability of the role is constant — every prescription and assessment carries your signature. Year-round work with field seasons driving peaks in site visit frequency.

CYCLICAL NATURE OF ROLE

Year-round with field seasons shaping planning, execution, and monitoring cycles. Prescription and reporting work is ongoing throughout the year.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Professional accountability and ethical decision-making
- Contractor management and performance oversight
- Regulatory navigation and compliance management

Required Hard Skills

- Bachelor's degree in forestry or a related field is typically required
- Registered Professional Forester (RPF) designation (BC) is typically required or in progress

On the Job Learning

- Silviculture prescription development and professional forestry practice
- BC regulatory compliance and FRPA management
- Contractor coordination and

• Written communication for prescriptions, reports, and regulatory submissions • Stakeholder coordination across licensees, contractors, and government	• Experience in silviculture operations, field assessment, or forest management is required • Familiarity with BC forest legislation and the Forest and Range Practices Act is required • Valid driver's licence is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required	field quality oversight • Professional accountability and documentation management • Integrated forest management planning and implementation

FUTURE CAREER OPPORTUNITIES

Project forester experience is a foundation for senior forester positions, forest management consulting, operations management, and leadership roles in forest companies, government, and First Nations forestry. RPF designation opens pathways into independent consulting, stewardship management, and professional advisory roles across BC's forest sector.

Native Plant Nursery Grower/Manager

Advanced

As a native plant nursery grower/manager, you oversee production of a diverse range of native plant species for restoration use — managing growing protocols, staff, quality, and client requirements across a full production cycle.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Moderate**

> *The native plant production space is where botanical passion meets practical restoration work. Growers and managers here tend to be people who are deeply engaged by the ecological specificity of the plant list — every species has its own requirements, its own story, its own place in the landscape. Managing that complexity, getting a diverse crop through production in excellent condition, is a real professional achievement. The work is never repetitive in the way conifer production can be.*

A DAY IN THE LIFE

The diversity of the plant list means no two days in the nursery look quite the same. You might spend the morning diagnosing a nutrient issue in one species while checking on germination rates in another, then shift to managing a team across the afternoon. Client calls, production adjustments, and the ongoing diagnostic work of watching plants are all part of it. The botanical depth this role requires is what makes it genuinely engaging over the long term.

WORKING CONDITIONS

Greenhouse and outdoor nursery environments year-round. The work is physically moderate — you're on your feet and moving — but the cognitive engagement of managing a diverse native plant list is what defines the role. Year-round operations with intensity peaking during growing and shipping seasons.

CYCLICAL NATURE OF ROLE

Year-round with intensity shifting through growing cycles. Planning for upcoming seasons overlaps with current year production management.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Species-level botanical curiosity and ecological literacy • Production planning and multi-species scheduling	• Extensive experience in nursery operations or native plant production is typically required • Post-secondary education in horticulture, botany, ecology,	• Multi-species native plant production management • Applied botany and ecological growing knowledge

• Team supervision and task delegation • Client relationship management and communication • Diagnostic observation and adaptive problem-solving	or related field is commonly preferred • Strong working knowledge of BC native plant species is required • Pesticide applicator certification (BC) is typically required • WHMIS certification is required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is typically required • Valid driver's licence is required	• Integrated pest management across diverse plant communities • Team supervision and production coordination • Client management in restoration supply chain contexts

FUTURE CAREER OPPORTUNITIES

Native plant nursery management experience opens pathways into restoration consulting, seed program coordination, ecological program management, and senior roles in conservation organizations. Skills transfer into botanical garden management, native plant research, and restoration planning. The combination of production expertise and ecological knowledge is highly valued across the sector.

Wildfire Structural Protection Crew Leader

Advanced

As a structural protection crew leader, you direct your crew through active wildfire deployments — coordinating setup, managing triage, communicating with incident command, and ensuring work is executed safely and effectively across multiple properties.

Experience Level	Seasonality	Physical Demands
Advanced	**Summer**	**High**

> *Leading a structural protection crew during an active fire is genuinely demanding. You're making real decisions under real pressure — about which properties to prioritize, how to set up systems fast, and how to keep your crew functioning when conditions are changing around you. The technical complexity, the leadership weight, and the clear consequence of the work is what keeps experienced people in this role. It's not easy, and that's exactly why it's worth doing.*

A DAY IN THE LIFE

Callouts can come fast. You're leading the mobilization, briefing your crew en route, and arriving on site with a clear idea of what needs to happen first. From there, you're moving between setups, checking work, adjusting priorities as the fire moves, and keeping communication tight with incident command. The crew is executing; you're coordinating and deciding. It's physically demanding and mentally constant.

WORKING CONDITIONS

You're operating in the same fire environment as your crew — smoke, heat, pressure — but with the added responsibility of directing how everything comes together. Clear communication, fast decisions, and crew safety are always the priority. Between deployments, you're debriefing, restocking, and keeping the crew ready for the next activation.

CYCLICAL NATURE OF ROLE

The role follows BC's wildfire season cycle. Deployments are demand-driven and may last days to weeks. Off-season periods may involve training, equipment preparation, or related fuels or restoration work.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Leadership under active fire conditions
- Fast, clear decision-making
- Crew safety and welfare management

Required Hard Skills

- Significant wildfire or structural protection field experience is required
- S-100 / S-185 certifications are required

On the Job Learning

- Tactical leadership in emergency fire environments
- Advanced pump and water systems management

• Communication within ICS structures • Composure and adaptability under pressure	• BC Wildfire Service WSPP-115 or equivalent leadership training is required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • ICS-200 or equivalent is typically required • WHMIS certification is required • Valid driver's license is required	• Crew deployment and site triage • Decision-making under operational pressure • Communication and coordination within ICS

FUTURE CAREER OPPORTUNITIES

Structural protection crew leadership opens pathways into senior fire operations roles, incident command training, and emergency planning. Some move into structural protection specialist or consultant roles for communities and municipalities. Others advance into fuels management leadership, fire operations coordination, or restoration contracting.

Conifer Seedling Nursery Worker

Entry-level

As a nursery worker, you tend conifer seedlings through their production cycle — sowing, watering, transplanting, grading, and packing stock for field deployment. Your attention to quality directly affects the success of reforestation programs.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *People in nursery work tend to appreciate the rhythm of it — there's a predictable structure to the day and a satisfying logic to plant production. You're watching seedlings progress through their development and playing a direct role in their survival and quality. The environment is controlled, the team is consistent, and the work has a clear purpose. For people who like working with living things and find indoor-outdoor nursery environments more appealing than remote cutblocks, it fits well.*

A DAY IN THE LIFE

A typical shift moves through the production cycle — you might start in the greenhouse doing transplant work, move to the outdoor beds for irrigation checks, and finish the afternoon grading or packing orders. The pace is consistent. The environment is familiar. You get to know the stock you're working with, and over time you develop an eye for what a healthy seedling looks like versus one that needs attention. That eye is genuinely valuable.

WORKING CONDITIONS

Nursery work happens in greenhouse environments and outdoor beds — controlled and structured compared to field roles. It can be warm, humid, and physically repetitive, but it's also clean and purposeful. You're part of a team that runs on schedule, and the seasons shape the rhythm of the work in a way that becomes familiar quickly.

CYCLICAL NATURE OF ROLE

Primarily spring through fall aligned with growing cycles, with peak activity in spring. Some facilities maintain year-round operations for propagation and cold stratification.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Attention to detail and quality consistency • Reliability and task completion over repetitive	• No formal education is required • On-the-job training is provided	• Conifer seedling production and plant care technique • Quality grading and production standard

work cycles • Ability to follow production protocols precisely • Basic communication with supervisors and team members • Adaptability to shifting production priorities	• Experience with plants, horticulture, or agriculture is an asset • WHMIS certification is typically required • Pesticide applicator certification may be required depending on responsibilities • Forklift certification may be required for some positions	adherence • Greenhouse systems and irrigation operation • Botanical observation and plant health monitoring • Production scheduling awareness and team coordination

FUTURE CAREER OPPORTUNITIES

Nursery worker experience is a foundation for advancement into nursery grower, production supervisor, and facility management roles. Skills transfer into greenhouse horticulture, native plant production, botanical garden work, and broader plant science careers. Some workers move into restoration field roles including native plant installation or seed collection.

Tree Planting Project Manager

Advanced

As a project manager, you plan and deliver reforestation contracts end to end — managing crews, logistics, client expectations, quality standards, and regulatory requirements from pre-season through final reporting.

Experience Level	Seasonality	Physical Demands
Advanced	**Spring–Summer**	**Moderate**

> *Project managers in silviculture tend to be people who loved being in the field but wanted more complexity and ownership over outcomes. You're not just executing — you're building the plan, assembling the crew, managing the relationship with the client, and being accountable when something goes sideways. For people who are energized by that kind of responsibility, and who still want to spend significant time outdoors, it's a rare combination.*

A DAY IN THE LIFE

A typical day crosses between the field and the phone. You might spend the morning on a block doing a quality check and talking through a production problem with a crew leader, and the afternoon on calls with the client or working through paperwork. Pre-season is heavy on logistics and planning. Mid-season is reactive and fast-moving. Post-season is documentation and close-out. No two contracts are quite the same, and the ability to hold a lot of pieces at once is what separates good PMs from great ones.

WORKING CONDITIONS

You move between sites, vehicles, phones, and desks. Field time is real but variable — some days are mostly on the block, others are mostly coordinating from a distance. The season is intense and time-compressed. Managing crews, clients, and contractors simultaneously requires organizational stamina that the work itself will develop, fast.

CYCLICAL NATURE OF ROLE

Primarily spring through summer aligned with planting contracts. Pre-season planning and post-season reporting extend the active work period. Some project managers work year-round with overlapping contract cycles or off-season development work.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Organizational capacity and multi-tasking across field and administrative functions	• Significant experience in tree planting or silviculture field operations is typically required	• Contract planning and operational management • Multi-crew supervision and

• Client and stakeholder communication • Leadership and crew development • Problem-solving under time and budget pressure • Accountability for contract outcomes	• Previous crew leader or supervisory experience is typically required • Post-secondary education in forestry, natural resources, or a related field is an asset Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is commonly required • WHMIS certification is required • Valid driver's licence is required • Familiarity with BC forest regulations and silviculture prescriptions is typically expected	field leadership • Client relationship management and expectation setting • Regulatory compliance and forest practice documentation • Budget management and production performance analysis

FUTURE CAREER OPPORTUNITIES

Project management experience in silviculture is a pathway into senior operations roles, silviculture contracting, consulting, and forest company positions. Some project managers move into compliance and quality assurance roles, stewardship coordination, or registered professional forestry. The combination of field credibility and operational management skills is broadly valued across the forest sector.

Native Plant/Restoration Project Manager

Advanced

As a restoration project manager, you plan and deliver native plant installation projects — coordinating procurement, contractors, and field crews to ensure ecological outcomes are achieved on time and to specification.

Experience Level	Seasonality	Physical Demands
Advanced	**Year-round**	**Low–Moderate**

> *This role suits people who want operational ownership over outcomes that matter ecologically. You're coordinating a supply chain of living material, working to ecological timelines that don't flex the way construction schedules do, and managing relationships with clients, nurseries, and field crews simultaneously. The projects you deliver leave a visible and lasting mark on the landscape. That's an unusual combination of accountability and purpose.*

A DAY IN THE LIFE

The work moves between field and coordination. A site visit to review installation progress in the morning, procurement calls with nurseries in the afternoon, a report draft in the evening. Planting windows are non-negotiable — the biology drives the schedule. Keeping all the pieces aligned around that constraint is the job. People who are energized by that kind of orchestration tend to thrive here.

WORKING CONDITIONS

A mix of field and office depending on project phase. Installation periods bring more site time; planning and reporting phases are more desk-based. Year-round work with intensity shaped by planting windows and project delivery timelines. Travel between sites is common.

CYCLICAL NATURE OF ROLE

Year-round with intensity shifting through planting, growing, and monitoring cycles. Spring and fall planting windows drive the highest coordination demand.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Multi-stakeholder coordination and communication • Project planning and ecological timeline management	• Significant experience in native plant production, restoration field operations, or related project coordination is typically required • Post-secondary education in	• End-to-end restoration project delivery • Multi-stakeholder coordination across nurseries, contractors, and clients

• Client relationship management and expectation setting • Problem-solving across ecological, logistical, and contractual variables Accountability for project outcomes	ecology, restoration science, forestry, horticulture, or related field is typically preferred • Strong knowledge of BC native plant species and restoration principles is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • Valid driver's licence is required • Experience with regulatory compliance and environmental documentation is typically expected	• Applied restoration ecology and species procurement management • Regulatory compliance and environmental documentation • Ecological monitoring and post-installation assessment

FUTURE CAREER OPPORTUNITIES

Restoration project management experience is a pathway into senior program management, ecological consulting, environmental stewardship leadership, and policy advisory roles. Skills transfer into habitat planning, biodiversity assessment, and environmental management broadly. Some project managers develop into restoration program directors or ecological research roles.

Silviculture Regeneration Surveyor

Experienced

As a regeneration surveyor, you assess reforested cutblocks against silviculture standards — collecting stocking, species, and condition data that determines compliance with legal reforestation requirements.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Fall**	**Moderate**

> *Surveyors in regeneration work tend to appreciate the independence of the role — you're given a block, a protocol, and the expectation that you'll execute it well without hand-holding. The work is methodical and technical, and the field environment is genuinely diverse across BC's forest types. There's a satisfaction in doing a survey correctly — in knowing your data is defensible and accurate. The regulatory importance of the work gives it real professional weight.*

A DAY IN THE LIFE

A survey day starts with block prep — loading plots, reviewing the prescription, checking equipment. On the block, you're navigating systematically to plot centers, establishing the plot, doing the counts and measurements, and moving on. The terrain on a regenerating block can be rough — grass, brush, slash — and you're covering significant ground. By the end of the day, data is clean and submitted. The work is unambiguous: either the regeneration meets standard or it doesn't.

WORKING CONDITIONS

Regenerating cutblocks are their own kind of terrain — dense grass, brush, competing vegetation, and uneven ground. You're out there covering distance on your own with a GPS and a tally device. It's physically active field work across the spring-fall season, and it rewards the kind of person who is comfortable working independently in complex terrain.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with survey windows and vegetation visibility. Timing varies by region, species, and contract requirements.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Independent field judgment and professional data accountability
- Methodical precision across repetitive plot work

Required Hard Skills

- Experience in forestry fieldwork or related technical field work is typically required
- Post-secondary training in forestry, natural resource

On the Job Learning

- Silviculture survey protocol execution and data quality management
- BC tree species identification and stand

• Physical self-management over long survey days • Honest and accurate documentation under independent conditions • Basic communication with project managers and quality reviewers	technology, or related field is commonly preferred • BC tree species identification proficiency is required • Silviculture survey protocol training is required — often provided by employer • Occupational First Aid (OFA Level 1) with • Transportation Endorsement is commonly required • Valid driver's licence is required GPS and data collection device proficiency is required	assessment • GPS navigation and independent field work management • Regulatory assessment and professional data accountability • Terrain navigation across diverse cutblock conditions

FUTURE CAREER OPPORTUNITIES

Regeneration survey experience is a pathway into senior forest technician roles, inventory and monitoring positions, and professional forester assistant work. Many surveyors progress toward RFT designation. Skills transfer into ecological monitoring, timber cruising, and broader silviculture consulting.

Commercial Thinning Harvester Operator

Experienced

As a harvester operator in commercial thinning, you selectively fell trees in juvenile stands according to silviculture prescriptions — improving forest structure and residual tree quality with precision machine operation over long field shifts.

Experience Level	Seasonality	Physical Demands
Experienced	**Year-round**	**Moderate**

> *Machine operators in commercial thinning tend to be people who find genuine satisfaction in technical precision over long shifts — the combination of equipment mastery and stand-level decision-making is what distinguishes good operators from great ones. You're shaping a forest stand systematically, tree by tree. The work is solitary and focused, which suits some people very well. The equipment is sophisticated and operating it well is a real skill.*

A DAY IN THE LIFE

The shift begins with a machine walk-around, pre-operation checks, and a brief on the block. From there, you're in the cab for most of the day — moving through the stand, selecting, felling, processing, and moving on. The prescription guides the decisions, but individual stem judgment is continuous. The machine is your tool and your workspace simultaneously. At shift end, maintenance is done before you leave.

WORKING CONDITIONS

Primarily in the cab of a harvester, in forested terrain, through the full working season. The forest environment is visible around you even from the cab. Shifts are long and the work is repetitive but technically demanding. Mechanical issues require ground work and basic troubleshooting. The combination of isolation and precision is what defines the role day to day.

CYCLICAL NATURE OF ROLE

Year-round depending on contracts and ground and weather conditions. Work volume may vary with seasonal demand and operational constraints.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Sustained concentration and independent decision-making over long shifts • Attention to prescription	• Heavy equipment operator certification or training is typically required • Experience with cut-to-	• Mechanical harvester operation and precision control • Silviculture prescription

compliance and selection quality • Mechanical attentiveness and early detection of equipment issues • Communication with supervisors and haul crew • Self-management and productive discipline in an isolated work environment	length or harvester equipment is typically required or strongly preferred • Silviculture prescription reading and stem selection training are required (typically provided by employer) • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is required • Valid driver's licence is required • Basic mechanical aptitude and preventive maintenance knowledge are expected	interpretation and stem selection • Preventive maintenance and machine management • Production efficiency and independent field judgment • Forest stand assessment from an operational perspective

FUTURE CAREER OPPORTUNITIES

Harvester operator experience is a foundation for machine supervisor roles, forestry contractor positions, and heavy equipment training roles. Skills transfer across cut-to-length harvesting, feller-buncher operation, and silviculture equipment broadly. Some operators develop into operations management, contractor ownership, or equipment training and consulting.

Tree Planting Crew Leader

Experienced

As a crew leader, you supervise a planting crew in the field — managing quality, production, logistics, and crew welfare across the full shift under the direction of the project manager.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Summer**	**High**

> *For people who've put in seasons as a planter and want more than just their own numbers, leading a crew is a natural next step. You're still in the field, still physical, but the work has more texture to it — you're watching people improve, solving problems on the fly, and taking ownership of how the whole crew performs. When a green crew hits their stride mid-season because of how you ran things, that's a different kind of satisfaction than your own daily count.*

A DAY IN THE LIFE

You're up first and thinking about the block before anyone else is moving. On site, you're parcelling land, checking in with planters, doing quality audits, and keeping the cache ahead of the crew. When someone's having a rough patch, you're the first call. When the ground changes mid-block, you adjust the plan. You're on your feet all day, covering ground between people and tracking how the whole operation is moving. At end of day, you're tallying, reporting to the PM, and making sure everyone's okay before you stop.

WORKING CONDITIONS

Same terrain as the crew — cutblocks, slash, variable weather — but with the added mental load of watching everyone at once and being responsible for how the day goes. Camp settings and long seasons are standard. Leading well in those conditions earns real respect from the people you work with.

CYCLICAL NATURE OF ROLE

Seasonal employment aligned with planting contracts, typically spring through summer. High-intensity periods during peak production months. Often a multi-season role for experienced planters.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Leadership and crew motivation in demanding conditions • Clear and direct communication under pressure	• Previous tree planting experience is typically required — usually one or more full seasons Occupational First Aid (OFA Level 1) with Transportation	• Field supervision and crew management • Quality auditing and production accountability • Real-time logistics

• Problem-solving and field decision-making • Accountability for both individual and crew performance • Ability to give constructive feedback and manage interpersonal dynamics	Endorsement is commonly required • WHMIS certification is typically required • Chainsaw safety training may be required depending on contract • Valid driver's licence is commonly required • Some employers provide supervisory training or crew leader development programs	coordination under field conditions • Coaching and performance development of less experienced workers • Operational communication between field and project management

FUTURE CAREER OPPORTUNITIES

Crew leader experience is a direct pathway to Tree Planting Project Manager and broader silviculture supervision roles. Many crew leaders move into contract management, quality assurance, or independent contracting. Skills transfer into brushing, spacing, surveying supervision, and restoration project coordination.

Wetland Restoration / Bio Engineering Crew Leader

Experienced

As a crew leader, you direct ecological construction and bio-engineering crews through restoration installations — managing quality, safety, and productivity in technically demanding riparian and slope environments.

Experience Level	Seasonality	Physical Demands
Experienced	**Spring–Fall**	**High**

> *Leading an ecological construction crew suits people who have done the work and understand its complexity. You're managing safety on slopes and near water, maintaining installation quality, and keeping a crew productive through physically demanding conditions. When a structure goes in correctly — when the crib holds and the bank stabilizes — you know your leadership made that happen. It's consequential work with a clear craft dimension.*

A DAY IN THE LIFE

You're at the site early, reviewing the plan and thinking through how to deploy the crew safely and effectively across the terrain. From there, it's a day of directing, checking, and adjusting — making sure structures go in correctly, that nobody's taking unnecessary risks on unstable ground, and that the work is moving at a productive pace. Quality and safety don't trade off in this kind of work; both have to be managed simultaneously.

WORKING CONDITIONS

Same challenging terrain as the crew — slopes, wet ground, riparian zones — with the added weight of running everything safely. The technical specificity of bio-engineering installation means the quality bar is high. Leading here builds a specific and respected set of skills in the restoration sector.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with restoration and construction windows. Project timing varies by site conditions, restoration objectives, and contractor.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Crew leadership and task management in physically demanding conditions	• Strong field experience in bio-engineering, restoration construction, or related work	• Ecological construction crew leadership and task management

• Safety management near water and on unstable terrain • Clear communication with both crew and project managers • Quality accountability for bio-engineering installation • Problem-solving with materials, terrain, and restoration plan requirements	is required • Bio-engineering installation technique training is required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • WHMIS certification is required • Swift Water Awareness training is commonly required for riparian crew leadership • Valid driver's licence is required	• Bio-engineering installation quality oversight • Riparian and slope safety management • Restoration plan interpretation and field adaptation • Multi-hazard site management and professional accountability

FUTURE CAREER OPPORTUNITIES

Crew leadership in bio-engineering and restoration construction opens pathways into restoration project management, environmental construction supervision, and ecological engineering consulting. Skills transfer into stream restoration design, fluvial geomorphology, and natural infrastructure management. Some crew leaders develop into training and technical advisory roles within restoration organizations.

Wildland Firefighter Crew Leader

Advanced

As a crew leader, you direct a wildland firefighting crew in suppression operations — assigning tasks, monitoring progress and safety, and coordinating with incident command throughout the shift.

Experience Level	Seasonality	Physical Demands
Advanced	**Summer**	**High**

> *This role suits people who have been on the line and are ready to carry more of it. There's a different kind of intensity to leading — you're still doing the work, but you're also watching everyone else at the same time. When it goes well, when the crew performs and holds the line and everyone comes off safe, there's a real sense of ownership in that. You built that. That's what keeps people in crew leader roles season after season.*

A DAY IN THE LIFE

The day starts with a briefing — you're absorbing the plan and then translating it for your crew. Once deployed, you're moving between people: checking in, adjusting, keeping communication tight. You might be working a saw or hose yourself, then stepping back to call something in. The responsibility is constant. At the end of the shift, you debrief, check the crew, and report up the chain. Then you rest and do it again.

WORKING CONDITIONS

You're in the same environment as your crew — heat, smoke, terrain, long shifts — but with the added weight of being responsible for the people around you. Camp life between deployments involves planning, debrief, and keeping the crew ready. Leadership in this environment is earned and very visible.

CYCLICAL NATURE OF ROLE

The role follows BC's fire season cycle, with peak demand from May through September. Crew leaders may be deployed multiple times per season. Off-season activities often include training, planning, and fuels management work. Availability and readiness expectations are high throughout the fire season.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Leadership under pressure
- Clear and direct communication
- Decision-making with incomplete information
- Emotional steadiness and

Required Hard Skills

- Significant wildland firefighting experience is required
- S-100 / S-185 certifications are required
- S-200 or equivalent crew

On the Job Learning

- Field leadership in high-stakes environments
- Crew coordination and task management
- Real-time fire behavior interpretation

crew composure • Accountability for people and outcomes	leader certification is typically required • Occupational First Aid (OFA Level 1 or higher) with Transportation Endorsement is required • ICS-200 or equivalent is typically required • WHMIS certification is required • Valid driver's license is typically required	• Communication within ICS structures • Decision-making accountability and operational resilience

FUTURE CAREER OPPORTUNITIES

Crew leader experience opens pathways into strike team leadership, incident command positions, prescribed burn coordination, and fire operations management. Some move into training and mentorship roles, safety coordination, or fuels planning. Others advance into senior fire management, environmental restoration leadership, or contracting roles where fire expertise is central.

Junior Archaeological Assessment Technician

Entry-level

As a junior archaeological assessment technician, you support field assessments in forested landscapes — conducting shovel testing, surface survey, and documentation to identify heritage resources before land use activities proceed.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring-Fall**	**Moderate**

> *People drawn to this work tend to be genuinely curious about what the landscape holds — the material record of human presence across millennia. Even in jurisdictions where negative results are the norm, there's a quality of attention the work requires that many find deeply engaging. You're learning to read the ground in a way that has both ecological and cultural dimensions. The field settings are often beautiful. The purpose is real.*

A DAY IN THE LIFE

A field day is structured by the assessment design — a transect, a grid of shovel tests, a surface survey of a specific area. You're moving systematically through terrain, opening tests, reading the profile, recording what you see. The work is careful and repetitive, but every site is a little different. When something comes up — a stain in the soil, a flake — the day changes. Documentation is rigorous throughout.

WORKING CONDITIONS

Forest terrain in spring through fall conditions — varied by region, project, and season. The physical demands are moderate and manageable. The conditions are often beautiful, and the work has an intellectual quality that makes field days engaging even when results are routine.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with field assessment season and project timelines. Winter and off-season work may include report preparation or data processing.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Methodical documentation and observation discipline • Attention to sediment, stratigraphy, and spatial context	• Post-secondary education or training in archaeology, anthropology, or a related field is typically preferred • On-the-job training in shovel test protocols and	• Archaeological shovel test and survey technique • Sediment stratigraphy and subsurface reading • Heritage resource

• Physical endurance across day-long systematic survey work • Professional care for heritage material and cultural sensitivity • Communication with supervising archaeologist	documentation is typically provided • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Valid driver's licence is commonly required • Knowledge of BC First Nations cultural heritage and consultation context is an asset	documentation and field recording • Systematic survey methodology and spatial awareness • Cultural sensitivity and heritage protection practice

FUTURE CAREER OPPORTUNITIES

Junior technician experience is a foundation for senior archaeological technician roles, AIA fieldwork leadership, and professional archaeologist assistant positions. Combined with relevant education, the experience supports progression toward registered archaeologist status in BC. Skills transfer into cultural heritage management, First Nations heritage stewardship, and environmental impact assessment.

Wildland Firefighter (Type 1 Crew)

Experienced

As a wildland firefighter, you're deployed to active fire events — building hand lines, managing water systems, holding perimeter, and mopping up hotspots. You work within a crew under direct supervision, following incident command direction in real time.

Experience Level	Seasonality	Physical Demands
Experienced	**Summer**	**Extreme**

> *For many people, this is the role that defines a career. There's a quality of commitment to it that's hard to find anywhere else — you're all in, every shift, in conditions that demand your full attention and physical best. The crew culture is part of it: the trust, the humour, the shared exhaustion. But there's also something that's hard to articulate about coming off a fire line at the end of a long day and knowing your crew held the line. That feeling doesn't go away.*

A DAY IN THE LIFE

The day starts with a briefing — fire weather, safety protocols, the plan. From there, you gear up and get in. Maybe you're hiking to the line, maybe you're dropped by helicopter into a zone. Once you're working, it's continuous: cut line, dig, move, hold. The work demands your full attention throughout, and the crew is the constant — you're moving as a unit, watching each other, staying in communication. When you come off the line, you're tired in a way that's hard to describe. Back in camp, you reset and do it again.

WORKING CONDITIONS

You're in the elements, fully. Smoke, heat, steep terrain, long shifts — the environment is dynamic and often uncomfortable. But the crew carries it together. Camp life between deployments has its own rhythm: briefings, gear checks, rest, and the kind of camaraderie that comes from doing hard things with people you trust.

CYCLICAL NATURE OF ROLE

The core fire season in BC runs May through September. Crews may be deployed multiple times within a season based on fire activity. Outside peak season, some workers transition into fuels management, prescribed burning, or off-season training. Schedules are on-call and demand-driven.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Physical endurance and resilience • Ability to follow direction	• S-100 Basic Wildfire Suppression Safety is required	• Fireline construction and suppression technique • Physical conditioning under

precisely under pressure • Team communication and accountability • Situational awareness and calm under stress • Adaptability to rapidly changing conditions	• S-185 Fire Entrapment Avoidance is required • Occupational First Aid (OFA Level 1) with Transportation Endorsement is required • WHMIS certification is required • ICS-100 (Incident Command System) is typically required • Physical fitness testing may be required by hiring agency	operational stress • ICS communication and field coordination • Fire behavior reading and terrain awareness • Team trust and emergency decision-making

FUTURE CAREER OPPORTUNITIES

Wildland firefighting opens direct pathways into crew leadership, initial attack coordination, prescribed burning, and fire operations planning. Many firefighters advance to Crew Leader, Strike Team Leader, or specialist roles in aviation, safety, or fire behavior analysis. Others move into fuels management, environmental restoration, or emergency response coordination roles.

Junior Forest Technician

Entry-level

As a junior forest technician, you collect field data in forest stands — measuring plots, recording vegetation, and building the technical foundation for a career in professional forestry.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Fall**	**Moderate**

> *People who come into junior tech roles are often drawn by the combination of outdoor field work and technical skill-building. You're not just walking in the woods — you're systematically measuring and characterizing what's there, building an understanding of forest structure and ecology that accumulates with every survey. The career trajectory from this role is clear, and the foundational skills you build here follow you throughout a forestry career.*

A DAY IN THE LIFE

A field day starts with a briefing on the survey area, protocol, and targets. From there, you're navigating to plot centers, setting up, and systematically working through the measurements. The work is methodical and precise — GPS, tally counter, diameter tape, species ID. You're building spatial awareness of how forest stands are structured. At the end of the day, data is reviewed and submitted. The forest looks the same; your understanding of it doesn't.

WORKING CONDITIONS

You're in the forest, across varied terrain, in spring through fall conditions. The work is active and outdoor, with the physical demands of extended walking through forested environments. It's one of the most direct ways to develop an understanding of BC's forest ecosystems that no classroom delivers.

CYCLICAL NATURE OF ROLE

Spring through fall aligned with fieldwork season. Some roles extend into shoulder seasons depending on project and survey needs.

REQUIRED EDUCATION & TRAINING

Required Soft Skills

- Methodical attention to data accuracy and protocol compliance
- Physical stamina for extended field days across varied terrain

Required Hard Skills

- Post-secondary training or education in forestry, natural resource technology, or a related field is typically preferred
- On-the-job training in specific survey protocols is

On the Job Learning

- Forest survey technique and plot measurement
- BC tree species identification and stand characterization
- GPS navigation and digital

• Ability to take direction and work under supervision • Curiosity about forest ecology and stand characteristics • Basic team communication and situational awareness	typically provided • Occupational First Aid (OFA Level 1) with Transportation Endorsement is commonly required • WHMIS certification is typically required • Valid driver's licence is commonly required • GPS and data collection device operation is commonly required — training provided	field data collection • Forest ecology observation and spatial awareness • Protocol compliance and field data quality management

FUTURE CAREER OPPORTUNITIES

Junior forest technician experience is a direct foundation for senior technician roles, silviculture surveying, and professional foresters assistant positions. Many workers use the role as a starting point toward RPF or RFT designation. Skills transfer across forest assessment, inventory, monitoring, and consulting roles throughout the sector.

Camp cook

Entry-level

As a camp cook, you prepare and serve all meals for field crews — keeping the kitchen stocked, food safe, and production running on schedule from early morning through the end of the day.

Experience Level	Seasonality	Physical Demands
Entry-level	**Spring–Summer**	**Moderate**

> *Camp cooking attracts people who genuinely like feeding others and find satisfaction in running a tight, functional kitchen under real constraints. You're working with limited equipment, feeding crews with serious caloric needs, and doing it every day on a schedule that doesn't move. What makes it work is the combination of pride in the food and the knowledge that what you're putting out directly affects how well the operation runs. The best camp cooks are known and respected throughout the industry.*

A DAY IN THE LIFE

The day starts early — usually well before the crew wakes up. By the time people are moving, breakfast needs to be ready and lunches need to be packed. After morning service, cleanup and prep for dinner begins. The kitchen doesn't stop, and neither do you. But there's a rhythm to it that becomes familiar, and the moment when a full crew sits down to a solid meal and the noise level drops because everyone's focused on eating — that's the job working.

WORKING CONDITIONS

Camp kitchens are working kitchens — functional, basic, and busy. You're in a contained space for long hours, and the pace is consistent. The connection to the crew is part of what makes it rewarding. You get to know the people you're feeding, and your role in keeping them healthy and fed is genuinely important to how the operation runs.

CYCLICAL NATURE OF ROLE

Camp cook roles follow field operation schedules — most active during planting and fire seasons, typically spring through summer. Some positions extend into fall depending on contract type. The role is tied directly to crew deployment and work windows.

REQUIRED EDUCATION & TRAINING

Required Soft Skills	Required Hard Skills	On the Job Learning
• Reliability and consistency • Ability to work long shifts without direct supervision	• FoodSafe Level 1 certification is typically required or expected	• Large-scale food preparation and production management • Kitchen logistics and

• Comfort in a production-based work environment • Flexibility and problem-solving with limited supplies or equipment • Positive presence in camp community	• WHMIS certification is required • Experience in food service, commercial cooking, or camp settings is an asset • Valid driver's license may be required for supply runs • First Aid is an asset	inventory under constraint • Consistency and reliability in high-demand environments • Community and crew support through food • Time management across multiple service periods

FUTURE CAREER OPPORTUNITIES

Camp cook experience builds a respected and in-demand skill set within the forestry and wildfire sectors. Experienced cooks can move into head cook or camp manager roles, take on larger contracts, or work across multiple industries including construction, mining, and fishing. There are also opportunities to develop menu expertise for specialized dietary needs or high-volume field operations.

APPENDIX L – Governance Committee's Terms of Reference (TOR)

24 July 2023

Silviculture Sector Labour Market Strategy Implementation Project

Governance Committee Terms of Reference

Purpose

The purpose of the Governance Committee is to advise and guide the implementation of a Labour Market Strategy for the Silviculture Sector in British Columbia in accordance with the deliverables identified in Schedule A of the Shared Cost Agreement between the BC Ministry of Post-Secondary Education and the Western Forestry Contractors' Association dated 5 June 2023. For the purposes of this work the silviculture sector in BC is defined as: seedling production, planting and related silviculture activities, independent forestry consulting and fire management. The strategy builds on the two recent Canada-British Columbia Labour Market Development Agreement research studies: Silviculture LMI Research Final Report August, 2021 and Labour Market Strategy For The Silviculture Industry January, 2022.

Goals and Objectives of the Strategy

The primary goal of the Strategy is to ensure the BC silviculture sector can adapt to maintain a capable, safe, and committed workforce in the changing conditions of current labour market trends, the economic, ecological, and policy transitions taking place in our forests and the forest industry as a whole, reconciling with Indigenous peoples, and the increasing effects of climate change on our forests and society. Four broad objective areas are identified in the strategy workplan including:

- Adapting to climate change in the workplace, focusing on wildfire risk awareness and management skills for crews
- Improving recruitment and retention through promoting the sector's work and opportunities
- Developing and offering worker and manager training for Indigenous cultural awareness and partnerships with First Nations
- Implementing Diversity, Equity, and Inclusion strategies consistent with changing Canadian demographics and social values.

Governance Committee Role

The Governance Committee comprises volunteer representatives from across the silviculture/forestry sector selected for their experience, insights, and commitment to the well-being and advancement of silviculture and forestry employers and employees and their work. Their primary role is to advise, steer, and generally oversee the Strategy's implementation ensuring it achieves its goals and meets the expectations of its funders including the federal and provincial governments and the Western Forestry Contractors' Association and other stakeholders including the public.

Members' Roles and Responsibilities

- Meet periodically prepared to provide guidance and direction to the LMP project team. If suitable to the Chair, members may recommend an alternative attendee if they are unable to appear themselves.
- Advise the Chairperson if they are unable to attend a meeting or fulfil any duties or tasks
- Apply their knowledge and perspective to support the productivity of the Committee and assist the Strategy in achieving its purpose.
- Review and approve research methodology, research tools, including proposed approaches for data collection i.e., interviews, surveys and committee consultations.
- Review and approve project deliverables, including preliminary findings documentation, draft reports, pilot results, and other products.
- Work collaboratively towards consensus respecting other members and their points of view
- Act in good faith consistent with the WFCA Code of Conduct
- Refer key stakeholders to be interviewed/surveyed
- Participate themselves in interviews and other consultations
- Encourage others to participate

The Chairperson's Roles and Responsibilities

- Plan, arrange, and communicate meeting dates and locations
- Ensure resources are available to record, distribute and file meeting minutes
- Review and approve for distribution draft meeting minutes
- Collaborate with Committee members to generate meeting agenda
- Circulate the agenda and support materials one week prior to meetings
- Facilitate meetings according to time and agenda
- Invite specialists to attend meetings as needed by the work of the Committee
- Ensure discussions end with a recorded decision, action, or definition.
- Appoint sub-committee Chairpersons considering the Committee's advice
- Receiver and record all votes

The Roles of Sub-committees

- The Committee may establish sub-committees to direct certain activities.
- Sub-committee members may include outside advisors and subject matter experts.
- The Committee Chairperson will invite a sub-committee member to chair its proceedings.
- The Sub-committee will report to the Committee

The WFCA Roles and Responsibilities

- The WFCA will invite members to join the board.
- The WFCA will invite a member to be the Chairperson.
- The WFCA will work with the Chairperson and members to ensure the Committee represents all sectors and stakeholders.

Meetings

Meetings will be conducted virtually. Meetings will be held on dates agreed by committee members and a tentative schedule will be organized at the 1st meeting. Meeting notices and agendas will be sent out 1 week before the date. Meeting minutes will be produced and sent to all members.

Committee Principles

- Partnership and collaboration
- Timely feedback and responsiveness
- Transparent decision making
- Information sharing supported by technology
- Clear objectives
- Clear roles and responsibilities
- Arrive at decisions through quorum consensus whenever possible
- Resort to a majority vote if quorum is present
- Quorum is more than half of members present

Accountabilities

The Committee is responsible for providing direction to the Governance Committee Chair, the WFCA Executive Director, representatives of the Ministry of Post-Secondary Education and Future Skills, the Project Manager, and the various consultants who will from time to time contribute to the work of the Strategy.

Governance Committee Members

Chris Akehurst	Akehurst Enterprises Ltd	Chair	South Coast
John Betts	WFCA	Executive Director	Kootenay Boundary
Jordan Tesluk	Symbiotic Solutions	Safety Advocate	South Coast
Bruce Blackwell	BA Blackwell & Assoc.	Consulting Forester	South Coast
Carly Zenzen	Spectrum Resource Group	Worker/HR Manager	Omineca
Crawford Young	Silverado	Contractor/Consultant	Omineca
Johnathan Clark	Replant.ca	Supervisor/Blogger	North East
Dick Mynen	TBD Consultants	Consulting Forester	Omineca

Sylvia Fenwick Wilson	Zanzibar Holdings Ltd	Operations Manager	Thompson Okanagan
Matt Robertson	Brinkman Reforestation	Operations Manager	West Coast
Carli Lawn	PRT Nurseries	HR Manager	West Coast
Doug Harrison	Apex Fire Services	Contract/Fire Fighting	Kootenay Boundary
Larry Price	FNs Emergency Services Society	Fuels Specialist	Cariboo
Maia Mercure	First Nations Forestry Council	Workforce Specialist	West Coast
Lasse Lutick	Hybrid 17	Contractor	Skeena
Tony Harrison	Cariboo Carbon	CEO	Cariboo
Matthew Boddy	Ministry of Post-Secondary and Future Skills	Senior Program Manager	Victoria

APPENDIX M – Briefing Paper: Continuing Education in British Columbia Prepared for the WFCA

Briefing paper

Continuing Education in British Columbia
Prepared for the Western Forest Contractors' Association (WFCA)
April 10, 2025

Prepared by Dennis Silvestrone

Canada BRITISH COLUMBIA

Funding provided through the Canada-British Columbia Labour Market Development Agreement.

1. Background

In 2022, with financial assistance from the Province of BC's Labour Market Partnership Program (LMPP), the WFCA developed a Labour Market Strategy for silviculture and related forest restoration in BC. Subsequently, the LMPP provided additional financial support to initiate the Strategy's action plan and to put in place key partnerships and other resources that would sustain work to implement the Strategy over the following five to ten years. A critical element of the implementation plan was the continuance of a Governance Committee, made up of representatives from industry and government, to champion and monitor progress with the various components of the action plan.

The WFCA is committed to advancing the goals of its Labour Market (LM) Strategy for ecosystem restoration in western Canada, and the silviculture sector in particular. To fully implement the Strategy, the Association will engage with and lever the resources of the education systems in British Columbia and possibly Alberta. Key segments of these systems include higher education (public and private) and further education providers (also public and private). The operations of these systems (e.g. public post-secondary education) are often confusing for those from outside the sector who wish to engage with them.

This paper will assist members of the WFCA Governance Committee overseeing implementation of the Association's Labour Market (LM) Strategy to better understand the post-secondary system in British Columbia, and to facilitate their decision making regarding how best to work with this system to execute its LM strategy. It will provide an overview of how the sector, including post-secondary continuing education and contract training programming offered by public institutions is currently operated.

To limit the scope of this work, and the length of the document, we will focus more on the public segment of this sector. This emphasis makes no judgement on value. It simply reflects that for many, particularly those who have not worked with public PSIs, their ways of operating can be confusing. Hopefully, this brief exploration will offer greater clarity to the reader.

2. Project goals

The overview will assist the governance committee and project managers to:

- Better understand the structure and processes of higher education in BC, particularly the continuing education sections of this system.
- Identify potential higher education partners.
- Decide how best to establish and manage these collaborations to execute the HRD Strategy.

3. Higher education in BC

a. Overview

To those not directly involved in or with the post-secondary system in BC (or elsewhere) the eco-system appears complex and is often confusing to navigate. As

noted, this backgrounder will set the stage for the Association to identify and/or develop training options for its existing and future workforce to advance silviculture and eco-system restoration in the regions its members serve. To assist the reader to situate these training options in the broader context of post-secondary education in BC, we'll first provide an overview of the system and some of its key components.

In entering this space, it is helpful to recognize that while post-secondary institutions (PSIs) share many common features (e.g. Admissions, Registrar, Faculties, etc.), they also vary considerably on the margins, particularly in how they provide continuing education and training to industry and communities. Hence, many descriptive statements that follow include qualifiers such as "generally", "usually" and "tend to".

b. Responsibility for post-secondary education

Canada's constitution identifies education as a provincial jurisdiction, governed by the legislature of each province. Consequently, in BC, all PSIs operate under the auspice of provincial legislation.

i. Private institutions:

Unlike other international jurisdictions (e.g. USA), Canada's post-secondary landscape is dominated by "publicly" funded institutions. However, there are still a wide variety of private colleges and universities (e.g. faith based, international language, industry training) operating in the province under the jurisdiction of the *"Private Training Act"*. Most are small institutions, often providing language training and short certificate programs to serve specific groups of students. Several, such as Sprott Shaw Community College and University Canada West, have grown into relatively large education providers. Requirements for operating are specified by the province; and trades, technical and academic programs offered by these institutions must be approved through, and conform to, the province's quality assurance regimes. It's estimated that approximately 13% of post-secondary students attend private institutions, many of whom are international students taking language and introductory academic courses.

Additionally, industry bodies, such as the Canadian Homebuilders' Association, create training arms to deliver training for their members, often in response to new developments in the field (e.g. technology) or changing government regulations. As well, industry related bodies, such as the BC Forest Safety Council, have stepped forward to develop suites of courses for improving safety in various forestry occupations, such as new faller training. Similarly, private companies have emerged to target the training needs of industry sectors, including various aspects of forestry and natural resource management. All these enterprises must also comply with provincial legislation.

ii. Public institutions

As noted, post-secondary education (i.e. education beyond Grade 12) in BC is predominantly provided by public institutions. The two principal pieces of enabling legislation are the "*Colleges and Institutes Act*" and the "*Universities Act*". There are also several other Acts specific to individual institutions (e.g. Thompson Rivers University). Some portion of a public institution's funds is provided by the province. The amounts will vary depending on the type of institution and its mix of programming. Also, overall, provincial funding for institutions, as a percentage of total operating costs, has declined from 80% in the 1980s to current levels of between 30 and 40%. There is further discussion below regarding funding to these institutions.

c. How are public post-secondary institutions organized?

It has been suggested that post-secondary education is byzantine in its structure and operation. In that the first university is attributed to Bologna, founded in the 11th century, and most present day PSIs evidence similar structures for governance and administration, and related decision making, this assertion has some merit.

i. Governance

In general, institutional governance falls into two large baskets:

- The first addresses the educational content and its quality, including what is taught, how it is assessed, who teaches it and who graduates. In this domain, those who teach have primary responsibility for decision making through their departments, Faculties, and education councils (e.g. Senates in universities, which are comprised primarily of faculty members from across various departments in the institution).

- The second focuses on the "business" of administering the university. This is the primary responsibility of the institution's board of governors and administrative staff.
  In colleges and institutes, boards tend to have more and broader authority than in universities, where senates are highly influential. Positions on these boards are filled by the provincial government, the institutions themselves and other representatives specified in legislation (e.g. the chair of Education Council/Senate).

These two domains are highly inter-dependent and (hopefully) operate in a complementary fashion. Notwithstanding the many differences in how post-secondary institutions in Canada operate, virtually all possess these fundamental components.

ii. The same but different

It is also worth noting that though PSIs are part of a common system, adopting similar structures, processes and policies, each is a highly independent corporate entity. In part this relates to the authority they possess to make many decisions independent of government and other oversight. This circumstance derives from a premise that to have independent institutions which will challenge orthodoxy and forge new knowledge and innovation, they need to be buffered from political influence and public stricture. This autonomy varies across institutional types, with major institutions (e.g. UBC) having the highest degree of autonomous decision making (e.g. which programs it will offer). More on this later.

Consequently, while we speak of a "post-secondary system", in many ways it is a loosely coupled federation with institutions relating to each other both as collaborators and competitors, often simultaneously.

Additionally, beyond the formal governance structures and processes, each institution has its own distinct culture, values and leadership, which create discernible differences in the tone and "personality" of an institution and how it relates to the world around it. While two schools can look the same on the surface, for reasons of history, current personnel and myriad external factors, they can seem quite different when one enters them. Hence, it's best not to presume too much about the institution until it is experienced in action.

d. Types of public post-secondary institutions in BC

Like provinces across Canada, and many jurisdictions around the globe, BC has a highly variegated post-secondary system with several institutional types intended to serve different roles in meeting learners' needs for education. These include:

i. Universities

The following typology is borrowed from Maclean's Magazine's annual rankings of Canadian universities:

- Medical/doctoral universities – These are the largest and most research-intensive universities, offering a broad range of PhD programs and medical schools. In BC, the University of British Columbia (UBC) is the prime example, though Simon Fraser University (SFU) is in the process of launching a medical school.

- Comprehensive universities – These universities offer a wider range of programs at the undergraduate, graduate, and professional levels,

with a significant degree of research activity. Examples in BC include the University of Victoria and, until recently, Simon Fraser University.

- Primarily Undergraduate – These universities focus primarily on undergraduate education, often with smaller class sizes and a strong emphasis on teaching. BC has a relatively large number of these institutions, many created through specific statutory language, to serve regions (e.g. Vancouver Island University) or special education purposes (e.g. Thompson River University). In BC, these institutions have less authority related to new program development, often requiring provincial approval for undergraduate and/or graduate programs.

ii. Colleges and institutes

Colleges and institutes are regulated through the Colleges and Institutes Act:

- Institutes - generally, focus on education with a strong applied/trades focus, often targeted at specific industries (e.g. ship building, aerospace), and have provincial mandates to deliver this training (e.g. BC Institute of Technology, the Justice Institute of BC).

- Colleges – generally, these schools primarily address the education and training needs of specific regions of the province (e.g. North Island College, Coast Mountain College). Programming includes university transfer courses (i.e. courses that can be transferred to university under-graduate programs) industry training (i.e. most have trades schools) and non-bachelor programs (i.e. up to two-year diplomas), usually in technical areas. Some have also evolved a small number of degree programs (e.g. Okanagan College has a bachelor's degree in business administration) to address local/regional workforce needs.

e. Funding of public post-secondary institutions

Funding for BC's PSIs is derived from several sources. Below we consider what can be a complex set of resource streams. However, to better understand this funding model, we will first spend a moment considering a key measure to institutional activity – the *student FTE*

i. What is a student FTE?

In many respects, this is a primary currency of public PSIs. The term stands for **F**ull-**t**ime **E**quivalent students. It represents the number of full-time

students an institution would have if students only attended on a full-time basis. However, because so many students attend part-time, an arithmetic calculation is used to arrive at an FTE value for each, and in aggregate. It assumes that a full-time student takes 10 three-credit courses each academic year. Hence 30 credits = 1 FTE. Producing 500 FTEs in a year would equate to 500 students each completing 10 three-credit courses in that academic year, or 1000 students completing five such courses. As noted, the provincial government sets a notional domestic student FTE target for each institution, in relation to base funding provided. International student FTEs are also tracked but are not part of institutional funding calculations.

A consequence of this measure is that it represents an immediate financial outcome (i.e. credits = tuition = operating revenue for the institution), and longer term financial (and political) benefits in that while missing domestic FTE targets rarely results in base funding reductions, meeting or exceeding targets increases the likelihood of institutions receiving additional funding for new programs or other initiatives (e.g. funds for student residences).

ii. Provincial government grants

This source of funding makes up approximately 40% of BC public PSI operating budgets. As mentioned earlier, this is a relative decline from 1980s levels which were at 80% +, owing to a host of economic and demographic factors (e.g. the rising cost of health care). This funding is comprised of several components:

- "Base" funding – This funding is provided to institutions on an annual basis, by the ministry responsible for higher education (currently *Post-secondary Education and Future Skills* - PSEFS) and the industry training authority (*Skilled Trades BC* - STBC), for apprenticeships and vocational skills training. The amounts provided to the institution are notionally linked to the number of domestic student FTEs that they are expected to deliver annually. These budgets are adjusted incrementally each year, based on various cost factors and provincial government priorities (e.g. demand for trades and medical school grads).

  Increases in base funding to support new programs requires that the program has either been approved by the province or, if the institution has authority to create certain programs, that all internal steps in the approval process have been completed. It is important to note that the approval of a new program does not guarantee provincial funding support. Though there is linkage between the two processes, funding decisions are distinct from approval processes.

- Project grants – These grants are provided by PSEFS and STBC, subject to the availability of funds, government priorities and/or innovative pitches made by respective institution, to complete time limited projects. Project grants are not included in the institution's "base" funds and will usually expire once the term is completed. Often, these grants are announced at the end of the fiscal year, derived from unspent funds (i.e. "*slippage"*) in various ministry operating budgets in that year.

- Tuition and other student fees – these sources have grown in importance over the past 20 years, now making up over 40% of annual operating budgets. During this time, domestic student tuition has been highly controlled by the province, with a directive each year on what increase, if any, is permitted.

  Critical during this same period was the growing reliance many institutions had on international student tuition, which was increasingly used to subsidize institutional operations. This source of funding has been dramatically reduced this year and for the foreseeable future. These changes will have a substantial impact on many of PSIs (in BC and other provinces) and will result in lay-offs and program closures at many of them. It also means that many of these institutions will be exploring alternative avenues to replace revenue lost in international tuition.

iii. Other funds

This funding category includes a wide variety of activities. Often, these sources are referred to as "*non-base*" or "*soft*" funding in that they are not assured, highly market dependent and, for some, can be very transitory:

- Research – For the larger institutions, such as UBC and SFU, research generates considerable revenue, including net proceeds to support faculty and administrative positions, as well as infrastructure. However, for most of the smaller institutions, their scale of activity is small and is, at best, cost neutral.

- Endowments and philanthropy – Generally, this support is garnered for large capital campaigns. A small number of institutions in BC (and in Canada) generate enough proceeds from their endowments and annual fund raising to have an appreciable impact on their annual revenue.

- Ancillary services – This includes sundry activities such as parking, food services and commercial rental. Most institutions have a business services unit to oversee this delivery.

- Continuing education – In most BC PSIs, CE activity does not receive any base funding and is expected to operate on student tuition earned from course registrations. Also, the courses and programs delivered are predominantly non-credit, which requires far less time to develop, approve and implement. Consequently, these units tend to operate more like small businesses than typical university departments. Generally, instruction is not unionized, and courses and programs tend to turn over much more quickly, based on market demand.

- Contract training – similar to CE, most contract training activity at BC institutions is intended to be profit generating. Volumes vary considerably across the system.

- Workforce development projects – many of the colleges and smaller universities contract with other provincial ministries and federal departments to provide project-based programming in support of workforce development (e.g. assistance to unemployed Canadians). These projects are often administered by the institution's CE unit. Some institutions, such as BCIT and Douglas College, generate $ millions of revenues annually.

f. Labour relations in post-secondary education

With limited exceptions, public PSIs in BC are highly unionized. Generally, there are separate bargaining units for faculty members and for support staff. In some institutions, there may be multiple bargaining units for both groups. In many institutions, an "industrial" labour relations model continues to exist, emphasizing negotiation, definition and trade-offs on work conditions and compensation. This has resulted in institutions evidencing adversarial, "zero sum relations between unions and management (e.g Capilano University's two-month strike in 2023). This context has complicated the path for many PSIs to innovate in the face of emerging challenges and opportunities.

Beyond the organization of the labour relations space, another fundamental feature of PSIs, particularly universities, is the concept of "*academic freedom*". This is an academic value that originated centuries past and affords faculty members and their departments considerable discretion and autonomy regarding what is taught and how. For example, faculty members have the freedom to decide how they will teach their courses, and the types of research that they choose to engage in. Similarly, departments have considerable agency to determine which new program

they wish to bring forward. While this faculty agency is not singular or absolute, it is often a necessary condition to consider when creating new programming or modifying existing courses and programs at a public institution. This value is embedded in most faculty collective agreements across Canada.

For those who are familiar with management models in other types of organizations, such as private firms or government departments, which tend to be more hierarchical in nature, the PSIs' management situation can seem unusual. Suffice to say that PSI managers (up to and including the president), possess limited authority to direct faculty members in certain educational matters such as how to teach a given course or to engage in other educational activities. In these areas, the traditions and collective agreements of the institutions assume that colleagues are best placed to support and guide each other's work (often referred to as a *collegial model*). Generally, managers must negotiate and/or influence change in these educational matters through other means (e.g. access to funding). Similarly, to create a new program, or modifying an existing one, the dean or vice-president responsible for that area must build sufficient support within the department and Faculty to move the initiative forward.

At the same time, for institutional matters other than educational delivery, the management structure and processes are like other organizations. This duality can be perplexing for those who are not familiar with the space.

Finally, it is worth noting that in most continuing education units, many personnel, including instructors, are not unionized. This provides these units with much greater flexibility to respond, create and innovate in increasingly dynamic contexts. However, given that most programming is not for credit, and the instructional pool is not unionized and itinerant, these units are often seen as having a peripheral role in the institution's decision making and operations.

g. Types of education programs

i. What is a credit?

Before delving into the various program types, it is worth spending a moment to consider the distinction in post-secondary programs between *credit* and *non-credit* offerings. A deep dive into this topic is beyond the scope of the current overview. However, when one interacts with post-secondary institutions, this terminology is often used.

Suffice to say that the genesis of the credit hour dates back over 100 years. It was originally developed by the Carnegie Institute in the USA to quantify and equate university faculty workloads (and compensation) across disciplines. Since then, the term has evolved to reflect:

1. A means of differentiating the academic value of courses and programs (i.e. credit courses have a higher academic value than those without credit) and,
2. A measure of contact time between instructor and students (e.g. a three-credit course = three hours per week of contact time) and,
3. The currency that a student needs to accumulate to successfully fulfill most programs' requirements (e.g. most bachelor's degrees require student to complete courses totaling 120 credits).

The following provides a bit more detail on where you might encounter these terms:

- Credit courses –are required for all academic and most technical and trades programs, across all types of post-secondary institutions. These courses must be approved by the governance bodies of the institutions and generally lead to bachelor's and graduate programs. Each course will be assigned a credit value (e.g. 3-credits) and each academic program has a required number of credits for successful completion (e.g. 30 cr. for a certificate).

- Non-credit courses – these courses generally focus on specific skill development (e.g. technical writing), professional upgrading (e.g. leadership) and personal enrichment. They are intended for people seeking to gain knowledge or skills relatively quickly without formal academic credentials. Traditionally, these courses were not assigned standard letter grades, were not included on official institution transcripts and rarely were considered in admission to bachelor's and graduate programs. In some cases, a set of non-credit courses can be assembled to receive a "certificate of completion".

In recent years, the rigid dichotomy between courses that have "credit" and those that do not has softened. More institutions have adopted translation processes, such as "*prior learning assessment and recognition"* (PLAR), to assess learning completed in non-credit courses and assign a credit value in relation to a particular credential. This relates to a broader trend, led by PSIs such as Royal Roads University, Thompson Rivers University and Okanagan College, to recognize prior learning that occurs in many contexts, involving both formal and informal learning situations. We'll consider this option further later in the report.

ii. Program types

There are several categories of programs that you will often encounter:

- Trades programs – These courses are required for apprenticeship programs (e.g. carpentry). Completion requirements are set by Skills Training BC. Historically, these courses were not directly transferable to other academic and technical programs, though in the past decade pathways from these programs to other academic areas (e.g. business) have emerged.

- Certificates – These are one-year credentials focused on specific occupational or professional areas, usually in technology and vocation areas. Many are transferable to diplomas and bachelor's degrees. Most require 30 credits to complete (e.g. 10 x 3-credit courses).

- Diplomas – Included here are two – year credentials focused on technical areas (e.g. various areas of information technology) and, at colleges, transfer to four-year degree programs (These are sometimes referred to as "*associate degrees*"). Most require 60 credits to complete (e.g. 20 x 3-credit courses).

- Bachelor's degrees – Most of these credentials are referred to as"four-year" programs, though many students now take five years or more to complete. The focus of the degree can range from strong academic emphasis (e.g. English Literature) to specific technical and professional areas (e.g. software engineer, forestry). Most require 120 credits to complete (e.g. 40 x 3-credit courses). Note that in BC, is not uncommon for students to complete 60 credits at a local community college before transferring to a university to complete their degree.

- Graduate certificates and diplomas – These credentials fall between undergraduate degrees and advanced degrees (e.g. masters). They concentrate at an advanced level on specific topics or skills in a particular sub-discipline or professional area (e.g. specific aspects of accounting, early childhood education, or GIS). In some institutions, these credentials can be credited towards graduate degrees. They are usually administered through the subject department responsible for this content.

- Graduate degrees – These "post-bachelor's" degrees focus on substantive advanced knowledge and skills in a relatively targeted area of study. These include master's and PhD degrees. Durations can vary considerably, though on average master's degrees are completed in approximately two years and PhDs in five years. These credentials are only offered at universities, and, with a few exceptions, PhD degrees are only offered at the larger universities.

- Professional advanced degrees – These credentials address the requirements of specific professions, such as law, medicine, and architecture. The creation of these programs is controlled both by the province and the licencing body.

- Continuing education credentials – CE programs (and courses) do not fall into a discrete category. Sometimes referred to as "lifelong learning" programming, these programs encompass both general interest topics (e.g. photography, literature) and more specific vocational and technical topics, sometimes at an advanced level.

  Generally, they are targeted at older learners (i.e. over 24 years), often with a focus on practical or professional development skills. A common feature of these programs is an emphasis on flexibility and accessibility. Various methods have been employed to achieve this, including synchronous and asynchronous online delivery.

  In most institutions, courses are taught by a pool of sessional, non-union instructors. These faculty are usually recruited from industry to bring high levels of current expertise and experience to the classroom. The enables the CE units to provide students with instruction that is highly focused and applied, facilitating transfer of new skills and knowledge from classroom to workplace.

  While the applied focus bears some resemblance to various professional graduate programs, particularly grad certificates and diplomas, CE credentials are usually comprised of "non-credit" courses. Consequently, at most PSIs, they do not ladder directly into other academic programs.

  The organizational home for this programming varies greatly across PSIs. Some institutions maintain separate continuing education units, others embed this programming in cognate departments and/or the extension arms of applied programs (e.g. agriculture, forestry).

- Micro-credentials – over the past 10 years, micro credentials have become more prominent on the higher education landscape. These credentials are of short duration (i.e. in BC, a maximum 244 hours, with many being 80 to 100 hours) and are intended to address the specific needs of economic sectors or groups of employers. They can be made up of credit and/or non-credit courses (or modules from these courses), and ideally, can be combined (i.e. "*stacked"*) with other micro credentials to form higher-level diplomas and degrees. In form, they are

like many continuing education certificates (and courses). As with CE programs, micro credentials can be found in a variety of departments within an institution, though in many institutions most micro-credentials are administered by their CE units.

- Industry training – This is less a category of educational programming as it is a vehicle for delivering specific training to employees of a given company, group of companies or industry association. In PSIs, this work is also referred to as "*contract training*", reflecting the contractual nature of the relationship between institution and clients. Usually, this delivery is contracted for a specified term and price, with no formal obligation for either party to continue the relationship. However, over time relationships often develop between the organizations. This social capital can provide considerable future value to both/all parties.

  For many institutions that engage in this activity, they expect it to realize profit net of all expenses and indirect costs associated with the endeavour. In some cases, this profit centre aids in funding other services and infrastructure across the institution.

  Content for the delivery can include existing courses, or portions thereof, tailored courses or other learning experiences, or a variety of combinations, depending on the needs of the client. In-person classes are often delivered at facilities of the contracting organization. Learners may receive academic credits for content covered; on other occasions the training is "non- credit". This decision is made based on employer needs, professional standards (e.g. trades training) and, often, the cost of the training.

  Administration of industry training is highly variable. In some PSIs, especially larger institutions focused on trades and specific technical areas (e.g. BCIT, SAIT), this work is coordinated either in subject departments responsible for these activities (e.g. heavy equipment mechanics, welding), or Faculties (e.g. Trades, Business). In other institutions, especially smaller ones such as many BC regional colleges, the work is organized out of a central unit. Often, this function is added to the remit of the CE unit. And there are instances where both models exist in the same institution, with some training managed by a particular Faculty (often Trades or Business) and other contract training falling to the CE unit.

iii. A final thought for this section

These various program options offer different trade-offs, particularly between rigor in review and speed to market. To move from concept to

delivery, a new credit credential can take two to three years to be approved and can be even longer if at a bachelor's or graduate level. On the positive side, during this time, there is opportunity to test (and challenge) market demand assumptions, better understand learner needs, and identify the best approaches to deliver program content. However, in a world that changes rapidly, the benefits of this rigour can be superseded by missed market opportunities.

Conversely, new continuing education non-credit courses can be brought forward within a term (approximately four months), and new credentials can be moved from concept to market in six to 12 months. The products are generally very practice oriented, offering good value for money, especially in enabling learners to apply what they have learned quickly and effectively. These benefits need to be weighed against reputational value of the credential (i.e. lower for CE) and the fewer options for transfer and laddering within higher education of the learning achieved.

h. How are PSI programs created?

As noted above, in general, PSIs have considerable scope to create educational programs, informed by multiple factors including labour market and student demand, cost to develop and deliver, and the likelihood of government financial support. Autonomy to make these decisions varies across institution types, with the major universities having the most latitude. The primarily undergrad universities display a range of authority to approve their own programs without provincial involvement. For colleges, institutes, provincial government approval is mandatory.

However, even when the institution has the authority to create a program, it must also wrestle with the question of how the program will be funded. If the program can operate on tuition revenue only (e.g. many professional programs such as MBAs), then the institution has considerable opportunity to offer it. However, for smaller regional institutions, and some types of more costly programs (e.g. trades such as welding and heavy equipment operator), funding from the province greatly helps to enable the PSI to offer the program at a moderate tuition level. In the absence of this funding, sharp market assessment is critical. Consequently, the provincial government can utilize these levers to influence program development decisions made by the institutions.

i. What are the common modes of delivery?

Traditionally, higher education in BC was delivered in person on campus. There were a few options to complete post-secondary courses at a distance, primarily through the Open Learning Agency and a small number of regional colleges such as North Island College and Okanagan College. However, over the past two decades, with the advent of new enabling technology and the catalytic impact of a global

pandemic that restricted people gathering, this landscape has shifted considerably. There are a couple of aspects of this dynamic to consider:

- Face to face versus distance delivery – for many years we lived in a binary world where courses were either one or the other. However, in the past decade we have seen a blending of in-person gathering with digital content to offer a much more nuanced array of offerings. The continuum of blending can extend from including a small amount of digital content and engagement, to course content being entirely digital, and all points in between. Today, even so-called "in-person" courses (held at a campus) use learning management systems (LMSs) that enable students to access digital content. This flexibility provides a host of design options that can be fine-tuned to better meet the needs of a particular student audience and to more effectively deliver subject matter.

- Synchronous versus asynchronous delivery – Highly related to the above, whereas in the past all students in a class gathered at the same time (synchronously), current options are much broader. Asynchronous delivery refers to opportunities for learners to complete course work on their schedule rather than one prescribed by the institution. This flexibility has proven advantageous for many learners, especially those who have work or other commitments that preclude attending regularly scheduled courses. However, emerging from the melding of face-to-face activities with digital content, course designers and instructors can adjust the amount of synchronous and asynchronous activity to meet student needs and achieve optimal learning outcomes. For example, whereas a course might previously have met for 1.5 hours twice per week, it might now meet once every other week, to complete specific activities that benefit from in person participation.

j. Are programs standardized across the province?

As with many topics in the post-secondary space, the more accurate answer is "It depends".

- Apprenticeable trades – In BC, these programs are administered and funded by *Skilled Trades BC*. Curriculum and learning outcomes are determined by industry and are common across all PSIs. Additionally, for "Red Seal" (i.e. inter-provincial) trades, such as carpenter or electrician, this harmonization exists across Canada.

- Undergraduate academic, technical and "Adult Basic Education" courses – The BC post-secondary system is highly integrated to enable transfer and student movement for courses falling into these categories. In general, this involves "credit" courses offered through the base funding of the institution. All public institutions participate in the *BC Council on Admissions and Transfer* (BCCAT),

which facilitates a very effective process to determine equivalence of transferability both between courses and programs. This level of articulation does not exist in most other provinces.

- Continuing education courses – These courses tend to be highly variable, depending on the interests and needs of prospective students (and corporate clients) in the PSI's region. Consequently, multiple institutions may offer courses or certificates with similar names. However, curriculum can vary and formal articulation between the offerings is limited.

- More recently, consortiums of CE units in institutions in BC (and elsewhere), have worked to offer common programming, curricula and learning outcomes across their programs. This includes the efforts of the *Continuing Education and Training Association of BC* (CETA – BC). The development of these consortia presents an opportunity for the WFCA to forge partnerships to advance their mandate and priorities.

4. What is Prior Learning Assessment and Recognition (PLAR)?

PLAR (also sometimes referred to as *Recognition of Prior Learning – RPL*) is a process that allows people to receive credit for knowledge and skills gained through non-credentialed and/or informal learning experiences, across a range of circumstances, such as work, volunteer work, or life experiences. The emphasis is on what you know or can do, rather credentials you have obtained. Hence, it provides an additional means for adults to receive "credit" for skills and knowledge acquired throughout and across their life's work. Assessments can include written tests (e.g. challenge tests), demonstrations of competence and portfolios of evidence. In principle, PLAR should both expedite people to complete credentials, and/or transfer learning (including from non-credit courses) to other educational contexts.

Ultimately, the PLAR process operates in relation to existing educational credentials. The process does not assess general knowledge, aptitude or competence, but rather what one knows or is competent in relative to the requirements of a give program. Hence, students will have their "prior learning" assessed to determine both an overall credit value (e.g. 50 credits of 120 credits required to complete a degree program) and equivalence with specific courses in the program profile (e.g. credit is granted for English 100 or Psychology 101). The student can then determine the courses they need to complete to be able to graduate with a particular credential.

In practice, PLAR remains a limited option at many institutions. Due to costs for students and compensation issues for faculty, many learners are unable or unwilling to proceed. Exceptions to this stasis are Thompson Rivers University, which has a very robust PLAR process, and BCIT, particularly with their support to former armed forces members, enabling them to complete post-secondary trades and technical credentials. Some colleges, such as Okanagan College, have made progress with PLAR, particularly with their

CE certificates. With the growing recognition that learning is life long and life-wide, and with the advent of new technologies to support assessment, many employers are placing greater emphasis on "what you can do" rather than your educational credentials. Hence, it is expected that use of PLAR will increase. This creates additional pathways for all learners, including those who have completed non-credit credentials, to ladder into other advanced credentials.

5. Potential partners

Presently, there are 25 public institutions in BC, providing many learning opportunities that could have value to WFCA members and their employees. Additionally, there are a variety of industry and private players also providing training in relation to eco-system restoration. Hence, the potential pool of partners is large.

However, the possibilities contract somewhat, especially with the public institutions, when one looks at admission requirements for programs, prerequisites for specific courses, and availability of the course or courses (i.e. the course may not be available in one's community or online). Additionally, if the primary goal is to (up)skill a sector's workforce on a timely basis, many credentials – including degrees, diplomas and even most one-year certificates – are too long to meet immediate training needs. While these longer programs are of considerable value to long-term workforce development, more expedient options seem indicated to accelerate progress with the WFCA's Labour Market Strategy. Note that the Governance Committee's work to complete an inventory of relevant (credit and non-credit) courses and programs will be extremely helpful.

Given these criteria, several promising possibilities for partnerships and/or education development emerge:

- Continuing education/contract training units – As described above, these units are external facing and generally have capacity to respond to employer and learner needs quickly and effectively.
    - Pro – For the most part, these units are not highly unionized and provide courses and programs that operate on market tuition or fee for service. Hence, if the CE unit can see evidence of demand at a price that will cover direct and indirect costs and can access subject matter experts to inform the development, it will have considerable impetus to proceed.
    - Pro – Content is applied and designed for rapid transfer to the workplace.
    - Pro – Instructional design is tuned to the needs of adult learners, further reinforcing practice and practicality.
    - Pro – These units reside in PSIs with substantial enabling infrastructure, including admissions systems, registration and record keeping systems and policies, centres focused on instructional design and the use of education technology.
    - Pro – With few exceptions, these units are oriented to primarily engage parties outside their institution. Consequently, they are better able to

maintain relationships with and deliver product to their community and industry partners.

- Pro – Quality assurance is generally strong, and credentials issued by these units are credible based on the reputation of the institutions and the system.
- Pro – In the forestry space, there are several organizations and consortiums active. For example, CETA-BC membership includes 15 colleges and universities, many of whom have worked together on forestry related initiatives, including engagement with WFCA in the past.

  Additionally, the new Thompson Rivers University *Wildfire Institute*'s mandate touches many aspects of the WFCA topics of interest, particularly regarding eco-system resilience and restoration. The timing for active program delivery has yet to be announced. However, given the preeminent role that the province has given TRU in leading both wildfire science and wildfire management, at minimum, they will be a critical party to collaborate with going forward.

  Similarly, SFU's Wildfire Networks Initiative (through the Wosk Centre for Dialogue) has recently launched and will be working with a broad constellation of prospective collaborators to mitigate the risk and recover in the aftermath of wildfires.

- Con – Historically, CE courses and programs have not been standardized or articulated across the province. If this option was pursued, it would be important to ensure that the participating CE units committed to harmonizing programming to support WFCA members across BC.
- Con – Not all CE units have, or have access to, a deep catalogue of training associated with silviculture and restoration. Their strength is in working with subject matter experts to fashion training that meets client needs. If partnering with these units, WFCA would need to ensure that they had access to the appropriate expertise to facilitate new course design and training delivery.
- Con – Both the Wildfire Institute and the Wildfire Network have additional areas of emphasis, particularly related to fire suppression and management. Additionally, both are new and are just moving to full operations. It's not clear how quickly they will be ready to delivery new programming. Also, for the TRU institute, it appears that their early program development may focus more on their fire science curriculum and credentials.

Note that with this option, the WFCA could choose to work with a group of institutions that it selected, or it could engage with CETA-BC, a pre-existing consortium of CE units across BC.

- Private PSI – as noted, BC has many private education providers, particularly for vocational training. In relation to this discussion, these providers include industry supported groups such as the BC Forest Safety Council and COFI, as well as several very capable private organizations.
    - Pro – Given the diversity of providers, there is the potential to develop bespoke learning opportunities targeted to meet workforce needs.
    - Pro – Generally, costs of private provider delivery are lower, reducing the cost per learner.
    - Pro – Some WFCA members provide related training. Their involvement draws on and builds internal strengths and creates additional benefits for providers.
    - Pro – Many of these providers have development and delivery processes that are less cumbersome than those seen in the public system. This would accelerate the speed of bringing programming to market.
    - Con – To create a sustainable program across time, it will require additional sustainable infrastructure, including:
        - a registration system, and
        - a means to track learner progress and to facilitate portability of learning across regions of the province, and
        - a function to ensure program quality and relevance.

      This will require either WFCA or an affiliate to build, operate and maintain this infrastructure.

- Assessment agent (e.g. PMI) – this option approaches partnerships slightly differently. Modelled on the *Project Management Institute's* "Project Management Professional" designation, WFCA would identify key competencies required in various aspects of their sector and then manage assessment (and accreditation if required) of prospective candidates. This would leave both public and private educators with an option to deliver courses and programs aligned with the competencies that learners need to achieve.
    - Pro – WFCA would maintain maximum control over the competencies that learners require to meet the standards of the industry. As needs of the sector changes, these competencies and standards could be modified.
    - Pro – the costs of program development and delivery would be borne by the training providers.
    - Pro – the Association could establish an ongoing revenue stream from assessment and from issuing credentials (akin to the PMP).

    - Con – The WFCA would need to create the standards for competence and the assessment rubrics needed to determine if learners possess the required competencies.
    - Con – the Association would also need to ensure that there is a sufficiently robust market for the credentials that would drive continued business.

- Con - Most critically, employers would need to endorse the credential as a condition of employment. Ideally, the credential(s) would have a broad appeal with different industries. Part of the strength of the PMI model is that it is recognized across many different types of organizations and sectors.
- Con – Relatedly, the Association would also need to set up/expand an administrative function to manage student transcripts and credentials. Critical here is the continuity of the functions to enable past learners to access their records in the future. This work would require parallel development of policies to direct how this confidential information is managed and accessed. A business model to fund the operation would also need to be created and executed.
- Con – finally, given emerging trends in adult education with PLAR, a process would be needed to assist learners to braid together different pieces of learning to create a coherent, easily recognized and understood credential.

6. Building relationships

Many of the approaches needed to build relationships with various educational and training organizations mirror how the Association leadership and membership work with other long-time collaborators in government, NGOs and industry. That is, the engagement is approached from a place of trust, mutual respect, and a recognition that there needs to be reciprocity in the relationship. There is ample research on industry collaboration to assert that without this foundation, other tactics will not be effective. In addition to these fundamental tenets, several tactics merit consideration.

- Though it has limited administrative infrastructure, the WFCA appears to have been effective in building sound relationships with a diverse set of players in the broader forestry sector. This expertise will transfer well to the work being discussed. Given current resource levels, capacity and priority setting are critical considerations.

- It will be important for leaders – staff and Board – to develop an even more nuanced understanding of the PSI space, and vice versa.

  Ideally, the Association would have one or more members assigned to liaise with the institutions. Assigning one person to this role increases expertise in the PSI space. However, this requires that there is one person with the time/capacity to ensure that these relationships are attended to and maintained.

  Alternatively, the Association could assign different members (e.g. board members, volunteers) to liaise with institutions and private providers in their region. This reduces the demands on one person/position, builds strong locale connections, and spreads the social capital across the Association, mitigating the impact if one of these liaison reps departs from the WFCA.

In the past, the Association of Science Technologists and Technicians - BC (ASTTBC) employed this approach, with the CEO maintaining broad connections across the province, while other board members or staff liaised with individual institutions to maintain a closer set of relations. Annually, the CEO and local rep would meet with key members at each of PSIs to discuss ASTT plans, developments with the provincial governments, and initiatives (including relevant program development or changes) that the PSI was planning.

- Wayfinding - An important aspect of the liaison role discussed above is to either develop sound understanding of what the various PSIs offer, or have access to someone (or ideally, multiple sources) who can assist employees, owners and leadership of the WFCA with wayfinding in the PS system. As is evident in the previous discussion, the PSI ecosystem brings with it a language and array of learning pathways that can be confusing to those who are unfamiliar with the space. Hence, having ready access to this information, and effective translation when required, with be an important asset to develop.

- Micro-credentials – the WFCA will have opportunities to partner with PSIs (bilaterally and through consortiums) to develop and launch micro-credentials that address aspects of the training continuum that the Association is iterating. To date, the province has provided grants to collaborations between PSIs and industry to address verified training needs (for emerging and existing workforce). The current call for proposals (closing in May) provides an excellent opportunity to test and prove (or refute) the potential values associated with a collaboration between WFCA and PSIs, notably CETA-BC.

- Laddering – Ideally, the learning options that are being assembled can be woven together to create multiple, easy to understand pathways for learners, and employers to track. While access to high quality courses is important, it is equally critical that the pieces can be fit together in ways that are coherent to learners and useful to employers in the sector. Given the myriad providers in the space, the Association will need to convene sessions of the willing to:
    - clarify/confirm longer term learning outcomes,
    - map the pathways,
    - identify where there are gaps that will require new development, relative to other existing offerings that can be slotted into the path.

APPENDIX N – Evaluators Report

CATALYST
RESEARCH GROUP

Evaluation of the Silviculture LMP Implementation Strategy

Final Report, March 30, 2026

Western Forestry
Contractors' Association

EXECUTIVE SUMMARY

INTRODUCTION

In 2020/21, the Western Forestry Contractors' Association (WFCA) received funding from the Government of British Columbia's Sector Labour Market Partnerships Program to develop and implement a labour market strategy for the silviculture sector in B.C. Building on Labour Market Information research completed in 2021–22, the three-year strategy set out to upskill the workforce, improve workplace safety, strengthen recruitment and retention practices, and support the sector's adaptation to changing economic, ecological, and policy conditions.

EVALUATION PURPOSE AND METHODOLOGY

Qatalyst Research Group was engaged to evaluate the strategy's implementation and outcomes across three areas: implementation, achievement of early outcomes, and ongoing impacts and sustainability.

The evaluation used a mixed-methods approach combining secondary and primary data sources. Secondary sources included four WFCA interim reports to the Ministry of Post-Secondary Education and Future Skills, all training materials and tools developed (Wildfire Safety Training, Indigenous Awareness Training, Chainsaw Operations Curriculum, Compass Respectful Workplace Program, and Career Pathfinder Tool), a briefing paper on continuing education in BC, and the WFCA's enrolment and participation tracking data. Primary data collection included post-training surveys completed by 57 participants across all training modules, a follow-up survey of 33 participants who registered for or completed Wildfire Safety training, one-on-one interviews with six of nine Governance Committee members, and a validation workshop with the Governance Committee. An evaluation framework and logic model were developed to guide the assessment.

The evaluation was subject to several limitations, including modest survey response rates due to constrained follow-up outreach and narrow targeting criteria (surveys were administered only to those who fully completed courses), implementation delays that reduced the pool of eligible respondents, and the early stage of deployment for some components (particularly the Compass Program and Career Pathfinder, which launched at the January 2026 WFCA Conference).

EVALUATION FINDINGS

IMPLEMENTATION

The WFCA successfully developed and delivered all planned components of the strategy, despite facing significant implementation challenges including contract negotiation delays, limited project management capacity, budget pressures, and the seasonal nature of the industry. A volunteer Governance Committee provided essential guidance, subject-matter expertise, and hands-on engagement throughout the project. Members championed specific components, led sub-committees, and participated directly in reviewing, testing, and piloting materials.

The strategy produced five major deliverables: a three-tier Wildfire Awareness Training series delivered online; a Power Saw Operation curriculum field-tested with brushing and spacing crews; an Indigenous Awareness Training module and the Working Effectively with Indigenous Peoples (WEWIP) in-person course developed in partnership with Indigenous Corporate Training Inc; the Compass Respectful Workplace Program using AI-assisted tools to generate personalized workplace policies; and the Career Pathfinder tool with an expanded Role Directory covering over forty occupations in the restoration economy.

Several components underwent significant pivots from their original plans, informed through feedback from piloting and committee, ultimately resulting in more responsive final products. The EDI component was reframed from compliance-based diversity training to the Compass Respectful Workplace Program after industry feedback revealed resistance to prescriptive approaches. The wildfire training shifted from a field-based model to online-only delivery, focusing on awareness rather than hands-on fire suppression. Career path materials evolved from traditional career mapping to an interactive, restoration-economy-focused tool powered by LLMs.

The WFCA also built a substantial network of partners across five categories: restoration economy (OGRIS, BC Energy Regulator, Enserva), education (Thompson Rivers University, CETABC), safety (BC Forest Safety Council, WorkSafeBC), Indigenous organizations (FNESS, BC First Nations Forestry Council), and government agencies (BC Wildfire Service, Public Safety Canada). ForestryTogether, a national wood products consortium, emerged as a major cross-cutting partner. These partnerships extended the strategy's reach and positioned silviculture as a more established part of the broader forestry sector.

Achievement of Early Outcomes

Training uptake was modest but growing, with high satisfaction among those who participated. As of March 2026, several hundred workers, supervisors, and crew members had registered for training, with completion rates varying by format. In-person training achieved the highest completion rates: Power Saw Operations and WEWIP both reached 100% completion among registrants. Online wildfire training completion ranged from 9% (Tier 3) to 38% (Tier 1), reflecting challenges common to self-directed online learning. Indigenous Awareness Training achieved a 65% completion rate. Most participants learned about the training through employer or colleague referrals (55%) or direct WFCA invitations (38%).

Among those who completed training, satisfaction was high. Ninety-three percent of completers reported being satisfied or very satisfied (average rating 4.6 out of 5), and even 72% of non-completers expressed satisfaction. The average likelihood of recommending the courses was 4.6 out of 5, with half of follow-up survey respondents having already recommended the training and another 30% planning to do so.

Early evidence of impact is emerging across all components. Approximately 90% of Indigenous awareness training participants reported increased understanding of Aboriginal and treaty rights, building relationships on unceded lands, and Indigenous history since 1867. Wildfire training has been integrated into companies' onboarding processes. Nearly two-thirds (65%) of follow-up survey respondents reported that the training sparked interest in further wildfire-related education. The Compass Respectful Workplace Program is described as particularly valuable given that many companies have outdated policy documents. The Career Pathfinder tool was

demonstrating that career progression is possible without formal education, countering perceptions of the industry as a dead end.

Challenges and Lessons Learned

The most significant challenge was limited promotion and reliance on passive communication. Email-based outreach proved insufficient to reach contractors and company owners across the industry. Many have not yet recognized the value of the tools, assumed they were not relevant to their work, or felt too busy to engage. Governance Committee members consistently identified this as a fundamental weakness, noting that information sent by email is not very effective at encouraging adoption.

Additional challenges included a compressed pre-season window for engaging with contractors and workers, and a shifting labour market context from scarcity to surplus, which affected the urgency of recruitment-oriented materials. Navigating political sensitivity around EDI language also required careful reframing of the Respectful Workplace component.

Key lessons learned include the importance of adopting an MVP approach to allow iterative improvement, engaging high-calibre external consultants to fill internal capacity gaps, building flexibility into timelines to accommodate seasonal industry demands, and using novel technologies (AI/LLM tools) to reduce administrative burden and increase engagement. The feedback also underscored that offering training for free does not guarantee uptake; intrinsic interest and perceived personal benefit were the key differentiators between completers and non-completers.

Opportunities

Direct, in-person engagement is the most effective pathway to broader adoption. The feedback highlighted that face-to-face contact through conferences, workshops, industry tours, and direct conversations builds the trust needed for contractors to engage with new tools. The annual WFCA Conference has proven to be an effective anchor for engagement, and contractors who experience the tools firsthand become word-of-mouth advocates. The WFCA should prioritize increasing direct engagement across the industry, synchronizing outreach with seasonal rhythms and leveraging peer advocates.

CONTENTS

1. Contents

1. INTRODUCTION 1

2. EVALUATION FINDINGS 7

2.1 IMPLEMENTATION 11

2.2 ACHIEVEMENT OF EARLY OUTCOMES 16

2.3 SUSTAINABILITY AND FUTURE PLANS 23

3. CONCLUSIONS AND RECOMMENDATIONS 25

List of Tables and Figures

Table 1. Evaluation Issues and Questions 2
Table 2. Post-Training Survey Completion Rates by Course 4
Table 3. Follow-up Engagement Rates for Wildfire Training 4
Table 4. Implementation Challenges and Mitigation Strategies 15
Table 5. Completion Percentage by Course **17**
Table 6. Course SatisfactionCourse Satisfaction **19**
Table 7. Likelihood of Recommending the Course **19**
Table 8. Participants who reported an increased understanding of the following topics **21**
Table 9. Challenges and Recommendations from Engaged Groups **22**
Figure 1. Reason for Enrolling in the Course **17**

1. INTRODUCTION

1.1 WESTERN FORESTRY CONTRACTOR'S ASSOCIATION

The Western Forestry Contractors' Association (WFCA) is an association of small and medium-sized enterprises providing reforestation and ecosystem restoration, wildfire protection and forestry consulting services for governments and industry. Its members operate primarily in British Columbia and include professionals, technicians, and skilled seasonal workers. Reforestation is a major youth employer.

The WFCA was established in 2017, through a merger of two organizations with a long history of supporting forestry contracting business in BC:

- The Society of Consulting Foresters was founded in 1968 as a division of the Association of BC Forest Professionals with an original mission to raise the profile of forestry consultants, improve standards of work, and increase opportunities for contract work with government.
- The Western Silvicultural Contractor's Association was formed in 1984 with a focus on advocating for effective policies for the stewardship of the province's forest resources.

The merging of the two organizations into the WFCA created one unified system, provided a more comprehensive voice for the members, and brought more resources and long-term stability through combined membership and funding. The WFCA focuses on the following:

- *Communication*: provides regular communication and press releases about industry issues and events, including annual conferences and hosting international conferences on wildfire.
- *Business practices*: advocates for sound, appropriate regulations and standards (labour and contracting standards) and the establishment of value-based business practices.
- *Forest Policy*: advocates for high professional standards, including professional compliance certificate development, review of professional reliance standards, and input into BCTS structure and policy framework.
- *Safety*: actively participates in the Forest Safety Council and advocates for implementation of safety programming and training for the industry.

In 2020/21, the WFCA received funding from the Government of British Columbia's Sector Labour Market Partnerships Program to conduct Labour Market Information (LMI) research on the silviculture sector in B.C. and develop a human resources strategy to address recruitment and retention challenges facing employers. The results were published in two reports: the *Silviculture LMI Research Final Report* (August 2021) and *Labour Market Strategy For The Silviculture Industry* (January 2022).

The primary goal of the Labour Market Strategy was to ensure the BC silviculture sector could adapt to maintain a capable, safe, and committed workforce in the face of changing labour market trends, economic, ecological, and policy transitions in the forest industry, reconciliation with Indigenous peoples, and the increasing effects of climate change.

1.2 PURPOSE OF THE EVALUATION

Qatalyst Research Group was engaged to develop an evaluation framework and a logic model for the strategy, which guided the review of the strategy implementation and the assessment of outcomes to date. This evaluation assesses the implementation and outcomes of the three-year project across three areas (implementation, achievement of early outcomes, and on-going impacts) and identifies lessons learned and recommendations for future programming.

The evaluation is organized around three core issues: implementation, achievement of early outcomes, ongoing impacts and sustainability. The specific questions that the evaluation intended to answer are provided in the following table.

Table 1. Evaluation Issues and Questions

Evaluation Issues	Key Evaluation Questions
Implementation	To what extent have the different project components been implemented according to the plan?
	What are the key lessons learned from the implementation of each component of the Project?
Achievement of Early Outcomes	In what manner and to what extent is access to effective industry-validated climate change adaptation training increasing?
	In what manner and to what extent is the project contributing to increased awareness of Indigenous cultures and practices, improved relations, and increased recruitment and retention of Indigenous workers?
	In what manner and to what extent is awareness of the career paths and opportunities in the industry increasing?
	In what manner and to what extent is the project contributing to a more equitable, diverse, and inclusive workplace?
	In what manner and to what extent will the project outputs and elements be sustained going forward?
On-going Impacts	How will the project contribute to the achievement of the intended longer-term outcomes?
	What next steps should be taken to build on the progress that has been made?
	In what manner and to what extent is the project contributing to increased awareness of Indigenous cultures and practices, improved relations, and increased recruitment and retention of Indigenous workers?

1.3 EVALUATION METHODOLOGY

The evaluation used a mixed-methods approach, which involved a review of secondary data sources (documents, training materials and resources) and primary data sources (data collected through interviews, surveys, and a focus group with the governance committee).

The following documents and data sources were reviewed:

- **WFCA Interim Reports.** The WFCA submitted four interim reports to the Ministry of Post-Secondary Education and Future Skills summarizing the project's activities, progress made in implementation of various components of the strategy, challenges and issues and mitigation strategies WFCA implemented to address the issues.

- **Training Materials and Tools Developed.** We reviewed all the training materials, resources and tools developed, including:

    - Training Materials and resources including Wildfire Safety, Indigenous Awareness Training modules and Forestry Chainsaw Operation Training curriculum. We enrolled in and reviewed all three tiers of the Wildfire Safety and Indigenous Awareness Training to contextualize the concepts and course material established in their respective outlines. The context of each training module was crucial to our analysis of the course content as well as informing our development of the post-completion questionnaires.

    - Respectful Workplace Compass Program. Also in the pre-pilot phase, the Compass Program guides forestry contractors and companies through a step-by-step process to build respectful and inclusive workplaces.

    - Forestry Career Mapping Tool. Currently in pre-pilot testing, the Career Mapping Tool asks users a series of standardized questions, develops a profile to determine appropriate roles within the forestry sector, and highlights next steps the user can take to pursue this career path.

- **Other documents and participation tracking sheet** by the WFCA. The WFCA's enrollment database tracked each time a user began the training and their progress towards completing it. Other documents reviewed included the TOR for the governance committee, documented changes in approach to training development and delivery (i.e. addendum to the AEST Proposal re: Fire Training), a briefing paper on continuing education in BC prepared for WFCA, and post-secondary documents developed in support of training (e.g., Indigenous History and Cultural Awareness Supplementary Information).

Primary data sources include:

- **Survey of 57 participants who completed various training modules.** The post-training survey was linked to the course completion to ensure that participants received the survey link immediately upon completing a course rather than having to monitor online completions daily. It was also important to target only those who completed the courses because the purpose of the survey was to understand their satisfaction, quality of the training materials and recommendations for improvement. Participants were also asked to share key insights, including how they became aware of the course, why they chose to register, and their satisfaction with the course, as well as recommendations to improve the training.

    At the time of writing this report, there were a total of 135 course completions across all tiers of the Wildfire Awareness Training and the Indigenous Awareness Training. Out of

those 135 completions, 57 completed post-training surveys, which were used for this analysis.

Table 2. Post-Training Survey Completion Rates by Course

Course	Completed Courses/Received Survey Link	Completed Post-Training Survey	Response Rate (%)
Wildfire Safety Tier 1	40	10	25%
Wildfire Safety Tier 2	19	6	32%
Wildfire Safety Tier 3	9	3	33%
Indigenous Awareness Training	67	38	57%
Total Completions	**135**	**57**	**42%**

Note: Please note that the post-training survey was sent to only those who have fully completed the course by September 2025?

- **Follow-up survey of 33 participants who completed, partially completed or registered for Wildfire Safety online training.** In September 2025, we began outreach to all participants who had registered and those who had completed training, partially or fully. The follow-up survey was targeted to each group of participants. For example, those who completed the training were asked whether their satisfaction level changed, how they use the knowledge gained, and whether they recommended the training to others. Those who partially completed or did not complete the training were asked why they did not complete the course, how satisfied they were with the course, and whether they have recommended it to others.

  The invitations were sent to all 135 participants who registered or completed the training. We sent weekly reminders to encourage participation which yielded a 25% response rate. Participants were categorized into three groups based on course completion:

  - full completers (100% completion of the training)
  - partial completers (more than 33% completion of training)
  - non-completers (less than 33% completion of training).

Table 3. Follow-up Engagement Rates for Wildfire Training

Follow-up Survey	Total Invitations Sent	Surveys Completed	Response Rate
Full Completers	42	15	36%
Partial Completers	39	8	21%
Non-Completers	54	10	19%
Total	135	33	25%

- **Interviews with 6 members of the Governance Committee.** We completed one-on-one interviews with 6 of the 9 members of the Governance Committee who were actively engaged with the LMP. The purpose of these interviews was to gather information on implementation successes, challenges, potential mitigation strategies, and lessons learned.

- **Workshop with the Governance Committee members.** The governance committee received a draft of the report to review prior to focus group engagement**.** The focus group was used to validate the findings of the report, gather any feedback on the evaluation findings and further discuss the future plan and the sustainability of different elements of the strategy. These discussions are incorporated in the conclusion chapter of the report.

1.4 EVALUATION LIMITATIONS

Our study of the LMP is subject to the following limitations:

- **Limited survey responses due to constrained follow-up outreach and narrow targeting criteria.** The evaluation team did not have direct access to participant contact information, which limited our ability to send reminder emails and conduct follow-up outreach to encourage survey participation in post-training surveys. In addition, the post-training survey was administered only to those who completed the courses in full, excluding participants who completed the majority of the course content but did not reach 100% completion. This narrower targeting reduced the pool of potential survey respondents and contributed to modest response rates. While these rates are lower than ideal, the consistency of findings across survey instruments still points to observable patterns in training outcomes.

- **Delays in implementation and limited uptake of training reduced the pool of potential survey participants.** The rollout of the training programs has experienced delays, resulting in limited uptake of training to date. As a result, fewer individuals had completed or substantially engaged with the training at the time the surveys were administered, constraining the number of eligible respondents and limiting the volume of data available for analysis.

- **Project management capacity constraints, the voluntary nature of the governance committee, and industry seasonality limited consistent tracking of the project activities and adjustments made.** The project relied on the voluntary participation of governance committee members, many of whom faced competing demands on their time. Capacity limitations within the WFCA, combined with the seasonal nature of the forestry industry, made it difficult to maintain consistent, ongoing tracking of project activities, feedback received during piloting, and ongoing engagement. However, progress reports, reviewed, provided sufficient information on the implementation efforts and changes to the initial plans.

- **Forestry Chainsaw Operation Training curriculum was not assessed** by evaluators due to limited participation of contractors to date and concerns about the privacy of responses for those who did participate.

- **The Compass Respectful Workplace Program and Career Path Mapping tools were launched at the January 2026 WFCA Conference and are in their earliest stages of**

deployment and pilot testing. Comprehensive uptake and outcome data for these components are not yet available. The findings presented in this report draw on data collected through structured and unstructured meetings with the Governance Committee to inform the impacts and lessons learned of these components thus far.

- **Too early to measure the impact of the WFCA training modules.** The sample size and structure of the available data do not support meaningful cross-tabulations or analyses of individual training modules. Instead, we draw on open-ended survey responses to identify emergent themes regarding the perceived impacts of the training.

- **Potential for self-selection bias among survey respondents.** Participants who chose to complete the post-training and follow-up surveys may differ from those who did not respond. Individuals with stronger opinions, whether positive or negative, about the training may have been more motivated to participate, which could introduce bias into the survey findings. The evaluation findings should be interpreted with this consideration in mind.

2. EVALUATION FINDINGS

2.1 IMPLEMENTATION

The section discusses the implementation of the project's various components, including the establishment and guidance provided by the governance committee, partners and experts engaged during the process, the development of training materials and resources, piloting of materials and adjustments as needed.

The WFCA has established a governance committee that provided guidance, feedback and helped pilot the materials and resources. The members championed different aspects of the training and tool developments and had hands-on engagement in piloting materials.

Contract agreement negotiations delayed the establishment of the governance committee until early summer 2023, coinciding with the busy field season. Most committee members were dispersed across the province doing fieldwork, which created early logistical challenges around obtaining signatures and approvals. Shortly after the committee was established, the chair resigned due to illness, prompting a search for a replacement and further delaying initial planning and approvals. The committee quickly appointed a new chair, and WFCA staff assumed the project management role. Through this period, the Terms of Reference was developed with clear goals, objectives, and defined roles and responsibilities for committee members.

Early in the process, the committee proved invaluable in reviewing and approving the evaluation framework, communications strategy, and overall project-management structure. As the work advanced, the committee shifted into a more hands-on supervisory role, including reviewing draft materials, providing technical direction, and setting expectations for quality, sector relevance, and practical application.

The committee guided the development, testing, and piloting of all resources and tools. Members provided ongoing feedback on usability, accuracy, and the alignment of these materials with the realities on the ground. Each tool progressed through structured review cycles involving committee feedback, refinement, and eventual endorsement.

Several committee members champion different components of the strategy, contributing key subject-matter expertise and leading the sub-committees. For example,

- Wildfire Operations: Mike Effray has applied frontline wildfire experience to the development and review of the wildfire awareness modules. His input ensured the content was operationally credible, aligned with field realities, and clearly positioned as practical guidance rather than BCWS certification. The Wildfire Training Sub Committee, including Jordan Tesluk, Mike Effray, Richard King, Dean Marshall, and the content developer Colleen Ross, worked closely together to develop and review materials, ensuring the training products were appropriate in tone and technically correct.

- HR, Labour Standards, Respectful Workplace: Jordan Tesluk led this component supported by Jonathan Clarke, both drawing on a long-standing relationships with the industry to support HR alignment, worker retention, and DEI integration. They shaped the early concept for a self-audit tool, ensuring it reflects respectful workplace expectations and connects to broader employment standards compliance. The success of the Compass Program was attributed in large part to Kate Thom, whose grasp of organizational psychology and ability to make DEI practical rather than prescriptive was widely praised. As one member put it, Kate champions utility and accessibility, making DEI engaging and accessible rather than virtue signalling.

- Career Pathways: Maia Mercure contributed insight into worker pathways and youth engagement and has worked on ensuring that the strategy does not duplicate existing resources. Her guidance helped align the career-mapping and recruitment content with sector realities and reinforced the connection to tools such as the Greenest Workforce materials.

Committee members interviewed agreed that the governance committee was essential in guiding implementation, reviewing and testing materials, and supporting the piloting of the resources.

The WFCA Governance Committee has engaged in a network of partners to expand and validate the work undertaken as part of the strategy.

The WFCA Governance Committee built a network of partners to support and validate the Labour Market Strategy. These partnerships provided input, feedback, and operational support while establishing relationships that will extend beyond the Agreement term. Partners fall into five broad categories: restoration economy, education, safety, Indigenous organizations, and government agencies.

- **Restoration Economy Partners**: OGRIS, the BC Energy Regulator, and Enserva have helped the sector understand emerging workforce opportunities beyond traditional forestry. OGRIS and the Regulator provided analyses of the potential restoration services market in the energy sector, helping position the forestry workforce to develop transferable skills as that market grows.

- **Education Partners**: Thompson Rivers University's Centre for Wildfire Research and the Continuing Education & Training Association (CETABC) have supported training development and delivery. TRU has supported WFCA's wildfire awareness training and indicated interest in future collaboration as it expands its role in firefighter training and fire science education. CETABC remains a project-based partner, with recent collaboration on proposed native plant credentials training.

- **Safety Organizations**: The BC Forest Safety Council and WorkSafeBC have helped strengthen workplace safety standards. The BCFSC reviewed and endorsed the chainsaw training module, which led the Council to commit to improving safety training for non-faller chainsaw operators. The BC SAFE Forestry Program is considering funding a chainsaw

operator safety advocate pilot in 2026 based partly on this work, and is preparing to support the Respectful Workplace project under its worker well-being mandate.

- **Indigenous Organizations**: FNESS and the BC First Nations Forestry Council have expressed support for the Strategy. The BCFNFC has previously held a seat on the Governance Committee, and WFCA is in the process of seating a replacement representative.

- **Government Agencies**: BC Wildfire Service and Public Safety Canada connect the Strategy to broader public safety priorities. Through the BC Wildfire Contract Advisory Committee, BCWS is working with the sector to explore how forestry workers can expand emergency surge capacity. WFCA's wildfire awareness training modules serve as pathways to firefighter certification, and Governance Committee members have been invited to help revise the S100 Basic Wildfire and Safety Training course. The chainsaw operations pilot is also directly applicable to BCWS-managed fuels management work.

- **ForestryTogether**, a national wood products consortium, cuts across several of these categories as a major partner on recruitment, retention, and respectful workplaces, with ongoing discussions around EDI and career development.

Building training resources gave the WFCA a clearer view of the complex workforce upskilling landscape and helped forge partnerships that would not have emerged otherwise.

To better navigate the post-secondary education system and leverage it for workforce development, the WFCA commissioned a brief on continuing education in BC. The paper surveyed how the sector currently operates, including continuing education and contract training programs at public institutions, and identified pathways for the WFCA to engage with post-secondary partners. The WFCA continues to pursue opportunities with community colleges to develop forestry-specific training tailored to the needs of silviculture workers.

Engagement with organizations like the Forest Products Association of Canada gave the silviculture sector greater national visibility and opened doors that would not have otherwise been available. Participants noted that through sharing and benchmarking at the national level, they often found themselves ahead of broader industry, making their experiences valuable to others.

This work has helped establish silviculture as a more mature, established and essential part within the larger industry, positioning the sector as a recognized part of the service supply chain.

Despite some delays and challenges, WFCA successfully developed all of its training and other training-related resources. New technologies and innovative strategies were implemented to reduce the burden on smaller contractors.

As illustrated below, the WFCA successfully engaged industry subject-matter experts to develop the resources and pilot them with industry representatives.

WILDFIRE AWARENESS TRAINING

Purpose of the training: This training was designed to fill a critical gap in the forestry sector by upskilling workers and supervisors on their obligations under BC's Wildfire Act, including hazard assessment, control tactics, emergency fire safety planning, and general wildfire risk awareness. It is not intended to certify wildfire fighters but rather to make forestry workers more "aware, alert, and able" in the face of increasing wildfire threats driven by climate change.

Structure of the training: The training consists of self-directed online modules delivered through the WFCA website:

- Wildfire Safety Awareness Training For Forestry Workers (Tier 1);
- Wildfire Awareness Training For Forestry Supervisors (Tier 2); and
- Wildfire Safety Awareness Training For Forestry Crews (Tier 3).

Training Development and Piloting: Content was developed by Wildland Fire Ecologist Colleen Ross of CR Professional, who had written courses for the BC Wildfire Service. Draft content was completed by early 2024. The Wildfire Training Sub-Committee reviewed the materials through spring and summer 2024. The Governance Committee approved the three modules as Minimum Viable Products (MVPs) in September 2024, and they went live online by the end of 2024. The training for supervisors was piloted in person at the WFCA annual conference in January 2025 with a group of contractors.

Changes or adjustments made: The purpose and the objectives of these courses have not changed; however, the need to clarify the scope and intent of the training was identified during the development of the courses. Because the training is intended to increase awareness of workers' responsibilities when encountering wildfires, rather than hands-on training to fight wildfires, the field component of the training was abandoned, and only online training was developed. Some noted that this shifted the focus from using the wildfire training as a 'hook' for recruiting a certain type of worker to awareness of regulations and compliance with Wildfire Act responsibilities. The changes to the website registration and pass/fail quiz structure were made after piloting.

CLIMATE ADAPTATION CHAINSAW FOR FORESTRY WORKERS CURRICULUM

Purpose of the training: The *Power Saw Operation for Forestry Workers Training Module* sets out a standard curriculum for instruction in brushing, forest wildfire fuels management, thinning stands and other forestry work involving cutting trees with diameters of less than 15 cm at stump height. The curriculum targets the specific chainsaw skills needed for silviculture and wildfire fuels reduction work cutting, bucking, and handling small trees, brush, and limbs) along with preventative maintenance for operators working their saws continuously at the limits of their design.

Structure of the training: The training was developed as a practical, field-based curriculum. It was delivered through classroom and field sessions. The training is designed for in-person instruction by a qualified instructor.

Training Development and Piloting: Brushing contractor and chainsaw training instructor Paul Nimmon developed chainsaw operations for the forestry brushing course content in cooperation with Governance Committee members and Mosaic Forest Management. The curriculum was field-tested on West Coast brushing and spacing crews. About 40 students took part in the piloting of the power saw training module. The classroom and infield sessions were led by lead instructor Paul Nimmon with the cooperation of Mosaic Forest Management based in Nanaimo. The participants included experienced brushers and new entrants.

Changes or adjustments made: No changes or adjustments were made to the initial objective and structure of the training. One setback was the inability to link the chainsaw operator training to the BC Faller Training Standard as originally hoped. This meant the training could not serve as a credit toward BC faller certification or create a direct career pathway from forestry to falling work. Despite this, the project proceeded with standalone training.

INDIGENOUS AWARENESS, RELATIONS, RECRUITMENT AND RETENTION

Purpose: The Indigenous awareness training for forestry workers aims to build cultural awareness, promote responsible practices, and foster accountability and understanding of Indigenous history, culture, and relationships. Development was guided by the Indigenous Cultural Awareness Sub-Committee, which included representatives from the First Nations Emergency Services Society (FNESS) and the First Nations Forestry Council (FNFC), ensuring Indigenous perspectives and priorities were reflected throughout.

Structure: What was originally conceived as three separate modules was consolidated into two components:

- Indigenous Awareness Module – An online, self-directed course available to all workers and managers.
- Working Effectively with Indigenous Peoples (WEWIP) – A one-day, in-person course for senior executives and managers, combining Indigenous Relations and Recruitment/Retention content with background on UNDRIP and DRIPA.

The decision to merge the originally separate Indigenous Relations and Recruitment/Retention modules into the single WEWIP course was informed by audience feedback from WFCA Conference presentations and subsequent discussions with WFCA members and content developer Flavio Caron of Indigenous Corporate Training Inc. (ICT Inc.).

Training Development and Piloting: ICT Inc. and Flavio Caron adapted ICT's existing online Indigenous Awareness module to the forestry sector context. Development was shaped by input from the Governance Committee and two conference presentations: one by ICT trainer Hereditary Chief Rob Everson at the 2023 WFCA Conference, and a follow-up by Mr. Caron at the 2024 WFCA Conference. These interactive sessions, covering Indigenous history and culture, the Indian Act, and intergenerational trauma, informed the direction of both the WEWIP course content and its focus on management audiences. Three WEWIP training sessions have been delivered to date:

- January 2025 at WFCA Conference (31 attendees)
- November 2025 in Prince George (12 attendees)
- January 2026 at WFCA Conference (11 attendees)

Scheduling sessions alongside the annual WFCA Conference has helped reduce travel costs for participants. Based on the attendance, so far, this training has reached the majority of forestry firms in the reforestation and consulting sector. WEWIP in person training will continue to be offered to the sector depending on demand and costs.

Change/Pivot from the Initial Plan: As noted, based on audience feedback at the conferences, presentations and subsequent discussions with Mr. Caron and WFCA members, the Governance Committee decided it would be more effective and efficient to combine the previously contemplated *Indigenous Relations* and *Indigenous Retention and Recruitment* modules into a one-day-long in-person course. The result was the *Working Effectively with Indigenous Peoples (WEWIP)* course, which contained expanded content targeted at management staff.

RESPECTFUL WORKPLACES – THE COMPASS PROGRAM

Purpose: The Compass Program was developed to address a structural gap in the BC forestry and silviculture sector: the absence of shared, practical standards that help companies manage crews, meet compliance obligations, and reduce incident risk — without adding unnecessary administrative burden**.**

The Compass Program is built around a guided, interview-style question flow delivered through an online platform. Users answer plain-language, non-judgmental questions (starting with what already works in their workplace). Behind the scenes, OpenAI's Large Language Model API analyzes responses and generates polished, actionable outputs including workplace policies, crew agreements, safety statements, and partner-facing trust signals. These are stored in a company-specific dashboard that serves as a reusable resource library. The program has multiple levels and is designed to feel like a practical tool rather than training.

Structure of the Tool: The Compass Program is organized into three interconnected toolkits, each targeting a distinct layer of the organization:

- Employer Standards Kit: Aimed at owners and operators, this kit helps employers translate legal and regulatory expectations into clear, realistic policies that workers can understand and follow. It covers how the company meets its obligations and clearly demonstrates this, thereby reducing legal exposure and building organizational credibility.

- Leadership Standards Kit: Designed for supervisors and crew leads, this kit supports the people who set the tone on the ground and who often do not have formal training but have real responsibility for managing people, pressure, and conflict. It provides practical frameworks for handling situations that arise in the field.

- Crew Standards Kit: Intended for use at the crew level, this kit defines how people relate to the company, to each other, and to the land, so they can build trust and relationships and

prevent misunderstandings from escalating into problems. It includes four key components:

- Respectful Workplace Statement, which helps companies define expectations around conduct and mutual respect, reducing gray areas and disputes while establishing clear authority on the ground.
- Harassment Prevention & Reporting. Guides crews through defining harassment in the context of their specific operations and establishing a clear, accessible reporting process so the members know how to raise concerns safely.
- Land & Community Conduct Policy. Supports crews in building respectful relationships with Indigenous peoples and territories where they operate, including reflection on local Nation connections, hiring practices, and crew culture for Indigenous workers.
- Crew Culture Builder. A facilitated exercise intended to be completed together at the start of the season, helping crews articulate shared expectations for how they will treat one another and what kind of culture they want to build. It is designed to be posted in camp and revisited as needed throughout the season.

The kits are designed to work independently or together, and are built around a guided, step-by-step process that allows users to save progress and return to their work over time. These kits are still in development and may undergo further changes as they continue to be used by contractors and their leadership.

Development and Piloting: The Governance sub-committee, led by member Jordan Tesluk, guided early concepts around a company self-audit tool. The committee participated in national EDI work through ForestryTogether (a national alliance promoting equity, diversity, and inclusion in forestry). The Compass Program was developed and introduced at the WFCA 2026 Conference in January, where it attracted volunteers to participate in internal testing. The insights from preliminary testing were used to revise the initial kits and build the two remaining ones, with a goal of going live in spring 2026.

Change/Pivot from the Initial Plan: This was perhaps the most significant pivot in the project. The planned deliverable was intended to develop EDI resources, best practices, and pilot training to help forestry employers create more diverse and welcoming workplaces. However, research and internal industry feedback revealed that contractors were resistant to additional training, under-resourced for HR topics, and sensitive to divisiveness in EDI discourse. Research also showed that poorly designed diversity training can increase discrimination. Thus, the project evolved into the "Compass Respectful Workplace Program," which aims to elevate health, safety, and workplace culture among BC forestry contractors by providing practical, operational tools rather than traditional compliance-based training. The committee concluded that future DEI initiatives would be developed internally rather than through off-the-shelf training and shift to a utility-driven approach emphasizing operational value over compliance. The rebranding from "EDI training" to "Respectful Workplaces" and the use of LLM technology to generate personalized responses were well received by the industry stakeholders and other partners. The BC SAFE Forestry Program also indicated support for the program under its worker well-being mandate.

CAREER DEVELOPMENT / CAREER PATHWAYS

Career development deliverables are progressing through the final stages of approvals.

This deliverable was designed to develop career-path materials for job seekers and recruitment and retention resources for small and medium-sized employers, helping current and prospective workers see clear pathways into long-term careers in the emerging restoration economy, and supporting employers' workforce development.

In developing the knowledge base and the tools, the WFCA understood the following:

- An environmental scan of post-secondary forestry education and training was conducted as a first step in mapping available programs, particularly in continuing education.
- The WFCA continues to gather more information from employers, institutions, and practitioners about a range of job opportunities and careers in the industry.
- Governance Committee member Maia Mercure contributed expertise on worker pathways and youth engagement, helping to ensure that the strategy did not duplicate existing resources.
- The project also partnered with the Continuing Education and Training Association of BC (CETABC) and Thompson Rivers University.
- The Role Directory grew from just over a dozen to over forty occupations. The Directory features occupations written primarily in the second person so the candidate can experience what a real workday feels like, the rewards and challenges of the work, the skills needed and gained, and the career prospects and mobility that follow.
- The Pathfinder tool was developed using OpenAI's LLM, drawing on personality assessment principles designed to appeal to younger audiences. The tool asks interview-style questions about users' goals, values, and history, identifies trends and themes in their responses, scans a pre-defined Role Directory, and creates a custom, printable career-fit report highlighting strengths, values, goals, and the top three matched roles in the restoration sector.

The Pathfinder Report and Role Directory may also link users to the active Job Board listings if relevant positions are open based on their matched roles. The Role Directory itself will also exist as a public catalogue, so anyone visiting the platform can explore occupations and career pathways at their own pace.

Changes/pivots from initial plan: This domain was intentionally scheduled later in the project to allow the Governance Committee time to make sense of the rapidly evolving forestry policy and labour landscape before designing resources. The scope expanded considerably as the project discovered the breadth of the restoration economy. The use of LLM technology emerged as a way to make the resource more engaging and personalized at the individual level. The overall framing shifted from traditional forestry career mapping to a restoration-economy lens, reflecting the sector's anticipated transition. The project also aligned with FPAC's national Talent Pipeline Management pilot, which similarly references the restoration economy.

A number of implementation challenges and unforeseen issues led to delays and necessitated pivoting and mitigation strategies. The effective leadership and commitment from the Governance Committee members help mitigate these challenges.

The following table outlines implementation challenges and the ways in which WFCA and the governance committee responded to continue the development of tools and resources and early implementation.

Table 4. Implementation Challenges and Mitigation Strategies

Implementation Challenge	Mitigation Strategy
Limited project management capacity and budget pressures: Much of the project planning and cost estimation occurred in 2022. The complexity of the strategy required a consortium of consultants, a volunteer governance committee, and subject matter sub-committees, all requiring continual oversight and engagement.	**Adopted an MVP (Minimum Viable Product) approach to training development**, allowing iterative improvements based on trainee feedback. Scheduled more complex components (Respectful Workplace, Career Path) later in the project so the Governance Committee could gain experience with straightforward modules first.
Seasonal nature of the industry limiting engagement windows: The silviculture workforce operates full-time in summer with burnout by autumn, leaving a very narrow window for stakeholder engagement, feedback, piloting, and training uptake. Workers in the off-season have limited motivation to complete online training.	**Built flexibility into timelines and engagement approaches**. Started development early to allow for cyclical industry demands. Course durations were shortened (under an hour) to fit into onboarding and return-to-work windows. Focused outreach efforts during pre-season periods and synchronised promotion with annual events such as the WFCA Conference.
Limited internal organizational capacity and reliance on key individuals: WFCA member companies are small businesses without dedicated HR, administration, or content development staff. The project placed a heavy burden on a small number of individuals who did not anticipate the intensity of the level of involvement.	**Brought in high-calibre external contractors and subject matter experts** (e.g., for DEI/Compass tools, Indigenous awareness, and wildfire training modules). This approach filled the internal capacity gap and was widely praised by members of the governance committee.
Navigating sensitivity around DEI topics and political pushback: The political and cultural climate shifted during the project, with growing pushback against DEI language and concepts. There was a risk of alienating the target audience if the approach felt prescriptive or virtue-signalling.	**Pivoted language and framing to emphasize the benefits of a strong, respectful workplace, embedding DEI policies**. Focused on small business support and developed collaborative, non-prescriptive tools. The Respectful Workplace (Compass) programme was reframed to provide practical, heuristic learning rather than traditional compliance training.
External challenge from an existing training provider: An existing fire suppression trainer claimed the WFCA wildfire awareness materials would impact his business or constituted plagiarism, and attempted legal action. This was entirely unforeseen and diverted energy from the implementation.	**Made minor naming adjustments and focused on being more articulate about the purpose of the materials**, filling a gap rather than replacing existing offerings. Commissioned a briefing note on continuing education in BC to better understand the educational landscape and potential partnerships.

Implementation Challenge	Mitigation Strategy
Shifting labour market context, from scarcity to surplus: The project was conceived during a period of perceived labour scarcity, but conditions shifted to a scarcity of work, affecting the relevance and urgency of recruitment-oriented training materials. Policy changes (e.g., cancellation of the 2 Billion Tree Program) affected morale and willingness to invest in training.	**Re-examined project pillars and adjusted tools to focus on career path development and reskilling/retraining** for new work opportunities, rather than solely recruitment. The WFCA is working to counter negative narratives by demonstrating the value of the materials and tools for the future of the industry.
Training content too dense and legalistic: Some training materials (particularly wildfire awareness) were seen as too text-heavy, full of legal terms and PDFs, which reduced engagement. The content became overly focused on the Wildfire Act rather than meeting the broader goal of engaging workers.	**Shifted to heuristic, interactive learning** that provides education without feeling like formal training. Course durations were shortened. Explored novel narrative and visual instruction modes to better suit the audience and generational trends in learning.
Pressures on contractors to expand orientation and training: Intense competition for workers' and managers' attention meant integrating additional training into existing company systems was difficult. Supervisors' bandwidth was already stretched by regulatory due diligence, workplace safety, and operational training requirements.	**Used new technology to ease the burden of paperwork** and help employers with practical application of resources. Worked directly with contractors and licensees to integrate modules into existing orientation processes. Explored recognition programmes or certification endorsements to encourage employer adoption.
User experience and registration friction: Low tolerance among participants for anything more than the minimum number of keystrokes to access, register, and move through modules. Cumbersome registration and examination processes risked losing students.	**Modified both the registration and examination processes** for wildfire training to mitigate the risk of losing students due to perceived delays or inconvenience.

2.2 ACHIEVEMENT OF EARLY OUTCOMES

TRAINING UPTAKE AND INITIAL FEEDBACK

Training was made available online and in person, including at the WFCA annual conferences; however, uptake of training materials to date has been relatively low due to the industry's seasonality and limited time and resources for promotion.

Given the initial delays in development and rollout of the training courses, it is not surprising that uptake to date is relatively low. Time and resources were focused on developing and piloting various training components, leaving limited capacity to promote and market the tools. Interviewees also noted that uptake is affected by the seasonal nature of the work, which makes it difficult to time in-person training, and the relatively small number of workers initially interested in taking additional training.

As illustrated in the table below, at least a few hundred workers, supervisors, and crew members registered for the wildfire safety training, and close to 100 completed the training (please note that

completions are ongoing and will likely spike in spring as workers prepare for the new season). As expected, in-person training for Indigenous awareness and power saw operations training has higher completion rates.

Table 5. Completion Percentage by Course

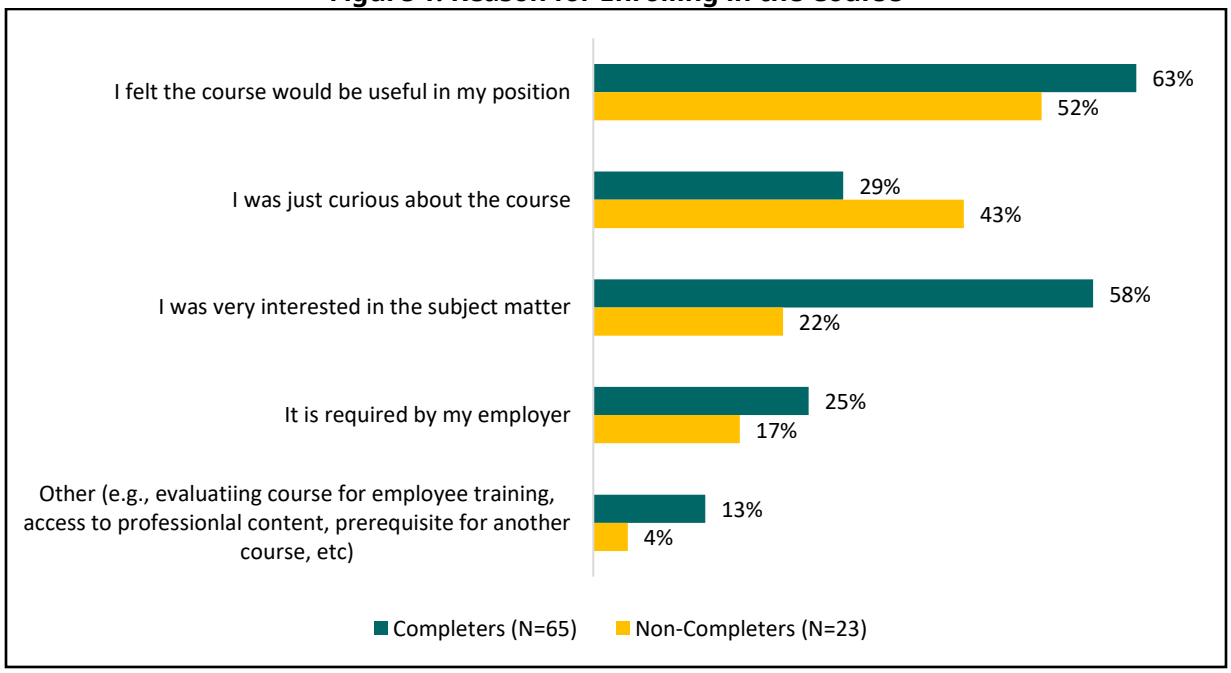
Type of Training	Registered	Completed 80% of the course or more	% Completion
Wildfire Safety Awareness Training for Forestry Workers (Tier 1)	146	55	38%
Wildfire Safety Awareness Training for Forestry Supervisors (Tier 2)	144	26	18%
Wildfire Safety Awareness Training for Forestry Crews (Tier 3)	144	13	9%
Power Saw Operation for Forestry Workers Training	45	45	100%
Indigenous Awareness Training	94	61	65%
Working Effectively with Indigenous Peoples	54	54	100%

Completions as of March 2026 (WFCA data)

Most of those who registered for the courses were referred to it by their employer or a colleague (55%); 38% said they were invited by email or personal invitation from the WFCA. Others learned through conferences and other partners (BC Forestry Council, BC Woodlots email).

According to surveys of those who completed the course, the key motivators were interest in the topic (58%) and perceived usefulness of the course (63%). For example, over half, 58%, of those who completed the courses reported being "very interested" compared to only 22% of partial completers.

Figure 1. Reason for Enrolling in the Course



Source: Post-Training Survey (2025)

Several other factors contributed to participants not completing all available training modules:

- The way participants accessed the training seems to have played a role, as their company bundle links gave some individuals access to all four courses even when they only intended to complete one or two modules relevant to their role, and some participants reported they were simply taking a quick look at the online course and did not intend to complete it.

- Disruptions to course completion. Some participants left the course partway through and did not remember or know they could return to complete it, while others indicated they still intend to go back and finish. Technical and access issues, including server and Wi-Fi difficulties, prevented some participants from completing their courses.

As noted earlier, some governance committee members highlighted the limited effort to reach across the industry with the right communication message.

Multiple respondents interviewed noted that the information about the tools was not reaching enough people and that WFCA's general communication to its membership could be stronger. Most of the strategies implemented to date have been announcements at conferences, emails to members, and direct invitations from the WFCA.

Another commonly noted issue is that right messaging needs to reach contractors and management so they can see the value in the training and encourage their staff to take the courses. The industry's challenging times were cited as another reason some may not have time or show enthusiasm for additional training. Some contractors do not yet understand the value of additional training, while others assume the tools are not for them, or are too busy to engage.

"If it gets into someone's inbox and that's the end of it, they don't disseminate it or tell people to do it." - Committee Member

"The biggest obstacle is knowledge of the tool and accessibility. Getting people to commit to using the tool is key."

Those who participated in the training reported high satisfaction.

Training participants reported high satisfaction with the training, including those who did not fully complete it. Most participants were satisfied or very satisfied with the training, including 93% of those who completed the training and 72% of those who did not.

Participants highlighted the course's strong, informative content and its value for both personal and professional development. They emphasized the breadth and depth of topics, particularly around wildfires, safety, and Indigenous history, as well as the clear, logical structure and user-friendly navigation that made complex material accessible.

Table 6. Course SatisfactionCourse Satisfaction

Rating	Completers		Non-Completers	
	#	%	#	%
Very satisfied - 5	41	71%	6	27%
4	14	23%	10	45%
Somewhat satisfied - 3	3	6%	5	23%
2	0	0%	0	0%
Not all - 1	0	0%	1	5%
Total Responding	**58**	**100%**	**22**	**100%**
Average Rating	**4.6**		**3.9**	

Word-of-mouth and future plans to increase focus on marketing and communication, as well as direct engagement with contractors, should help increase participation rates.

Upon completion of the training, participants surveyed shared that they were very likely to recommend the course (average rating of 4.6 out of 5, where 5 is very likely). By the time we followed up with both completers and non-completers, half of the respondents had already recommended the course, and 30% had not yet but planned to.

Table 7. Likelihood of Recommending the Course

Rating	#	%
Very Likely - 5	30	63%
4	15	31%
Somewhat Likely - 3	3	6%
2	0	0%
Not all Likely - 1	0	0%
Total Responding	48	100%
Average Rating	**4.6**	

The governance committee prioritized designing effective and useful tools that will generate organic traffic and word-of-mouth. The tools were designed to be low-stakes, accessible, and immediately useful so that once experienced, owners would become advocates. Direct outreach strategies are now being implemented, group workshops, industry tours, and face-to-face engagement, rather than relying solely on email. A marketing firm is now being engaged to improve member outreach.

The interviewees also noted that the wildfire training will be used more quickly due to its immediate utility. Career mapping requires more outreach and engagement with workers, likely through online engagement and scheduled events. The timing of outreach is important to reach workers as they prepare for new work opportunities. Group online sessions for workers and supervisors were identified by some to be more effective, making people feel part of a group rather than online, isolated learning.

IMPACT OF TOOLS AND RESOURCES DEVELOPED

Although it is very early to assess the impact of the tools and resources developed, early feedback suggests they are positively impacting upskilling the workforce, improving awareness of Indigenous history and diverse cultures, and promoting a healthier workplace environment.

The follow-up survey and feedback from interviews illustrate the early impact of the tools and participation in training, as outlined below.

Wildfire safety and career paths are believed to have an **impact on the workforce upskilling** by:

- Providing a clear framework for professional development**.** The Pathfinder tool outputs personalized career paths with required hard skills, soft skills, and education, which will help workers understand and potentially connect to the training they need to advance in their careers (e.g., *"it might say you need an F-150, a chainsaw ticket, or certain leadership qualities").*

- Tools demonstrate that career progression is possible without formal education. Multiple interviewees noted that the career mapping materials show workers they can move from entry-level to ownership through on-the-job training, company-sponsored training, and recognized certificates, countering perceptions that the industry is a dead end.

- Online wildfire training has upskilled supervisors in particular. Wildfire training for supervisors was noted as beneficial both as a training tool and for their supervisory role, and is being integrated into one governance committee members company's onboarding.

- Training materials are being used beyond the WFCA membership. Companies outside the silviculture sector, such as archaeological companies, forestry consulting firms, and wildfire protection services, are utilizing the online training materials, extending the upskilling impact beyond the original target audience.

- Almost two thirds (65%) of survey respondents in the follow-up survey reported that taking courses has made them interested in other wildfire-related training or education (e.g., forest ecology, fire science, fire suppression, emergency management, and prescribed burning).

Although tangible health and safety outcomes are difficult to measure yet, the interviewees and survey respondents provided some examples of early impacts of tools on **promoting a healthier and safer work environment** through:

- The Respectful Workplace (Compass) tools are helping companies develop and update workplace policies**.** Several respondents noted that many companies had outdated policy documents. The tools being developed to help write new or rewrite existing workplace policies were described as *"a huge win".*

- The Compass program was redesigned to be practical and non-prescriptive to encourage conversations and adoption**.** Rather than traditional training, the tools use heuristic learning focused on staff experience, leadership, and interpreting laws and regulations, making respectful workplace concepts approachable and actionable for small businesses.

- DEI/respectful workplace tools are particularly important given workforce diversity. One respondent noted that silviculture workforces include *"members from different communities, genders, backgrounds, abilities, and levels of athleticism"* and that any tool to help formulate respectful workplace policies is significant.

- The overall trajectory is toward greater professionalism. The industry was described as having *"evolved significantly over the past 50 years, moving toward professionalism"* and these tools are seen as one important step in that ongoing evolution.

The survey findings from participants in the Indigenous awareness and relations indicate that the training was perceived very positively. Approximately 90% of respondents said the course helped them improve cultural awareness and understanding of Indigenous peoples; learn what respectful communication looks like; learn about Aboriginal and treaty rights; and build relationships and work effectively on unceded lands.

Table 8. Participants who reported an increased understanding of the following topics

Q. "To what degree did the course increase your understanding of..." (Scale: 1 = Not at all, 3 = Somewhat, 5 = Very much)

Topic	#	%	Avg Rating
The movement from ward to Nations since 1982	35	92%	**4.1**
Building relationships on unceded lands	35	92%	**4.1**
Indigenous peoples from 1867 to 1982	34	89%	**4.0**
The Constitution, Aboriginal & treaty rights	35	92%	**4.0**
Indigenous Nations prior to contact	33	87%	**3.7**

The training has also equipped workers with practical knowledge to collaborate with local communities, particularly when performing fuel-modification treatments in or near Indigenous communities. More broadly, participants reported gaining a wider perspective on First Nations relations, a greater appreciation for social and environmental diversity, and a stronger foundation for building relationships with First Nations communities as part of their professional roles. As one participant noted, the training gave them *"a broader perspective in building further relations with First Nations"*, while others pointed to Indigenous awareness as one of their most valuable takeaways from the program overall.

One interview respondent who attended the workshops reported that *"the feedback was very positive, and the cohort had good discussions. Facilitation was very good, and materials like the handbook were provided and were very useful"*. Others noted the long-term impact of the training

course, as the materials can be reprinted and easily distributed, serving as lasting reference resources. The First Nations course materials were highlighted as *"a great resource,"* and it was recommended that budgeting for printed materials continue, as they reinforce the learning after workshops.

CHALLENGES, GAPS AND RECOMMENDATIONS FOR IMPROVEMENT

A number of challenges and gaps were identified relating to the content of training materials, structure, training reach, sustainability, etc. Some of these concerns have already been addressed. Additional recommendations provided by participants are identified.

A range of issues was identified through training surveys, interviews with governance committee members, and learner feedback on the quality, structure, accessibility, and impact of the training materials.

Table 9. Challenges and Recommendations from Engaged Groups

Challenges and Gaps	Recommendations
Content Quality and Structure	
▪ Module titles did not always match material covered; content was described as poorly organized or inconsistently structured. ▪ Wildfire awareness training was overly focused on Wildfire Act regulatory text rather than being engaging or practical. ▪ Review questions were ambiguous, sometimes tested uncovered material; correct answers not shown; answers not randomized on retakes. ▪ Videos lacked context or descriptions, did not auto-resize, and required manual expansion. ▪ Some photographs unintentionally depicted unsafe practices, sending mixed messages about safety standards. ▪ Insufficient narrated slides limited engagement for auditory learners.	▪ Shift from dense legal text toward shorter digital formats with visual aids, infographics, scenarios, and personal stories. ▪ Break larger sections into smaller modules while expanding course comprehensiveness where needed. ▪ Add context and descriptions to all videos, fix auto-resize, and correct captioning errors as a priority. ▪ Replace photographs depicting potentially unsafe practices and clarify provincial regulations on fire response. ▪ Add narrated slides and visual instruction modes suited to the audience. ▪ Include local examples and add content on fuel modification work, workforce relations with Indigenous peoples, and FireSmart best practices. ▪ Develop live exercises, outdoor simulations, or in-person practice components to reinforce learning.
Training Uptake and Reach	
▪ Communication with membership was a fundamental weakness; email-based outreach alone was insufficient. ▪ Many company owners did not recognize the value of the tools, assumed they were not relevant, or felt too busy to engage. ▪ Offering training for free may have reduced learner commitment; intrinsic interest was the key differentiator between completers and non-completers.	▪ Move beyond email to face-to-face engagement, direct calls, industry tours, and group workshops. ▪ Consider engaging a professional marketing firm. ▪ Leverage owners who experience the tools firsthand as word-of-mouth advocates. ▪ Focus outreach during the pre-season period; synchronize promotion with the annual WFCA Conference. ▪ Use career mapping and training materials at recruitment fairs and public events; budget for printed materials.

Challenges and Gaps	Recommendations
▪ Workers needed to see a clear personal benefit before engaging. ▪ Getting participants to training locations was persistently challenging, even with high expressed interest.	▪ Clearly inform learners they can return to resume courses; provide a completion certificate, as learners increasingly request records of training completion.
Access and Technical Issues	
▪ Some users experienced technical issues that prevented course completion. ▪ Waitlisted users were never contacted when space became available. ▪ Some learners who left partway through did not know they could return. ▪ Course resources were optional rather than mandatory, potentially undermining comprehension.	▪ Streamline registration and course navigation to reduce friction and technical barriers. ▪ Implement a system to notify waitlisted users when space becomes available. ▪ Add clear messaging that progress is saved and learners can return to complete at any time.
Sustainability and Strategic Gaps	
▪ Concerns about ongoing management, content updates, and promotion after project funding ends; resources risk becoming unused without active marketing. ▪ Contraction in the wood products sector is challenging recruitment and retention efforts. ▪ No clear targets on training access, completion rates, or impact, limiting the ability to demonstrate results.	▪ Establish quantified targets for contacts, sessions, publications, and attendance; track them to demonstrate impact and enable course correction. ▪ Develop an inventory of micro-credentials and training providers connected to the career mapping tool; explore partnerships with universities. ▪ Maintain competent project leadership and skilled external providers in future iterations.

2.3 SUSTAINABILITY AND FUTURE PLANS

The following considerations are central to ensuring the sustainability of the WFCA's labour market strategy and the tools and resources it has produced.

- **Secure diversified and stable funding sources.** The WFCA should transition from reliance on project-based government funding to a blended model that combines BC SAFE Forestry Program annual budgets, WFCA membership contributions, and in-kind support from members. As training uptake grows, introducing modest registration fees for certain courses and exploring advertising revenue on The Cache platform can further support ongoing operations. Alignment with the national Talent Pipeline Management pilot funded through the Sectoral Workforce Development Program may also provide complementary funding for career pathway and restoration economy work.

- **Embed labour force management into the WFCA's organizational mandate and succession planning.** The WFCA has indicated that labour force management will be included in executive director's job descriptions and succession plans. Maintaining dedicated staff capacity for the promotion, updating, and delivery of the strategy's tools will be essential to avoid the loss of momentum that typically follows the end of project-based

funding. Key governance committee members should be invited to join the BC SAFE Forestry Program's Strategic Advisory Committee to retain institutional knowledge.

- **Invest in sustained marketing, outreach, and trusted field-based advocates.** The engagement of a public relations firm to handle communications, combined with the ongoing work of the BC SAFE Forestry Advocate through field visits and social media, will be critical for building and maintaining awareness of the tools. Trust-based, peer-to-peer promotion through advocates with established credibility in the sector is more likely to generate sustained engagement than email-based outreach alone.

- **Maintain and strengthen the partnership network built during the project.** Relationships developed with organizations such as BC Forest Safety, Thompson Rivers University, ForestryTogether, the BC Wildfire Service, and the Forest Products Association of Canada provide ongoing channels for content validation, co-delivery, and cross-promotion. Continuing to nurture these partnerships, as well as retaining the skilled consultants who contributed to the project, will extend the reach and credibility of the WFCA's workforce development efforts.

- **Keep training content current and position the strategy within the emerging restoration economy.** The digital platform, career mapping tools, and training modules will require ongoing attention to remain relevant as the sector transitions from a primarily reforestation-based workforce toward broader ecosystem restoration services. Regularly updating the Role Directory, Pathfinder tool, and wildfire training content to reflect evolving policy, labour market conditions, and employer needs will ensure the resources continue to serve the sector through this transition.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

The evaluation of the WFCA's Labour Market Strategy has demonstrated that the project achieved meaningful progress in developing a comprehensive suite of workforce development tools for the BC silviculture sector. Despite operating within a challenging environment marked by implementation delays, limited organizational capacity, seasonal workforce constraints, and shifting political and economic conditions, the WFCA and its Governance Committee successfully delivered on all major components of the strategy.

The major findings of the evaluation are as follows:

- **The Governance Committee was instrumental in the strategy implementation success.** The committee provided sustained guidance, subject-matter expertise, and hands-on engagement throughout the project. Members championed specific components, led sub-committees, and directly participated in reviewing, testing, and piloting all materials. Their strong commitment, combined with the engagement of high-calibre external experts, helped address the WFCA's limited internal capacity and ensured that the tools developed were operationally credible and aligned with industry realities.

- **All planned training and resource components were developed and delivered, with strategic pivots that are well-received.** The WFCA delivered wildfire awareness training across three tiers and a chainsaw operations curriculum; Indigenous awareness and relations training (including the Working Effectively with Indigenous Peoples course); the Compass Respectful Workplace Program; and the Career Pathfinder tool with its accompanying Role Directory. Several components underwent significant pivots from their original designs. Most notably, the EDI component was reframed from compliance-based training to the Compass Respectful Workplace Program, a practical, AI-assisted tool that generates personalized workplace policies. This shift responded directly to industry feedback about resistance to prescriptive training and the need for operationally useful resources. Similarly, career path materials evolved from traditional career mapping to an interactive, restoration-economy-focused tool. These pivots reflected the Governance Committee's responsiveness to industry conditions and willingness to innovate using new technologies.

- **Training participants reported high satisfaction, but overall uptake remained limited.** Among those who completed training, satisfaction was high: 93% of completers and 72% of non-completers reported being satisfied or very satisfied, and the average likelihood of recommending the courses was 4.6 out of 5. Approximately 90% of Indigenous awareness training participants reported increased understanding across all topic areas. However, overall registration and completion rates were modest, particularly for the online wildfire training modules, where completion rates ranged from 9% to 38% across tiers. Completion rates were higher for in-person training, with the Power Saw and WEWIP courses achieving 100% completion among registrants.

- **Limited promotion and reliance on passive communication channels constrained the reach of the materials.** The evaluation found that the most significant barrier to uptake was not the quality of the materials but rather the limited effort to promote them across the industry. Communication relied heavily on email and conference announcements, which proved insufficient to reach contractors and owners who did not already see the value in additional training. Governance committee members consistently identified this as a major weakness, noting that information sent by email often stopped at the recipient's inbox without being disseminated further. The industry's seasonal nature compounded this challenge, as the narrow pre-season window (about 6 weeks) represents the only realistic period during which workers and supervisors can be reached and engaged.

- **Direct, in-person engagement emerged as the most effective approach for driving awareness and adoption.** The evidence from this evaluation consistently points to the importance of face-to-face contact in building trust and demonstrating value. In-person training sessions held at WFCA conferences achieved substantially higher engagement and completion rates than online-only offerings. Governance committee members emphasized that contractors need to experience the tools firsthand before they become advocates, and that strategies such as industry tours, group workshops, and direct calls are far more effective than digital outreach alone. The annual WFCA Conference has proven to be a particularly effective anchor point for engagement, reducing travel costs and capitalizing on a period when industry members are already convened.

- **A strong network of partners was established, extending the strategy's reach and credibility.** The project catalysed partnerships across five categories: restoration economy, education, safety, Indigenous organizations, and government agencies. These relationships have opened new opportunities, including potential collaboration with Thompson Rivers University on wildfire training, the BC SAFE Forestry Program's consideration of supporting the Compass Program, and the BC Wildfire Service's interest in forestry workers' expanded emergency surge capacity. These partnerships represent an important asset for the sustainability of the strategy's outputs.

- **Sustainability concerns remain the most pressing challenge.** Multiple stakeholders expressed concern about what happens when project funding ends. Without ongoing investment in promotion, content updates, and active engagement, the tools risk becoming unused. The WFCA's limited organizational capacity, combined with the voluntary nature of the Governance Committee, means that sustaining the momentum built during the project will require deliberate planning and new sources of financial and operational support.

3.2 RECOMMENDATIONS

Based on the evaluation findings and a discussion with the Governance Committee, there are two most critical needs for the strategy going forward.

INCREASE DIRECT ENGAGEMENT WITH CONTRACTORS ACROSS THE INDUSTRY

The primary barrier to broader and ongoing impact is reaching contractors and company owners who have not yet engaged with the materials or do not yet see the value in using or encouraging their staff to use the tools. To address this, the WFCA should increase efforts to work directly with contractors across the industry to promote the materials and demonstrate their value.

This effort should be guided by several principles that emerged from discussions:

- Timing is critical. Outreach should be synchronized with the industry's seasonal rhythms, concentrating promotion during the pre-season period when contractors are planning orientations and training schedules.
- Direct, in-person engagement is far more effective than email-based communication. The evaluation demonstrated that face-to-face contact, whether through industry tours, group workshops, or one-on-one conversations, is what builds the trust needed for contractors to invest their limited time in exploring new tools.
- The WFCA's annual conference should continue to serve as the anchor for engagement activities, including live demonstrations, pilot sessions, and in-person training delivery. The conference format has proven effective in bringing together the industry's key decision-makers and creating a setting where tools can be experienced firsthand.

Additionally, the WFCA should leverage contractors who have already used the tools as peer advocates, recognizing that word-of-mouth from trusted industry colleagues carries more weight than institutional communications. Engaging a professional marketing firm, as the WFCA has begun to do, will help develop effective messaging to communicate the concrete operational benefits of providing a healthier, safer and more diverse workplace culture and promoting the attractiveness of the sector for new contractors, workers and professionals, which would help succession planning.