

Rural Workforce Development: Challenges and Strategies in the Forestry Sector

KNOWLEDGE BRIEF



INTRODUCTION

The forestry industry is important to British Columbia and for the Columbia Basin-Boundary region. A recent [Labour Market Profile identified](#) approximately 246 forestry related businesses, including 22 primary forest products manufacturing facilities in the region.¹ The same report identified a large number of forestry related job openings expected in the Columbia Basin-Boundary. Identifying and creating a forestry workforce strategy for this region is imperative to its growth and future success in sustainable forestry management.

Changes in the forestry industry have occurred within global, national, and local context, resulting in challenges and opportunities for workforce development. **The purpose of this literature review is to consolidate and summarize known information relating to these challenges and opportunities. Additionally, this report examines case studies from each of the respective scales, and explores how such strategies can contribute to workforce development in the Columbia Basin-Boundary.**

This knowledge brief is part of a Social Science and Humanities Research Council of Canada (SSHRC) funded project entitled, [Regional Workforce Development in Rural B.C.](#) This knowledge brief is based on a review of the literature, and reviews forestry workforce and considers how these can be integrated within the Columbia Basin-Boundary region.

A CHANGING CONTEXT

Globalization, technology, a changing economy, political change, and demographic shifts were identified in the [Rural Workforce Development Strategies Knowledge Brief](#) as interrelated challenges facing workforce development.² In addition the following have been identified as significant challenges facing BC's forest sector: harvesting and log hauling costs, aging capital equipment, changing world markets, complex and competing demands on forest ecosystems³, climate change, wildfire, drought, disease, reductions in the annual allowable cut (AAC) due to the effects of the mountain pine beetle, uncertainty related to Indigenous land claims, and rising operating costs.^{3,4}

Employment numbers within the forestry sector have not recovered from the 2009 economic downturn. In 2007 the forestry and logging sector employed 24,100, yet by 2016 that number had reached a high of only 19,400.⁶ In addition to the global economic challenges, BC's forest industry faces ongoing challenges related to its workforce, namely replacing an aging workforce.⁵ The aging workforce is highlighting challenges associated with labour shortages including the alignment between training and industry needs and challenges associated with attracting and retaining skilled employees.³ "While the hiring of new workers was set back due to a lack of economic and job opportunities" since the economic downturn, the "prospects for moderate growth in the coming years and increased industry mechanization suggests a slightly expanded workforce characterized by higher levels of skill and knowledge."⁵

With 140 rural communities in BC depending on forestry related industry, and with employment growth of 19.7% in the Interior region projected between 2012 and 2022⁵, there is a need to develop an encompassing workforce strategy for the Interior that addresses the interrelated challenges faced within the forest industry.³

WORKFORCE CHALLENGES

Five workforce related challenges were consistently highlighted within the forestry literature reviewed. These challenges are detailed below.

1. AGING WORKFORCE

The forestry sector has been identified as being "particularly vulnerable to the retirement wave."⁵ The potential labour shortages caused by retirements can be attributed to the extended period of downsizing and restructuring the sector has undergone, during which time the workforce has aged. Not enough attention has been paid to ensure a sufficient supply of younger workers available and sufficiently trained to replace the experienced workers set to retire.⁵ The retirement pressure is expected to be felt across the entire forest sector, including government, education, and equipment supply companies.⁵

2. SKILL SHORTAGE

The future labour shortages noted above are not expected to be uniform across the entire sector, but rather will be experienced in select occupations.⁵ Specifically, occupations that require highly trained workers with post-secondary credentials will likely experience greater pressure due to large numbers of retirees. Trade occupations that are shared across industries (e.g., millwrights, mechanics) will also be in demand as they are sought after in other resource industries as well.⁵

3. TRAINING

Training gaps are observed in many occupation categories. For example, observations from the president of BC Forest Professionals, indicate that there is a lack of career guidance for students interested in becoming an Registered Professional Forester (RPF) or Registered Forest Technologists (RFT), with no clear map showing how to obtain professional designations.⁶ This is exacerbated with the evolution of new degrees and careers within the natural resource sector which has taken away potential employees from the forestry sector.⁶ Training responsibility for harvesting occupations (e.g., machinery operators, truck drivers, entry-level workers) is largely left to employers, most of whom do not have the capacity to train workers, and are often small independent businesses.⁷ In some cases, such as with logging machinery operators, no public training programs exist, and private programs are often beyond the means of trainees or employers.⁵

With respect to the Columbia Basin-Boundary region, a major challenge for local residents is to acquire the required skills and training locally. Educational opportunities are limited to existing programming at Selkirk College and College of The Rockies. Efforts are underway to create a publicly available database of forest education programs in the province which will assist in fostering a greater awareness of educational opportunities across the province.⁸

4. PUBLIC PERCEPTION

The public image of the forestry industry has been challenged in recent years due to “changing public values and structural shifts in the forest economy.”⁵ Communication to the general public, prospective employees, and youth about the positive employment prospects available in the forest industry has not been successful in overcoming the negative attention the industry has received in the media on issues like climate change, economic uncertainty, and job instability in the sector.⁵ The result has been that employment in the forest industry is perceived, often incorrectly, as low tech, environmentally unfriendly, seasonal and uncertain, and with difficult working conditions in remote locations - all factors that are dissuading youth from considering a career in the forest industry.⁷ There have been notable attempts to improve the public image, such as recent publications from forestry associations to communicate the value of the BC forestry industry and government.^{9,10}

5. DIVERSIFICATION

Diversification in employees and companies within the forest industry has been limited. A survey of employers by the British Columbia Coastal Forest Industry Labour Market Partnership Project Steering Group in the forestry sector found that just 6% of their workforce was First Nations, and 4% were “permanent immigrants.”⁵ “Aboriginal workers are mostly employed in forestry and logging operations, while permanent immigrants are more concentrated in logging, particularly on the Coast.”⁵ The BC First Nations Forestry Sector Engagement Report found a gap in labour market information; there is a lack of regional or local First Nations data available that is up-to-date and reliable.¹¹ Women made up 5% of the workforce on the Coast, and 3% of the Interior workforce in the forestry industry, but interestingly, when isolated for the forestry sector specifically (as opposed to the pulp, logging, multi-phase, and road building) women made up 25% of the workforce on the Coast and 16% of the workforce in the Interior. The survey found that of the workforce surveyed only 5% of workers were 24 years of age or younger, showing a major gap in youth within the forest industry.⁵

While attracting workers from underrepresented groups such as First Nations, immigrants and women, has been identified as central to the development of a sustainable workforce⁵, the BC

Council of Forest Industries has identified youth aged 15 – 23 as the priority target group for engaging in education about the career options available in the forest sector as they are in the initial stages of making career plans and choices.⁸

6. FRAGMENTATION

The forest industry is “segmented and fragmented and lacks coordination with respect to workforce planning and development.”⁷ Challenges associated with a fragmented industry include: promoting the viability of the forest industry; broadening relationships among industry, First Nations, and forest communities; and communication and messaging to the public and governments.⁷

FORESTRY WORKFORCE STRATEGIES

Workforce strategies are best when tailored to the regional context. However, while they may be developed for other regions, workforce strategies that have been developed specifically for the forest industry can provide transferable ideas, best practices, insights, and lessons.² Knowing that forestry is impacted on the global, national, and local scale, case studies at each of these respective scales were reviewed. The following section highlights case studies of forestry workforce strategies.

INTERNATIONAL FORESTRY WORKFORCE STRATEGY: SCOTLAND

Since 2000, the Scottish government has been actively engaged in creating an “integrated framework for the long-term development of forestry in Scotland.”¹² The first Scottish Forestry Strategy was created in 2000, followed by the 2006 Scottish Forestry Strategy, which remains the guiding strategy for Scotland’s forests.^{12,13}

In the 1990’s, a variety of factors including political approaches, changing employment practices (i.e., reliance on contractors), declining work in forestry sector, and the low level of economic activity in private sector woodlands, the contribution of forestry to the rural economies had declined substantially.¹⁴ As a result, policy changes to forestry management in Scotland began to be discussed.

There was a belief that if the community were more engaged in the forests, more opportunities for skills and jobs in the forest-industry locally would be possible.¹⁴ Policy changes provided initiatives for community owned woodlands, such as the initiative known as *Woods Work* aimed at facilitating forest-related socio-economic development.¹⁴

FORESTS FOR COMMUNITY IN SCOTLAND

[Community Woodlands Association](#) was established in 2003, with majority of the community woodlands in Scotland associated with the group. Thousands of hectares of forests are collectively owned and managed by community members with additional socio-economic goals.

[Scottish Working Woods](#) is a label scheme that was developed with multiple organizations to help facilitate socio-economic and environmental benefits to Scotland residents harvesting and using local products from Scottish woodlands.

The 2006 forestry strategy was based on the following principles¹³:

- Sustainable development underpinned by sustainable forest management;
- Social inclusion through helping to provide opportunities for all and helping to build stronger communities;

- Forestry for and with people; and
- Integration with other land uses and businesses.

The 2006 strategy seeks to improve the health and well-being of people and communities; create competitive and innovative businesses; and establish a high-quality, robust, and adaptable environment and apply to both urban and rural contexts.¹³ Linkages between forestry and other parts of the Scottish economy, culture and environment are clearly identified, with 14 linkages to existing strategies and programs identified. Seven themes are outlined: climate change, timber, business development, community development, access and health, environmental quality, and biodiversity.¹³ A detailed and extensive implementation plan and progress report with accompanying indicators forms an integral part of the strategy and ensures its ongoing relevance.¹⁵

In addition to the government strategies outlined above, the Scottish Forest and Timber Industries developed a coordinated strategy for industry called the [Roots for Future Growth](#) in 2011.¹⁶ The Strategy is undergoing a “refresh” to carry the strategy through to 2025.¹⁷ The four objectives for the strategy are:

- Grow and communicate the industry’s contribution to Scotland;
- Grow the area of new productive forest planting;
- Grow the market share and value added of Scotland’s forest products; and
- Grow the skills and capacity of Scottish people.¹⁶

SCOTLAND YOUTH SPOTLIGHT

“I can’t get a job without experience, but I can’t get experience without a job”

The above is a common phrase in response to those facing unemployment among youth.¹⁸ In order to try and address the challenge the Forestry Commission of Scotland began providing vocation training for youth in placements and apprenticeships. Forestry skills and training are being provided to youth in areas of higher social deprivation and under-represented parts of society through the FCS [Youth Employment Skills Training Programme](#).¹⁸

One of the areas of focus relevant to workforce development is the business development theme identified in the government strategy, which aims to “provide opportunities for acquiring new skills and experience through forestry and improve the skills base of the forestry sector.”¹³ A key implementation for 2015 – 2018 is to facilitate a youth employment skills training programme.¹⁵

The Scottish Forest and Timber Industries echo that focus, and add that they intend to:

- Create a higher profile of the skills needs in the forest industry;
- Improve the identification, articulation and review of training and qualification needs;
- Improve the availability of entry level training programmes;
- enhance career pathways within the industry; and
- Increase the capacity of forest industry businesses to retain and develop their existing workforce.¹⁷

Encouraging youth employment not only helped address unfilled forestry jobs, but has the added economic benefit of saving approximately £2 billion which is the estimated lifetime costs of youth failing to be regularly employed.¹⁸ The Youth Employment Skills Training Programme

began in 2011 (see text box), provided programmes that varied from part-time, volunteer based, to intensive full-time technical training.¹⁸ Participants were taught a range of skills, from life skills, to forestry, to employment readiness skills, all the while engaging in forestry related tasks that improved the woodland setting for local communities.¹⁸

CANADIAN FORESTRY WORKFORCE STRATEGIES: ALBERTA

The government of Alberta was chosen as a case study for a forestry workforce strategy as it was able to showcase a provincial-level example and has similar market profile characteristics to BC. The [Building and Educating Tomorrow's Workforce \(BETW\)](#) is Alberta's overall 10 year labour force development strategy created in 2008, identifying 17 government led priority actions.¹⁹ The [Workforce Strategy for Alberta's Forest Industry](#) is one of a number of industry specific strategies that form part of the overall labour strategy.²⁰ Forestry is a primary industry in 50 Albertan communities, with 12 considered forest-dependent.²⁰ The strategy finds that a large majority of workers in the industry are male, that there is concern that fewer young workers are entering the forest industry, and that competition exists from the oil and gas sector, where wages are higher.²⁰

The *Workforce Strategy for Alberta's Forest Industry* identifies many challenges the industry faces, many of which resonate with the experience in BC, including:

- Shortages of skilled labourers and tradespeople;
- Shortage of available affordable housing;
- Rising costs;
- Price pressures;
- Increased global competition;
- Lower skill and educational levels;
- Declining enrolments in forestry programs;
- Increased consolidation and rationalization;
- Increasing urbanization;
- Aging workforce;
- Seasonal work;
- Hard-to-recruit locations;
- Challenging working conditions;
- Lack of awareness/understanding of the forest industry; and
- Concentration of aboriginal workers in lower-skill occupations.²⁰

The workforce strategy identifies 32 priority actions with an onus on the implementation of priority actions resting with industry and labour groups, as they are "best positioned" to "address labour force issues and challenges experienced by the forest industry."²⁰ Priority actions are grouped around efforts to:

- 'Inform', or increase access to information to support informed decision-making;
- 'Attract', or attract workers from within and outside Alberta and Canada;
- 'Develop a High Performance Workforce', or building capacity of the forestry workforce to support a transition to a value-added and knowledge-based economy, and other efforts to increase capital investment and improve business practices;
- 'Retain', or enhance the attractiveness of working in Alberta's forest industry so that workers remain.²⁰

Although Alberta's forestry workforce strategy is not as detailed and developed as the Scottish example, many of the actions are similar. While there does not appear to be a systematic, coordinated, and comprehensive implementation strategy, the last progress update report completed in 2012 highlighted four successful initiatives relevant to the forestry sector:

- The [Work Wild](#) program designed to educate youth about the variety of available careers, high quality of life, and the impact of a career in the forest industry;
- The [Inside Education](#) program, is a partnership between an education society and the Alberta Forest Products Association (AFPA) to provide programs for teachers and students
- The Aboriginal job shadow programs in Lac La Biche promote employment in the forest industry for the First Nation community.
- Enhancing Power Engineers in Alberta pilot project is a collaborative, cross-sector project to increase the number of Class 1 and Class 2 power engineers in the workforce.²¹

PROVINCIAL FORESTRY WORKFORCE STRATEGIES: THE BC COAST

The BC Coastal region is included here as a case study, as it is an example local to BC that has implications for the Interior forestry workforce generally, and potentially the Columbia Basin-Boundary more specifically.

The BC Coastal forestry sector created a partnership between industry and provincial government in 2012, in order to create a workforce strategy to address ongoing and emerging workforce challenges. In 2013, the [BC Coastal Forest Industry Labour Market Partnership Committee](#) completed the first phase of their work; a final report that looked at the labour market and training needs for the forest sector for the entire province, including the Interior. While the report was commissioned as part of efforts by the Coastal forestry industry, the work presented information and data for both the Coast and the Interior. The results of the study include a detailed profile of the BC forest industry, the forest industry workforce profile, and a review of the labour market forecasts. The study also included primary research of employers and contractors, stakeholder reports, and demand-supply gap analysis. The quality and quantity of data presented for the forestry workforce is substantial and provides a solid base for all future workforce initiatives across the province.

In 2014, the BC Coastal Forest Industry Labour Market Partnership Project Steering Group prepared a [Coastal Forest Industry Human Resource Strategy](#). The strategy represents the completion of Phase 2 of the initiative. The Human Resource Strategy provides specific strategies for the Coastal forest industry. The strategies relate to the following specific actions: Lead and Coordinate, Inform, Attract and Recruit, Retain, and Develop skills, training, education and placement. Nine specific actions are identified for high priority occupations.

The Implementation phase (or phase 3) of the project involves the establishment of an industry task force to lead and coordinate the implementation strategy. Phase 3 was scheduled to begin in the spring of 2014. No further updates or reports are available.

In 2017, a [Strategic Plan for the BC Forest Sector](#) was completed by an advisory group led by the Council of Forest Industries which aims to address the recruitment and attraction challenges faced by the forestry sector. This plan references the [Coastal Forest Industry Human Resource Strategy](#), and builds on it. The plan outlines 2 strategic priorities, with associated goals,

accompanied by measurable objectives and outcomes, and detailed timeframes. No coordinated, systematic implementation has occurred.

CREATING A FORESTRY WORKFORCE STRATEGY IN THE COLUMBIA BASIN-BOUNDARY REGION

There is much that can be done to address the challenges the forestry workforce is facing in the Columbia Basin-Boundary. Lessons from the Scotland, Alberta, and the BC Coastal region provide examples of ways forward.

In the absence of an overarching provincial forestry workforce strategy, there is potential for the Interior forestry industry, or perhaps even the Columbia Basin-Boundary, to build on the labour market information and workforce strategies available and create a regional strategy designed to address specific regional challenges.

DISCUSSION

The workforce challenges facing the forestry industry are multi-faceted and it is clear that there is no single solution. Government, industry, First Nations, and educational institutions, among others, will need to work together to address the many challenges facing the sector.

Notwithstanding the need for a coordinated, cross-sectoral response to the looming and already present workforce challenges, examples of innovation exist across BC's forest sector (see Showcasing Innovation text box). For example, in Prince George, Canfor is planning to convert an unused sawmill into a training facility for skilled workers.⁵

SHOWCASING INNOVATION

The University of British Columbia has recently finished a one of a kind 18 storey student residence, known as [Brock Commons](#). It is the world's tallest wood building and showcases new applications for the BC lumber products, which is anticipated to lead to new job opportunities for the BC's forest industry. It will be a source of learning as a "living laboratory" for faculty, staff and students.

Expanded and Flexible Program Options

[Vancouver Island University](#) (VIU) is leading by example in their forestry programs by providing a range of programs to fit every student's needs.²⁴

- The 2 year Forest Resources Technology Diploma is accredited with the Association of BC Forest Professionals and provides the basis for a Bachelor of Science in Forestry at UBC, a Bachelor of Natural Resource Protection at VIU, a Bachelor of Arts in Geography at VIU, or an advanced diploma in GIS from VIU.
- Students with a Forest Resources Technology Diploma from VIU, may take a 1 year bridging program at VIU and enter directly into their 3rd year of forestry at UBC.
- A specific upgrading program for students interested in the Forest Resources Technology Diploma program is available for students.

2016, 11 students participated.³

Additionally, steps are being taken by the industry to support students enrolled in forestry programs, such as with scholarships administered through the [Association of BC Forest Professionals](#) and the [BC Council of Forest Industries](#). Promoting employment in the forest industry is also being done through the [BC Council of Forest Industries Forest Education Program](#), which provides information to educators and students about the educational and career opportunities in the forest industry. While enrolment in forestry-related programs is increasing,⁶ there is an opportunity for the colleges within the Columbia Basin-Boundary region to offer bridging programs to a Bachelor in Forestry from another institution or support upgrading to access forestry diploma programs (see text box: Expanded and Flexible Program Options). Selkirk College has taken steps to attract new students by offering international forestry experience as part of their programming.²³ This offering is an incentive to some students, and is not frequently found in other programs.

CONCLUSION

While the Columbia Basin-Boundary region is unique in many ways, it is considered part of the Interior forestry region and shares with it many of the same challenges and opportunities. While each of the case studies provide potential ideas and solutions, there is the opportunity to build on the Forest Sector Labour Market and Training Needs Analysis already completed in 2013 and the Strategic Plan for the BC Forest Sector completed in 2017. A strategy for the Columbia Basin-Boundary region specifically could ensure that implications of the provincial challenges the forestry industry faces are understood, that the region's specific needs are being addressed and recognised at the regional and provincial levels, and that specific regional actions are identified and implemented.

Other recent examples of support for the forestry sector in BC can be found in the BC Rural dividend program. The program is delivering \$75 million over three years to help rural and First Nations communities develop new opportunities for diversification and growth.³ Some of this funding is being made for forestry related projects that seek to provide local jobs and strengthen partnerships between industry and First Nations communities.²² Strengthening relationships will help to create new businesses and recruit new employees to the forestry sector. Another example of innovation in the forestry sector is the partnership between the First Nations Forestry Council and the BC Government. Funding from these groups to the First Nations Forestry Technician Training Program assists First Nations students to attend accredited forestry programs.³ In

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The Columbia Basin Rural Development Institute, at Selkirk College, is a regional research centre with a mandate to support informed decision-making by Columbia Basin-Boundary communities through the provision of information, applied research, and related outreach and extension support.

Visit www.cbrdi.ca for more information.