### The Conference Board of Canada

In partnership with

Future Skills Centre

# Saskatchewan's Forest Sector

Future Skills for an Indigenous-Led Revitalization

Case Study | November 30, 2021





The Future Skills Centre – Centre des Compétences futures (FSC-CCF) is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead.

The Future Skills Centre was founded by a consortium whose members are Ryerson University, Blueprint, and The Conference Board of Canada.

If you would like to learn more about this report and other skills research from FSC, visit us at fsc-ccf.ca or contact info@fsc-ccf.ca.

fsc-ccf.ca

In partnership with:



The Conference Board of Canada

Blueprint

Funded by the Government of Canada's Future Skills Program



# Contents

- 4 Lessons Learned
- **5** Diverse Potential in the Forest Sector
- 7 Northern Skills Development Ecosystems
- 8 Saskatchewan's Boreal Forest Spans Two Regions
- **10** Uncertainty in Saskatchewan Forestry
- **13** Indigenous Leadership Can Sustain Revitalization
- 18 Many Players in Northern Saskatchewan's Skills Development Ecosystem
- 22 Lessons for Building the Indigenous Forestry Workforce

- 25 Appendix A Methodology
- 26 Appendix B Building Skills in Northern Saskatchewan: The Ecosystem
- 28 Appendix C Indigenous Participation in Forestry Occupations
- 29 Appendix D Bibliography

# **Lessons Learned**

- Indigenous communities have built considerable economic power in Saskatchewan's forest sector by supporting targeted training for community members throughout the forest value chain. Sustaining that power will require more Indigenous people working in positions across the sector, including higher-skilled occupations.
- 2 Indigenous communities in Saskatchewan's forest regions face a tension between opportunities for well-paid local work in the forest sector and concerns about encroachment on traditional lifestyles on the land and risks to ecological integrity.
  - Opportunities to maintain and strengthen the Indigenous forest sector in Saskatchewan include alternative uses of forests, such as agroforestry and non-timber forest products. Educational providers should equip learners with knowledge about ecology, environmental science, and business management if local communities are to develop this potential.

- Truck driver shortages threaten to create bottlenecks for forestry businesses. Increased driver safety and training requirements have pushed up the cost and time required to certify drivers. Employers need support to hire and mentor long-haul drivers working towards certification.
- The forestry value chain depends on small businesses harvesting logs, but trucks and harvesting machinery represent significant investments. Supports for Indigenous entrepreneurs at this level should include training in small business development, access to capital, and ongoing coaching on managing a capital-intensive business.

### **Diverse Potential in the Forest Sector**

The Canadian forest sector is facing a challenge to attract, train, and retain workers. In this boom-and-bust industry, forestry companies must increase efficiency in order to remain competitive when the market is weak while also responding to growing demand for sustainable practices and high-value wood products. Indigenous forestry businesses are no strangers to this dilemma.

Forestry is a source of economic power for Indigenous communities, one that offers potential for future prosperity. Saskatchewan leads Canada in Indigenous participation in the forest sector.<sup>1</sup> Indigenous-owned businesses, such as Meadow Lake Tribal Council Industrial Investments LP, are active in all levels of the province's forest sector, from forest management and tree planting to harvesting and hauling logs and wood product manufacturing.

Indigenous businesses work hard to bring community members into the forestry business. But local workers are often not interested in harvesting jobs, which require risky physical work in remote locations, or in starting businesses that require a large investment in equipment. It is also hard to find community members who have higher professional and management skills. Relevant degree programs are only available in other regions or provinces and require senior-level math and science courses. Complicating the need for skilled workers is a more profound question about the acceptability of forestry as an industry. In these boreal forest regions where logging occurs, communities face a strong tension between opportunities for well-paid local work in the forest sector and concern for encroachment on traditional land-based lifestyles, as well as risks to ecological integrity. Those already involved in the industry share some of these concerns.<sup>2</sup>

"Talking about the forest sector—rather than the forestry industry—opens the door to a broader range of economic development opportunities that may dovetail with conventional forestry." Canadian forest sector non-profit representative

<sup>1</sup> Government of Saskatchewan, "Indigenous Involvement in the Forest Sector."

<sup>2</sup> Research interview, February 2021.

As the forest sector evolves, everyone in the skills development ecosystem – education providers, employers, policy-makers, and learners – must consider how to support Indigenous communities as they balance a need for skilled labour to develop local businesses with maintaining a sustainable relationship with the land.

To better understand this dilemma, we look at the changing fortunes in Saskatchewan forestry. This includes how Indigenousled forestry is helping to revitalize the industry while increasing the economic power of Indigenous communities. These communities also have a strong stake in the skills development ecosystem across the north of Saskatchewan. However, the current ecosystem doesn't offer all the skills needed to promote both traditional forestry and the non-timber alternatives that may be key to future prosperity.

### "One of the things that I want to protect is our way of life. ... If you come and cut everything down, our way of life, it's no longer there."

Métis community leader, Northern Saskatchewan



### Northern Canada's Skills Development Ecosystems

It takes a broad ecosystem of interdependent actors – including government, education and training, industry, and learners – to identify the skills needed locally, deliver those skills, and deploy them in jobs. (See our primer <u>Skills Development in the North:</u> <u>An Ecosystem Shaped by Distinct Challenges</u>.)

### **Providing Education and Training in the North**

- High school graduation rates in the North lag southern regions. PSE institutions must bridge the gap by offering upgrading courses.
- There are few Indigenous regional educational authorities, so many skills development functions are performed by small local communities.
- Teacher shortages and turnover are high. Most Northern teacher training programs only focus on K–6 training.
- Only seven Northern economic regions have a local university focused on regional development. In 11 regions, the only local PSE provider is a community college.
- Online training models that depend on broadband Internet connections and household computers are often not feasible.

#### **Setting Education Policy in the North**

- Federal policies on Indigenous education and training impact the skills ecosystem. Indigenous governments also play a major role.
- Tripartite agreements that coordinate policy bring in the provincial government as well.
- Training delivery models developed in Southern cities may not be appropriate in Northern communities. Trainers, facilities, and equipment can be much harder to access.

#### **Employers Drive Northern** Labour Demand

- The natural resources sector plays an outsized role, leaving Northern regions vulnerable to commodity cycles.
- Large natural resources employers, such as mining or forestry companies, are often the biggest contributors to GDP.
- Indigenous economic development corporations can be significant investors and employers.

#### **Supporting Northern Learners**

 Intersecting challenges for Indigenous learners can include remoteness, teacher shortages and turnover, inadequate funding, lack of starter jobs, housing shortages, small schools, and poor Internet service. All of these are compounded by the legacy of residential schools and colonial policies. Support for learners can help them build the essential skills they need to enter work.

#### Coordinating Northern Skills Ecosystems

• Bodies that coordinate skills development benefit from strong local input, wide representation, community outreach, inter-agency cooperation, cultural competency, flexibility, and shared leadership. At the very least, a bare-bones administration is necessary.

| Saskatchewan's Forest Sector |



"Northerners, on average, still really prefer to live in the North ... that's not to say that Northerners don't move to the city and stay there—that happens. But there is a strong emotional tie to our hometowns. And there's a strong cultural tie."

Saskatchewan government official

## Saskatchewan's Boreal Forest Spans Two Regions

The Saskatchewan forest sector is concentrated in two regions: Prince Albert and the Northern Saskatchewan region. Within the Prince Albert region, the landscape transitions to the boreal forest, which dominates the Northern Saskatchewan region. Combined, the two regions have a much higher Indigenous population than the average across Canada (37 per cent versus 4.9 per cent). However, there are demographic differences: Northern Saskatchewan is much more sparsely populated, and Indigenous people account for most of the population. (See Table 1).





Although most communities in Northern Saskatchewan have road access, distances between communities are significant. The largest community, La Ronge, has 2,700 residents.<sup>3</sup> Home to Cree, Dene, and Métis people, connection to land and place is strong. Hunting, trapping, fishing, and harvesting are common activities. Unemployment is high and economic opportunities are limited. Community economic development agencies are often responsible for creating the economic opportunities that do exist.

### Table 1: Demographic Information for Prince Albert and NorthernSaskatchewan Census Economic Regions

Prince Albert Economic Region (2016)		Northern Saskatchewan Economic Region (2016)	
207,903	Total population	37,064	
59,440	Indigenous population	32,200	
39,670	First Nations	25,570	
19,070	Métis	6,435	
28.6	Per cent Indigenous	86.9	
2.1	Population density (population per square kilometre)	0.1	
128,815	Population working age (15–65 years)	22,980	
12,625	Labour force in agriculture, forestry, fishing, and hunting	240	
64.6	Labour force participation rate (per cent)	48.8	
67.0	Indigenous labour force participation (per cent)	56.0	

Sources: The Conference Board of Canada; Statistics Canada.



3 Town of La Ronge, "Visiting La Ronge."

# **Uncertainty in Saskatchewan Forestry**

Forestry is a cyclical industry and experienced a steep decline across Canada during the collapse of the housing market and the U.S. recession in 2007–2009. Demand for newsprint has also declined with the shift to digital media.<sup>4</sup> In Saskatchewan, concerns remain about the future of the forest sector and what skills will be most useful for workers.

#### Will Forestry Rebound?

Forestry is a small component of Saskatchewan's economic activity but an important contributor to the economy in the northern boreal forest zone.

The industry's trajectory in Saskatchewan remains uncertain. When the Prince Albert pulp mill closed in 2006, the region lost 700 jobs.<sup>5</sup> With the new owner Paper Excellence recently refurbishing the mill, there is renewed hope that it could reopen by 2023, but not everyone is optimistic this will happen.

During the pandemic, the price of lumber and wood panels soared across Canada in 2020–21, increasing company profits.<sup>6</sup> After drops in production during the first couple of months of the pandemic, production rebounded and exports grew during 2021. By mid-summer 2021, lumber prices had dropped considerably, but volatility continued, driven by widespread wildfires.<sup>7</sup>

- 4 Natural Resources Canada, The State of Canada's Forests.
- 5 Hill, "Paper Excellence Injects \$600K into Shuttered P.A. Paper Mill."
- 6 CBC News, "High Lumber Prices Expected to Stick Around."
- 7 Evans, "Wildfires Are Causing the Price of Lumber to Spike Again."



At the same time, consumers interested in sustainability are increasingly turning to wood-based products.<sup>8</sup> New forest products, such as materials for clothing or building, are emerging as alternatives to plastic.

#### Will Young People See the Opportunities?

A renewed forest sector will need skilled workers. Communities in the region have long relied on uranium mines in Saskatchewan and the Alberta oil sands as major employers for their residents. As large industries like these struggle, one First Nations economic development lead said they are increasing their involvement in forestry to create local jobs for their people who are out of work.<sup>9</sup>

However, many young people across Canada see forestry as a "rusting and graying" industry and are not entering it as they once did.<sup>10</sup> For example, truck drivers are critically needed, but few young people want to pursue a trucking lifestyle.<sup>11</sup>

- 8 Murray, Clos, and Engdar, *Branching Out*.
- 9 Research interview, March 2021.
- 10 Canadian Forest Industries, "The Canadian Forest Industries Podcast"; Research interview, April 2021.
- 11 Trucking HR Canada, *Millennials Have Drive* 2, 12–15.

To attract new people into the industry, employers are highlighting their innovation in science and technology applications and positioning it as a sustainable industry—one that is responsibly managed, renewable, and certified.<sup>12</sup> Employers and communities highlight the importance of career awareness and mentorship, but the pandemic has hampered initiatives such as career fairs, job shadowing, and summer job placements.

#### What About New Technologies?

If young people are going to take on forestry jobs, they will have to learn the appropriate technology. There have been major changes to forestry technology over the past two decades. In harvesting, machines such as feller bunchers, processors, and skidders have replaced hand-felling with chainsaws and line-skidding. Meanwhile, upgrades to manufacturing processes in mills have increased productivity and safety and decreased the number of workers required.

12 Canadian Forest Industries, "The Canadian Forest Industries Podcast."



New equipment comes with steep costs and a learning curve for operators, who must be comfortable operating highly digitized machines. So small forestry entrepreneurs need access to both training and capital. One Saskatchewan First Nation has spent \$2 million on harvesting equipment in less than 18 months and is now pursuing training opportunities for its members to enter the harvesting contractor business.<sup>13</sup> For another community in Northern Saskatchewan, the cost of equipment is too steep and the risk of losing their investment too high. Sunk costs can be especially worrying if demand falls or a forest fire affects the ability to harvest.14

New technologies will not be adopted if they are not cost-effective or don't function well in the harsh environments of remote forests.<sup>15</sup> With equipment already advanced and digitized, industry leaders in Saskatchewan are not anticipating further radical technology changes in the next few years. That said, a few technologies on the horizon could take off:

- Automation: Incremental advances such as the John Deere intelligent boom control in forwarders and wheeled harvesters, where the system automatically adjusts boom movements and extension and adjusts for slopes.<sup>16</sup>
- **Remote sensing:** Aerial LiDAR (light detection and ranging), satellite imaging, and hyperspectral imaging are growing technologies for conducting a forest inventory and detecting detailed forest characteristics such as biodiversity and natural disturbances.
- Artificial intelligence: Machine learning and deep learning can enhance forest inventories and contribute to logistical and supply chain decisions.<sup>17</sup>
- New high-value products: These include wood products as part of food additives, paints, auto parts, biofuel, bioplastic polymer for 3D printing, and lignin foam for insulation.

At least in the short term, people are still needed for jobs such as truck driving and tree planting. In fact, forest sector representatives see major impending gaps in low-tech, land-based skill sets like scalers, silvicultural surveyors, and even tree planting supervisors. Training for these skills can lead to immediate long-term employment, often at the community level.<sup>18</sup>



- 14 Research interview, March 2021.
- 15 Horne, "Technology Profile."

16 John Deere, "Intelligent Boom Control for Forestry

Equipment Infographic."

17 Taillon, "Artificial Intelligence and the Forestry Sector."

18 Research interview, August 2021.

<sup>13</sup> Research interview, March 2021.

# **Indigenous Leadership Can Sustain Revitalization**

#### Leading in Indigenous Forest Allocation

Indigenous peoples play an important role in the Saskatchewan forest sector. Saskatchewan leads Canada in the volume of forest tenure allocated to Indigenous communities. By 2017, 30.7 per cent of the total forest tenure in the province was allocated to Indigenous groups, compared with 10.5 per cent across Canada.<sup>19</sup>

Forest tenure by Indigenous communities in Saskatchewan has also increased since the early 2000s. After the Prince Albert pulp mill was closed, the Prince Albert Forest Management Area was redistributed to Sakâw Askiy Management Inc., which included two First Nations organizations: A.C. Forestry and Montreal Lake Business Ventures.

#### **Vertically Integrated Indigenous Ownership**

Building on those allocations, Indigenous-owned forestry companies in Saskatchewan are seen as a leading example across Canada and internationally. Indigenous-owned companies can be found at all levels of the forestry value chain, from harvesting to forest products manufacturing. (See "Meadow Lake Tribal Council.") Being connected vertically means that established forestry businesses such as Mistik Management see direct value in coaching small forestry contractors on how to be successful in their enterprises to support the broader industry.

19 National Aboriginal Forestry Association, Fourth Report on Indigenous-Held Forest Tenures in Canada 2018.

# Meadow Lake Tribal Council (MLTC)

MLTC Industrial Investments LP (MLTCII) is the economic development arm of the nine member First Nations comprising the Meadow Lake Tribal Council in Northwestern Saskatchewan.

MLTC made national headlines over 30 years ago when it bought a large stake in the NorSask sawmill from the provincial government. In 1998, MLTC took over 100 per cent ownership to become the first solely Indigenous-owned sawmill in Canada. It also owns L&M Wood Products, a manufacturer of specialty wood products, and the woodlands company Mistik Management Ltd.

Through these companies, MLTC is involved throughout the forestry value chain. While creating jobs and economic development for its communities, MLTCII maintains a lot of influence on the regional industry. Not only does it hire community members where possible, but dividends from production are paid back to the community. The communities whose traditional territories are being harvested are also paid a co-management fee that gets reinvested in the community.

### A Large Indigenous Workforce, but Not Yet in Higher-Skilled Roles

Over 27 per cent of the forestry workforce in Saskatchewan is Indigenous, far outpacing the national average of 7 per cent. But Indigenous people are over-represented in lower-skilled forestry jobs such as tree planting and chainsaw and skidder operations. While these positions remain important, Indigenous people are under-represented in jobs requiring a higher level of education, such as manufacturing managers and forestry professionals. (See Appendix C.)<sup>20</sup>

Higher-skilled roles are still often filled by outsiders. During growth in the 1970s and '80s, the provincial government invested heavily in local training for forestry jobs and supported Indigenous groups to lead in forestry. This intensive support has ended. Now, it is easier for larger or more established organizations to attract funding, training dollars, and investment, while smaller groups and private individuals have a harder time breaking into the industry. Forestry companies look to consultants from outside the region to provide expertise on forestry-specific business management and technological innovations.

20 The Conference Board of Canada, Statistics Canada custom data set.



"Even in our area, where a large portion of the population is Indigenous and there is a company that is 100 per cent Indigenous-owned, we still can't get our own Indigenous people into some of those [higher-level] positions."

**First Nations forest company employee** 

Coordination in skills development might help address these Indigenous skills gaps. Individual forestry companies are working to get their employees and contractors the skills they need. (See "Indigenous Companies Support Training".) Currently though, Saskatchewan lacks a body to coordinate skills development partners across the province, like the B.C. First Nations Forestry Council. That Council works with partners to build a broad base of Indigenous capacity to work in forestry occupations.<sup>21</sup> The Saskatchewan First Nations Forestry Alliance announced in 2019 that it may take on this role, but it has yet to make an impact.<sup>22</sup>

21 B.C. First Nations Forestry Council, "BC First Nations Forestry Work Force Initiative."22 Cools, "Saskatchewan First Nations Form Group."



#### A Distinct Indigenous Approach to Forestry

While the Saskatchewan First Nations Forestry Alliance's initial announcement was primarily couched in terms of expanding First Nations business opportunities, leaders also talked about using more traditional knowledge and exploring new opportunities in bioenergy.<sup>23</sup> Indigenous participation in the forest sector brings a stewardship perspective that looks beyond merely extracting economic value to embracing cultural and spiritual ties to the forest.

Indigenous communities appreciate the forest as a source of food security, cultural continuity, ecosystem services, recreation, and renewable energy.<sup>24</sup> (See "Non-timber Forest Products Can Be More Acceptable.") For example, one Indigenous group sees its forest allocations as an opportunity to address housing insecurity in their communities through using whole logs for homes and processing novel OSB (oriented strand board) wood products for lower-cost buildings.<sup>25</sup>

Some Indigenous-owned companies approach forest management by finding ways to mitigate the impacts of timber harvesting on animal health and traditional activities.<sup>26</sup> A First Nations-owned forestry company told us that although they were currently using conventional harvesting practices, it was a priority for their group to invest in new technologies that reduce the environmental impacts of their harvesting activities.<sup>27</sup> "A strictly corporate group ... theoretically they want 100 per cent of the millions of cubic metres of wood ... Indigenous people will adjust that. They will accept a lower conversion rate ... to accommodate other ecological, spiritual, cultural functions."

First Nations executive at a national forestry organization



24 Research interview, April 2021; NAFA, "About NAFA."

- 26 Ibid.
- 27 Ibid.

<sup>23</sup> Lozinski, "New Forestry Alliance Exploring Opportunities."

<sup>25</sup> Research interview, March 2021.

### Non-timber Forest Products Can Be More Acceptable

There is interest in harvesting non-timber forest products – such as fireweed teas, blueberries, chanterelle mushrooms, herbs, or plant extracts used in pharmaceuticals or personal care products – from the boreal forest. This type of harvesting might be more acceptable locally because it does not remove whole trees and keeps forests available for other activities, such as trapping. It also requires less investment in harvesting equipment than does commercial logging.

Boreal Heartland, an initiative of Northern Saskatchewan's nonprofit Keewatin Community Development Association (KCDA), is in its fifth year of harvest. KCDA has trained over 50 local people in plant identification and sustainable harvest, paying harvesters by volume and ensuring that this commercial harvest does not compete with harvests for traditional uses. The challenge now is developing a market for its products; KCDA hopes that online marketing and increasing demand for health products will help grow its business.



## Many Players in Northern Saskatchewan's Skills Development Ecosystem

The integrated skills development ecosystem across the Northern Saskatchewan and Prince Albert regions is made up of educational providers, policy-makers and funders, employers, and learners. (See our primer *Skills Development in the North: An Ecosystem Shaped by Distinct Challenges.*) These organizations work together to share funding, training locations, instructors, and access to learners. (See Appendix B, Exhibit 1.) Indigenous peoples are well-represented in skills development across the north of Saskatchewan.

It is difficult to predict future employment needs, and therefore skills development needs, for a cyclical industry such as forestry, which is impacted by distant market changes and international demand. Nevertheless, if Indigenous communities are to prosper in a more technical and diversified forest sector, they will need skilled workers across all positions, including the skilled trades and management.

#### Learners Lack Essential Skills

High school graduation rates in Northern Saskatchewan and Prince Albert are low. Twenty per cent of people aged 25–64 do not have a high school diploma. In Northern Saskatchewan, this climbs to 52 per cent for First Nations residents and 41 per cent for Métis residents.<sup>28</sup> Because of this, adult basic education is a large component of PSE programming, including Grade 12 equivalency and essential skills for the workplace.





#### Indigenous-Focused PSE Helps

Three of the largest providers of PSE across the north of Saskatchewan are Indigenous-controlled institutions: the Saskatchewan Indian Institute of Technologies (SIIT), the Métisowned Gabriel Dumont Institute (GDI), and the First Nations University of Canada. SIIT also manages the Saskatchewan Indian Training Assessment Group (SITAG). SITAG distributes Indigenous Skills and Employment Training (ISET) program funding from Employment and Social Development Canada. Thirty-three labour force development agencies run by independent First Nations and tribal councils partner with SITAG to purchase workplace training and formal education needed by their members.<sup>29</sup>

#### **Public PSE Institutions Are Small**

Many Indigenous students also attend regional public colleges such as North West College and Northlands College. Because these colleges are small, they are non-credentialling institutions and must broker programs from larger accredited schools. They often offer academic upgrading for prerequisite courses that are not offered in community schools or that students have struggled with, such as chemistry or calculus. There are no universities headquartered in the Northern regions, but the First Nations University of Canada and the University of Saskatchewan both operate satellite campuses in Prince Albert. However, students who want to specifically study to be a forester must leave the province to find a specialty program.

#### **Employers Support Staff Development**

Employer investments in professional development for current staff and scholarships for potential recruits may pay off in the long run by reducing the cost of hiring external consultants. At the same time, forest sector employers need skilled tradespeople and labourers. These employees require essential skills such as digital literacy and job readiness, leading to financial literacy and business management.

Being able to work between cultures and knowledge systems is always an asset, including knowledge of local Indigenous languages. Indigenous forestry companies are supporting both employees and self-employed contractors to obtain these skills. (See "Indigenous Companies Support Training.")

"Here's an opportunity for some [young] people to say, 'You know what, I'm going to be a forest manager.' And next time we have negotiations over forestry, we'll have our own person there, who'll tell us ... what they're talking about. Because... if I don't research it, then I don't know what they're talking about."





# Indigenous Companies Support Training

#### **Training for Employees**

One tribal council's education and training department helps their members get jobs by acting as a liaison between companies with employment opportunities and suitable community members. Aligning training with employer needs, the tribal council helps members get the required training with funding from SITAG. This could include WHMIS, first aid, chainsaw safety training, and sometimes additional supports such as winter work clothes. For higher skills training, they buy seats for their members in courses run by educational partners, such as a heavy equipment operator course offered by SIIT.

#### **Training for Self-Employment**

A woodlands company supports teams of self-employed harvesting contractors. They offer business support, such as developing a business plan or planning for future repair costs. They also support contractors to train on new equipment and improve productivity. In such a lean business, every second saved during operations helps keep the business viable. This training is provided by consultants from other parts of Canada who have long-standing experience in forestry, or by company staff.



#### A Long-Standing Coordination Body

In remote regions such as the north of Saskatchewan where there are limited resources and small numbers of learners, collaboration in skills development is critical. Skills development in these regions tends to be driven by short-term labour market demands. Colleges work closely with communities, Indigenous governments, and employers to ensure training is tied to current job openings.

The Northern Labour Market Committee (NLMC) is a forum that has brought together government, industry, and community since the mid-'80s to discuss emerging labour market and economic development needs for Northern Saskatchewan. The focus of the quarterly meetings changes depending on cyclical changes in industry and governmental priorities. Subcommittees work to address the labour needs of different industries. Since the closure of the Prince Albert pulp mill, the NLMC forestry subcommittee has been dormant. Decisions are made annually on whether to reactivate these subcommittees, and it may be reconvened as the industry evolves.<sup>30</sup>

NLMC does not currently distribute training funds. However, participants see NLMC as a unique and effective way to bring people together in such a vast area to share information, coordinate services, and influence decision-making. Mutual respect and discussion are key elements. Participants can add items to the agenda and comment on other speakers' points. Having senior-level people attend increases the clout of the committee and allows for decisions to be made in the moment. However, the ability of the committee to innovate in the future will be the ultimate test of its continuing value. "One of [NMLCs] successes has been that it's been so driven by the North, and that's really brought credibility to Northern communities, Northern businesses, as opposed to it being provincially driven out of Regina or even Prince Albert. There's quite a Northern identity to it, authentically."

Métis post-secondary education executive



#### **Building Complementary Skillsets Makes Employees and Organizations More Resilient**

Indigenous community-owned businesses are often guided by social mandates that may weight the quantity and quality of employment opportunities created for community members over other business objectives, such as profit generation. This weighting may pull them away from high-tech investments – such as investing in new harvesting machinery—that would ultimately reduce the number of community members employed.

To navigate these social enterprise values, such companies may favour developing diverse skill sets among their employees that increase the range of contracting opportunities they can take on in and around the forest. For example, a single employee may receive training in a range of skills such as sylvicultural surveying, road/block layout, chainsaw/brush saw operation, wildfire training, water monitoring, traditional knowledge, and tree planting/supervision.

By helping individuals build robust, diverse toolkits comprising a series of low- and mid-skilled competencies, both the organization and employee can be resilient to economic change in the sector and region. They can also work in related sectors that run on different economic cycles or have little fluctuation, such as right-of-way clearing, park and trail maintenance, or provincial wildfire programs.

Source: Paul Robitaille, Senior Director, Indigenous and Youth Relations, Sustainable Forestry Initiative.

# Lessons for Building the Indigenous Forestry Workforce

The forest sector in Saskatchewan is grappling with three challenges: profitability, strategic investments in technology, and recruiting and retaining workers. In Northern Saskatchewan, there are additional concerns about the impact of forestry on the environment and culture, particularly for Indigenous people. The region has a small population and few educational and employment opportunities, which is a challenge for the skills development ecosystem. But Indigenous leadership in forest tenure, ownership, and workforce participation brings a unique approach to how forestry is done and how skills for forestry work are provided.

#### New Technologies Require New Management Skills

Professionals like foresters and managers will be the ones poised to respond to future technological opportunities in forestry. Specialists in information and communication technologies, marketing, customer service, and entrepreneurship will be needed to effectively navigate technological changes.<sup>31</sup> Meanwhile, managers and leaders need to understand what new technologies can offer. This includes being able to interpret research, evaluate the merits of potential opportunities, apply for grants and training dollars, and hire the right staff and consultants.

31 Government of Ontario, "Forestry Careers."



#### **Collaboration Is Needed to Fill Indigenous Skills Gaps**

**Technical and trades-based skills:** Forestry remains a heavily mechanized industry that requires people with the skills to operate and service forestry machinery. This includes truck drivers, harvest machine operators, instrument technicians, service technicians, mechanics, millwrights, and other skilled trades. Many of these occupations have aging workforces. It will require a multipronged approach that addresses attracting, recruiting, training, mentoring, and overall job readiness to bring young Indigenous people into these jobs. For example, governments could work with employers to subsidize the cost of mentoring new truck drivers while they work towards their certification as heavy-haul drivers.<sup>32</sup> Multi-year contracts can also help employers underwrite higher training expenses.

**Entrepreneurs:** While some of these workers will be employees, small contractors in many of these occupations are a critical part of the forestry value chain, particularly in harvesting. This makes support for small Indigenous entrepreneurs important, including training for small business development. And training needs to happen in parallel with access to capital, since trucks and forestry equipment represent significant investments. Ongoing coaching from organizations higher up the value chain can help new businesses stay on track and build the industry.

**Post-secondary training:** Having local residents assume higherskilled positions in forestry can help ensure that the industry's economic benefits stay in the region. And Indigenous workers may influence the industry in a way that resonates with local and cultural values. More opportunities to train in biological and ecological sciences and sustainability will allow individuals to pursue careers in forestry or find jobs in other industries when this cyclical industry is at a low point. Skills development in areas such as communication, digital literacy, and cultural competency can support a broad range of positions across multiple industries.

### Indigenous Companies and Communities Want to Diversify the Use of Forests

Tensions between conventional forest harvesting and Indigenous approaches to sustainable forestry require an expanded understanding of socially responsible Indigenous forestry and where it intersects with new trends in sustainable ecosystembased forest management. Additional uses for the forest, such as harvesting non-timber forest products and agroforestry, could supplement traditional logging activities.

Non-timber forestry can be a good fit for local cultures and can increase food security and improve forest health. This could even include gardening and/or greenhouses to expand from subsistence wild harvests to a commercial scale. Educational providers will have to equip learners with knowledge about ecology, environmental science, and business management if local communities are to take advantage of this potential. Revitalization of traditional knowledge and languages can complement this work, as can amplifying Indigenous women's voices.

### Policy-Makers Support an Important Coordination Role

There are a variety of education and training providers in the region, several of which are Indigenous-owned and led. This means the skills development ecosystem should be well-prepared to respond to training needs locally and in culturally appropriate ways. Local colleges, satellite campuses of other PSE institutions, ISET agreement holders, and governments all play a role. Forums such as the NLMC and SITAG support coordination and knowledge-sharing through respectful participation from Indigenous communities, industry, government, and education. Communicating opportunities through these forums is one way forestry could be put back on the radar of decision-makers. Coordination can help all parties work together to create learning programs that bridge the skills gaps particular to these Northern regions.







# Appendix A Methodology

The findings presented in this report flow from:

- a review of academic, government, and grey literature sources relating to forest sector change and the forest sector and education ecosystem in northern Saskatchewan;
- Statistics Canada 2016 census data used to calculate Indigenous participation in forestry-related jobs in the two regions of interest;
- interviews conducted with 21 people during the winter and spring of 2021, for which 12.5 hours of interviews were recorded, transcribed, and coded using qualitative data analysis software. Interview participants were associated with:
  - post-secondary education organizations (3)
  - provincial and federal government departments or agencies (4)
  - Indigenous communities and businesses (4)
  - forest sector bodies (2)
  - skills development coordinating bodies (5)



#### Appendix B-Exhibit 1

### **Building Skills in Northern Saskatchewan: The Ecosystem**



#### Appendix B-Exhibit 1 (cont'd)

### **Building Skills in Northern Saskatchewan: The Players**



### Learners with different experiences

- First Nations, Métis, non-Indigenous
- On-reserve, off-reserve
- Initial education vs. mature learners
- Registered students vs.
   employees learning on-the-job
- College, apprenticeship, university, workplace learners
- Under-skilled employees
- interested in upskilling



Post-secondary education institutions

- Northlands College
- North West College
- Gabriel Dumont Institute
   Saskatchewan Indian Institute
- of Technologies
- Saskatchewan Polytechnic
- University of Saskatchewan
- First Nations University of Canada

#### Non-profit

CanSask Labour Market Services

7 provincial school divisions

First Nations education authorities and ISET program sub-agreement holders

Traditional knowledge keepers
• Elders

Private trainers



#### **Government of Canada**

- Western Economic Diversification Canada
- Natural Resources Canada
- Indigenous Services Canada (ISC)
   Employment and Skills Development
- Employment and Skills Development Canada (ESDC)

#### **Government of Saskatchewan**

- Immigration and Career Training (ICT)
- Ministry of Advanced Education
   Northern Saskatchewan
- Administration District • Apprenticeship Saskatchewan

#### Indigenous governments

• First Nation governments and tribal councils

Métis Nation of Saskatchewan

#### Local governments

- Industry associations • National Aboriginal Forestry Association (NAFA)
- Forest certification organizations

#### Professional bodies • Association of Saskatchewan

Professional Foresters



Woodlands companies

- Manufacturing and processing companies
- Community economic
- development corporations

Coordination bodies

#### Bringing the players together

Northern Labour Market Committee

Saskatchewan Indian Training Assessment Group (SITAG)

•Keewatin Community Development Association (Northern Saskatchewan Industry Education Council)

### Appendix C Indigenous Participation in Forestry Occupations

#### Table 1

#### Indigenous participation in forestry occupations in Northern Saskatchewan and Prince Albert Regions

(2016 Census)

		Number First	Number Métis	Per cent		Job openings (all SK)
Occupation	Total employed	Nations identity	identity	Indigenous	NOC skill level	2019–2023
Transport truck drivers	3,100	375	360	24	С	3,220
Heavy-duty equipment mechanics	625	35	25	11	В	410
Construction millwrights and industrial mechanics	560	50	65	22	В	380
Manufacturing managers	175	10	15	17	А	390
Silviculture and forestry workers	165	115	30	91	С	20
Logging machinery operators	140	35	15	39	В	30
Chainsaw and skidder operation	115	55	10	61	С	30
Labourers in wood, pulp, and paper processing	105	30	10	38	D	30
Forestry technologists and technicians	100	0	20	20	В	20
Sawmill machine operators	90	10	10	22	С	30
Supervisors, logging and forestry	65	25	0	54	В	20
Logging and forestry labourers	55	20	15	55	D	30
Forestry professionals	50	0	0	0	А	na
Total	5,345	760	575			4,610

Sources: The Conference Board of Canada; Statistics Canada; Mining Industry Human Resources Council; Government of Saskatchewan.



### Appendix D Bibliography

B.C. First Nations Forestry Council. "BC First Nations Forestry Work Force Initiative." Accessed June 3, 2021. https://www.forestrycouncil.ca:443/ cpages/workforce-initiative.

Canadian Forest Industries. "The Canadian Forest Industries Podcast: Kevin Edgson on How to Attract Younger Workers to Forestry." Accessed May 4, 2021. https://www.woodbusiness.ca/the-cfipodcast-kevin-edgson-on-how-to-attract-youngerworkers-to-forestry/.

CBC News. "High Lumber Prices Expected to Stick Around Into 2021, Raising Construction Costs for Canadians." CBC News, December 23, 2020. Accessed September 20, 2021. https://www.cbc.ca/ news/business/lumber-prices-yearender-1.5853476.

Cools, Ellen. "Saskatchewan First Nations Form Group to Advance Forestry Opportunities." Canadian Forest Industries, January 11, 2019. www.woodbusiness.ca/saskatchewan-firstnations-form-group-to-advance-forestryopportunities-5437/.

Cooper, Jane. Skills Development in the North: An Ecosystem Shaped by Distinct Challenges. Ottawa: The Conference Board of Canada, 2021.

Evans, Pete. "Wildfires Are Causing the Price of Lumber to Spike Again." CBC News, July 23, 2021. Accessed September 20, 2021. https://www.cbc.ca/ news/business/wildfires-lumber-1.6113128. Government of Ontario. "Forestry Careers." Accessed April 7, 2021. https://www.ontario.ca/ page/forestry-careers.

Government of Saskatchewan. "Indigenous Involvement in the Forest Sector, Economic and Social Benefits." Government of Saskatchewan, 2019. Accessed September 20, 2021. https://www. saskatchewan.ca/residents/environment-publichealth-and-safety/state-of-the-environment/ state-of-the-environment-2019-a-focus-on-forests/ economic-and-social-benefits/indigenousinvolvement-in-the-forest-sector.

Hill, Andrea. "Paper Excellence Injects \$600K into Shuttered P.A. Paper Mill." *Saskatoon StarPhoenix*, February 5, 2021. Accessed April 13, 2021. https://thestarphoenix.com/news/local-news/ paper-excellence-injects-600k-into-shuttered-p-apaper-mill.

Horne, Don. "Technology Profile: Implementing Automation in Canada's Forestry Industry." *PROCESSWEST Magazine Online*, July 27, 2015. Accessed September 20, 2021. https://www. processwest.ca/technology-profile-implementingautomation-in-canadas-forestry-industry/.

John Deere. "Intelligent Boom Control for Forestry Equipment Infographic." Accessed April 16, 2021. https://www.deere.com/en/forestry/infographics/ intelligent-boom-control/. Lozinski, Peter. "New Forestry Alliance Exploring Opportunities in Prince Albert Area." *Prince Albert Daily Herald*, January 11, 2019. Accessed September 20, 2021. https://paherald.sk.ca/2019/01/10/newforestry-alliance-exploring-opportunities-in-princealbert-area/.

Murray, Lucyann, Richard Clos, and Fredrik Engdar. *Branching Out: How to Make Disruption an Advantage in the Forest Products Industry.* PowerPoint presentation.: Accenture, 2019. Accessed September 20, 2021. https://www. accenture.com/\_acnmedia/PDF-123/Accenture-Reinventing-Forest-Products-Industry.pdf.

National Aboriginal Forestry Association. "About NAFA." Accessed March 17, 2021. http://www. nafaforestry.org/ about.html.

 -. Fourth Report on Indigenous-Held Forest Tenures in Canada 2019. Pikwakanagan, Ontario: NAFA, 2018. Accessed April 1, 2021. http://nafaforestry.org/pdf/2018/NAFA%20 Tenure%20Report%202018a.pdf.

Natural Resources Canada. *The State of Canada's Forests: Annual Report 2020*. Ottawa: Natural Resources Canada, 2020. Accessed September 20, 2021. https://d1ied5g1xfgpx8.cloudfront.net/pdfs/40219.pdf.

SITAG. "About SITAG – Saskatchewan Indian Training Assessment Group." Accessed April 19, 2021. https://sitag.ca/about-sitag/.

Taillon, Peter J. "Artificial Intelligence and the Forestry Sector." Information and Communications Technology Council (blog), October 31, 2019. Accessed September 20, 2021. https://www.ictcctic.ca/artificial-intelligence-forestry-sector/.

Town of La Ronge. "Visiting La Ronge." Accessed April 13, 2021. https://www.laronge.ca/visitingla-ronge.

Trucking HR Canada. *Millennials Have Drive 2.* Ottawa: Trucking HR Canada, 2019. Accessed September 20, 2021. https://truckinghr.com/ wp-content/uploads/2019/09/Millennials-Have-Drive-2.pdf.



#### **Acknowledgements**

This briefing was prepared by Erin MacPherson, Research Associate and Jane Cooper, Senior Research Associate, of The Conference Board of Canada, on behalf of the Future Skills Centre. It was reviewed internally by Adam Fiser, Associate Director; Stefan Fournier, Director; Bryan Benjamin, Vice President; and Michael Burt, Vice President.

This paper benefited from external review by Tavia Laliberte, Vice President Academic, Saskatchewan Indian Institute of Technologies, and Paul Robitaille, Senior Director, Indigenous and Youth Relations, Sustainable Forestry Initiative.

This report was prepared with financial support provided through the Future Skills Centre. The Conference Board of Canada is proud to serve as a research partner in the Future Skills Centre consortium. For further information about the Centre, visit the website at https://fsc-ccf.ca/.

Any omissions in fact or interpretation remain the sole responsibility of The Conference Board of Canada. The findings do not necessarily reflect the views of the Future Skills Centre, its funder, or its partners. This research stream is supported by Research Advisory Boards commissioned by the Conference Board, including:

Ann Sylliboy Mi'kmaw Kina'matnewey

Danbi Cho Assembly of First Nations

**Glen Aikenhead** University of Saskatchewan

**Greg Dick** Perimeter Institute for Theoretical Physics

Heather McGregor Queen's University **Jamie Ricci** Indspire

Justin Wiebe Mastercard Foundation

Manon Tremblay Concordia University

Michelle Hogue University of Lethbridge

Randy Hermann University of Manitoba



Photos from Getty Images unless indicated below:

pp. cover, 10, 13, 18, 22—**Project Learning Tree Canada, an initiative of the Sustainable Forestry Initiative** 





#### Saskatchewan's Forest Sector: Future Skills for an Indigenous-Led Revitalization Erin Macpherson and Jane Cooper

To cite this research: Macpherson, Erin, and Jane Cooper. Saskatchewan's Forest Sector: Future Skills for an Indigenous-Led Revitalization. Ottawa: The Conference Board of Canada, 2021.

©2021 The Conference Board of Canada\* Published in Canada | All rights reserved | Agreement No. 40063028 | \*Incorporated as AERIC Inc.

An accessible version of this document for the visually impaired is available upon request. Accessibility Officer, The Conference Board of Canada Tel.: 613-526-3280 or 1-866-711-2262 E-mail: accessibility@conferenceboard.ca

<sup>®</sup>The Conference Board of Canada is a registered trademark of The Conference Board, Inc. Forecasts and research often involve numerous assumptions and data sources, and are subject to inherent risks and uncertainties. This information is not intended as specific investment, accounting, legal, or tax advice. The findings and conclusions of this report do not necessarily reflect the views of the external reviewers, advisors, or investors. Any errors or omissions in fact or interpretation remain the sole responsibility of The Conference Board of Canada.





The Conference Board of Canada Publication 11374 Price: Complimentary conferenceboard.ca