



Canada



**Sustainable Biomass Program (SBP)**

# **Regional Risk Assessment for Nova Scotia Forest Canada**

**SBP-RRA-CA-NS-FOR v1.0**

**Interim RRA**

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## Version v1.0

Formal status of document: approved by the SBP Technical director

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Approval date:	12 May 2025
Publication date:	12 May 2025
Effective date:	12 May 2025
Transition period:	-
Expiry date:	11 May 2030

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## Document history

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Version 1.0:	12 May 2025
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In the case of inconsistency between translations, the official English language version shall always take precedence.

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## Abbreviations

<b>AAC</b>	Annual Allowable Cut
<b>ACCDC</b>	Atlantic Canada Conservation Data Centre
<b>AOP</b>	Annual Operating Plan
<b>BMP</b>	Best management practices
<b>CFS</b>	Canadian Forest Service
<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora
<b>CLA</b>	Crown Lands Act
<b>CoC</b>	Chain of custody
<b>CSA</b>	Canadian Standards Association
<b>CWS</b>	Canadian Wildlife Service
<b>DECC</b>	Department of Environment and Climate Change
<b>DFO</b>	Fisheries and Oceans Canada
<b>DNRR</b>	Department of Natural Resources and Renewables
<b>ECCC</b>	Environment and Climate Change Canada
<b>ECELAW</b>	East Coast Environmental Law
<b>ESDC</b>	Employment and Social Development Canada
<b>EU</b>	European Union
<b>EUTR</b>	European Union Timber Regulation
<b>FMP</b>	Forest Management Plan
<b>FOMP</b>	Forest Operations Monitoring Program
<b>FPIC</b>	Free, prior and informed consent
<b>FSC</b>	Forest Stewardship Council
<b>FULA</b>	Forest Utilization Licence Agreement
<b>GDP</b>	Gross domestic product
<b>GFW</b>	Global Forest Watch
<b>GHG</b>	Greenhouse gas
<b>GMO</b>	Genetically modified organism
<b>HCV</b>	High conservation value
<b>ILO</b>	International Labour Organization
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ITUC</b>	International Trade Union Confederation
<b>IUCN</b>	International Union for Conservation of Nature
<b>KPI</b>	Key performance indicator
<b>LULUCF</b>	Land Use, Land Use Change, and Forestry
<b>NDC</b>	Nationally Determined Contribution
<b>NRCAN</b>	Natural Resources Canada
<b>NS</b>	Nova Scotia
<b>NSWOOA</b>	Nova Scotia Woodlot Owners and Operators Association
<b>OHS</b>	Occupational health and safety

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<b>PEFC</b>	Programme for the Endorsement of Forest Certification
<b>RCMP</b>	Royal Canadian Mounted Police
<b>REDII</b>	Renewable Energy Directive 2018/2001
<b>REF</b>	Risk Evaluation Framework
<b>RPF</b>	Registered Professional Forester
<b>RPFANS</b>	Registered Professional Foresters Association of Nova Scotia
<b>RRA-NS</b>	Regional Risk Assessment, Nova Scotia
<b>RTE</b>	Rare, threatened or endangered
<b>SAR</b>	Species at risk
<b>SARA</b>	Federal Species at Risk Act
<b>SBP</b>	Sustainable Biomass Program
<b>SFI</b>	Sustainable Forestry Initiative
<b>SGEM</b>	Nova Scotia Silvicultural Guide for Ecological Matrix
<b>UN</b>	United Nations
<b>UNDRIP</b>	United Nations Declaration on the Rights of Indigenous Peoples
<b>UNDRIP Act</b>	United Nations Declaration on the Rights of Indigenous Peoples Act
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNICEF</b>	United Nations Children's Fund
<b>VOITs</b>	Values, objectives, indicators and targets
<b>WAPPRIITA</b>	Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act
<b>WCB Nova Scotia</b>	Workers' Compensation Board of Nova Scotia
<b>WHMIS</b>	Workplace Hazardous Materials Information System
<b>WHWPR</b>	Wildlife Habitat and Watercourse Protection Regulations
<b>WPAC</b>	Wood Pellet Association of Canada
<b>WWF</b>	World Wildlife Fund

## Foreword

The Sustainable Biomass Program (SBP) interim Regional Risk Assessments (RRAs) are a key component of SBP's focus on identifying and mitigating risks associated with sustainably and legally sourcing feedstock for biomass pellet and wood chip production. The SBP Framework is designed to provide assurance that feedstock is sourced legally and sustainably.

The purpose of an SBP interim RRA is to evaluate an entire geographic region and determine the risks associated with sourcing feedstock for biomass pellet or wood chip production from that region. The SBP Regional Risk Assessment (RRA) Procedure Version 2.0 specifies the requirements and processes that must be followed to develop and endorse SBP risk assessments of regions or countries. The SBP RRA procedure requires active engagement with a diverse range of stakeholders in the region.

The RRA-NS scope is the harvestable forest land base of Nova Scotia.

The Wood Pellet Association of Canada (WPAC) initiated the RRA for the province of Nova Scotia (NS) in 2021 to verify the legality and sustainability of feedstock. In 2023, the SBP engaged Hopkin Forest Management Consulting Ltd. and a team of independent natural resource and certification professionals to form the Working Body and complete the RRA.

The Working Body facilitated the risk assessment to ensure that relevant NS laws, policies and practices, as well as practical knowledge of forestry in NS, were accurately captured in the RRA. Information was compiled from the experience and knowledge of consultants, interviews with experts, applicable legislation, reports from provincial authorities and other stakeholders, various databases, and statistical data sources.

Information was obtained from provincial authorities, such as the NS Department of Natural Resources and Renewables (DNRR) and Department of Environment and Climate Change (DECC), and federal authorities, such as the Canadian Forest Service (CFS) of Natural Resources Canada (NRCAN) and Environment and Climate Change Canada (ECCC). Many stakeholders were consulted in the process and information was obtained verbally and from written public and private sources.

Hopkin Forest Management Consulting, acted as the Working Body responsible for drafting the earlier version of the Draft Regional Risk Assessment (RRA) that was released for public consultation in November 2024. The responsibility for the further iterations of the Draft RRA was then transitioned to SBP. As such, Hopkin Forest Management Consulting was not responsible for responding to stakeholders' comments, completing or finalising the RRA.

# 1 Introduction

A Regional Risk Assessment (RRA) is a way to identify and confirm the risks associated with sourcing uncertified feedstock. The scope of this RRA is fibre sourced from the harvestable forested land base in the province of Nova Scotia (NS). The RRA-NS was completed in accordance with the following:

- SBP Standard 1: Feedstock Compliance, v2.0, May 2023
- SBP Standard 2: Feedstock Verification, v2.0, May 2023
- SBP Regional Risk Assessment Procedure, v1.2, May 2021
- SBP Regional Risk Assessment Procedure, v2.0, February 2025
- Guidance for SBP Standard 1, v1.0, May 2023
- Guidance for SBP Standard 2, v1.0, May 2023
- Glossary of Terms and Definitions, SBP, v2.0, May 2023

Sustainable Biomass Program (SBP) Standard 1 states the globally applicable legality and sustainability Indicators that must be evaluated. The 42 Indicators cover a range of ecological, social, and economic requirements that must be evaluated within the scope of the Supply Base Area. The Supply Base Area for this RRA is the province of Nova Scotia. The SBP RRA Procedures outline the requirements to complete an RRA.

Section 2 of this report provides the scope and regional background for the Supply Base Area for RRA-NS. This section is to help set the context of the bio-physical, social, and economic values in NS.

Section 2.2 of this report provides the Statement of Scope. Section 2.3 of this report provides the Overview of the Biomass Sector.

The methodology for the RRA-NS as implemented by the NS Working Body is described in Section 3. SBP Standard 2 describes the requirements. The Working Body has developed a rigorous and objective process in an attempt to simplify both the evaluation process and the comprehension of the conclusions for each of the 42 Indicators.

As required by the SBP RRA Procedures, the draft RRA-NS was made available for Stakeholder Consultation. The SBP approach to Stakeholder Consultation is discussed in Section 4. In addition, Annex 5: Stakeholder Consultation Report, as required by the RRA Procedures is provided. The Stakeholder Consultation Report provides the stakeholder comments, as well as the SBP's response, including the applicable changes to the Indicator finding and/or the risk designation.

The requirement documents listed above require each Indicator to be evaluated as a single Indicator. Often some of these Indicators are inter-related and/or complex. The Working Body has provided details for this section to (1) provide clarity of interconnection and (2) reduce repetition of evidence. This section is provided to assist with evaluating the individual 42 Indicators (Annex 1: Detailed Findings for Indicators).

Annex 1: Detailed Findings for Indicators provides the conclusion to the risk assessment process for the RRA-NS.

Once the RRA-NS is endorsed by SBP, each Biomass Producer must use the results of the RRA-NS to complete a Supply Base Evaluation. The Supply Base Evaluation is to demonstrate the Biomass Producer's compliance with its findings and implement mitigation measures to manage any specified risks so the risks can be reduced to low. It is the role of an independent, accredited third-party Certification Body, to verify that the Supply Base Evaluation has been correctly undertaken and that any mitigation measures are being effectively implemented.

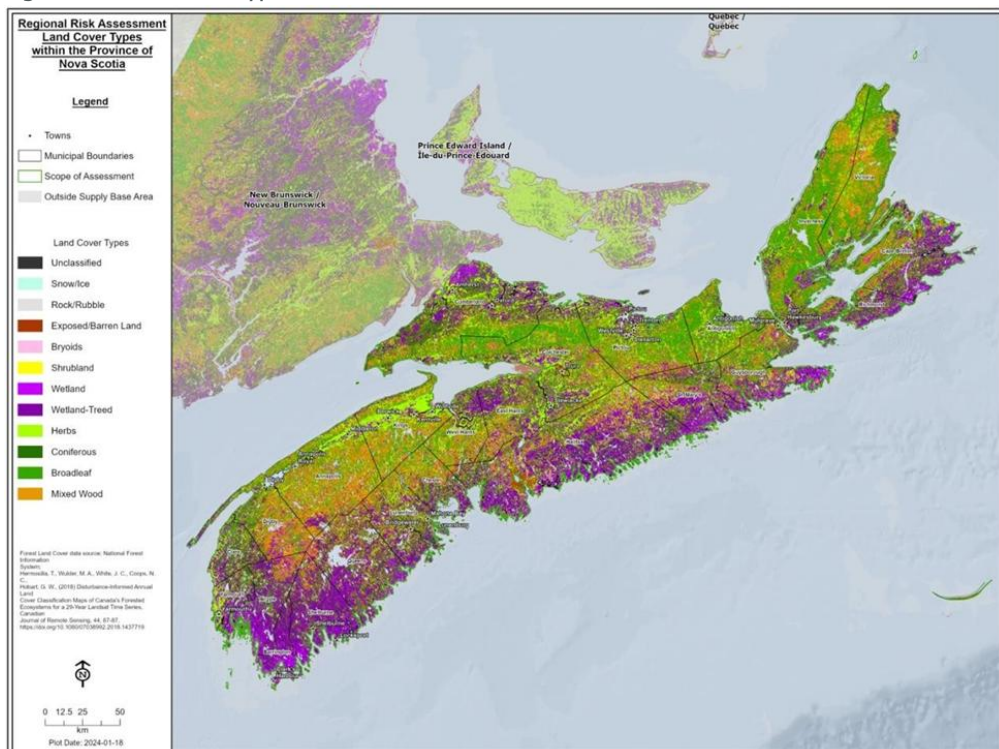
## 2 Regional background and statement of scope

### 2.1 Regional background

#### 2.1.1. Overview Description

Nova Scotia's (NS's) land base is 5.5 million ha. Over 75% (4.2 million ha) are dominated by trees. Another 4% of the province comprises naturally occurring non-treed ecosystems such as shrublands and grasslands. Wetlands and water cover 8% (415,000 ha) of the province. Cropland covers about 4%, and urban use and the built-up environment account for approximately 3% of the land use in NS<sup>1</sup>. Figure 1 shows the distribution of land cover types across NS.

Figure 1: Land Cover Types



#### 2.1.2. Ecological Overview

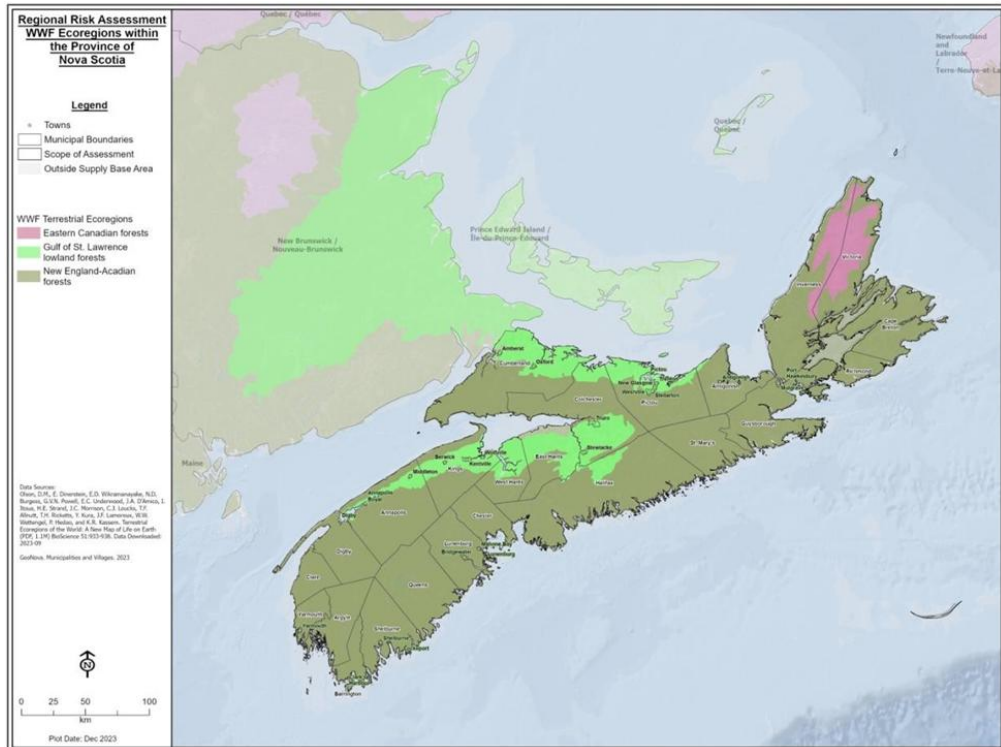
##### 2.1.2.1. Ecological Classification

###### Global-Level Ecological Classification

Nova Scotia (NS) forests overlap three terrestrial ecoregions identified by the World Wildlife Fund (WWF). The locations and names of these ecoregions within Nova Scotia are shown in Figure 2. The New England – Acadian Forest in an undisturbed condition is one of the rarest forest ecotypes in North America, which led the WWF to designate this forest type as an endangered forest.

1 [2020 Land Cover of Canada](https://open.canada.ca/), open.canada.ca, Government of Canada

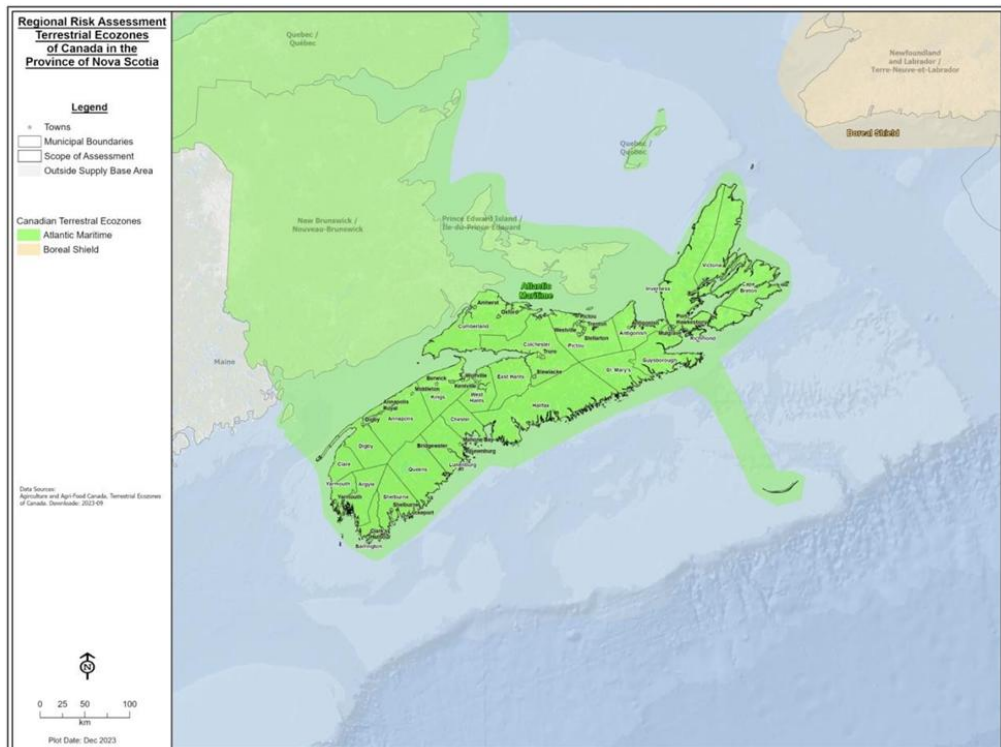
Figure 2: WWF Forest Ecoregions of Nova Scotia



National-Level Ecological Classification

Terrestrial ecozones developed by Environment and Climate Change Canada (ECCC) place NS, in the Atlantic Maritime Ecozone (Figure 3).

Figure 3: Environment and Climate Change Canada Terrestrial Ecozones



### Provincial-Level Ecological Classification

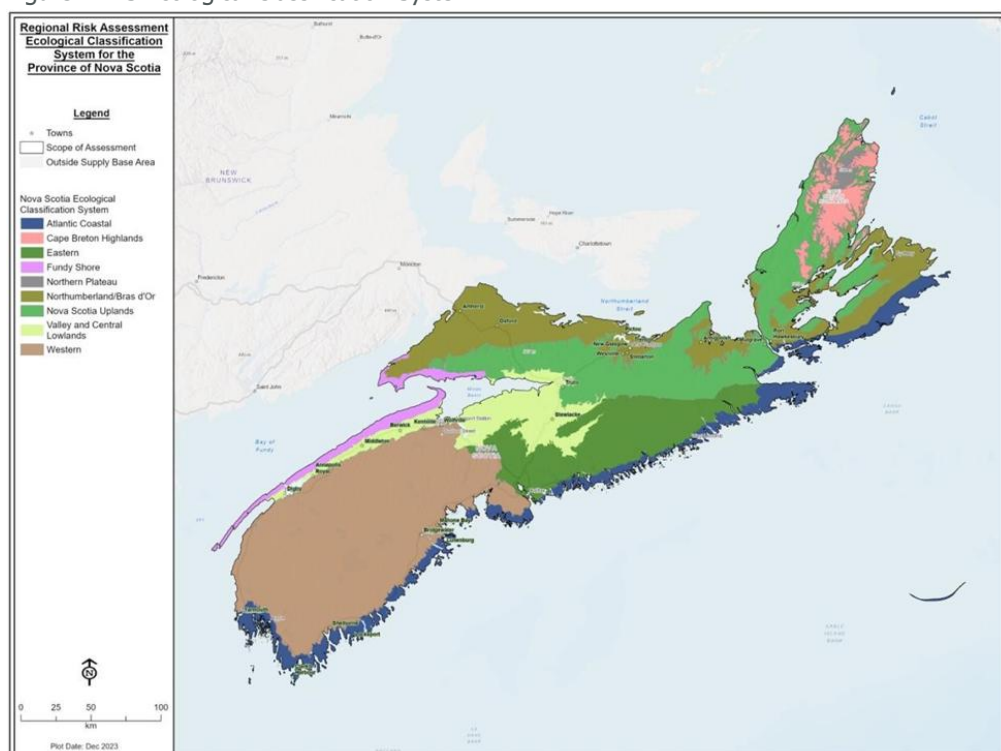
The NS ecological classification system identifies nine ecoregions, which are chiefly distinguished by differences in climate, influenced by topography, elevation, and proximity to the Atlantic Ocean (Figure 4). Two of these ecoregions are coastal—the Atlantic Coastal and the Fundy Shore ecoregions. There are two ecoregions specific to Cape Breton Island. The distribution of forest tree species is a function of the climate and soils of the ecoregions.

The largest provincial ecoregion is the Western, which occupies much of the southern half of the province and accounts for 30.5% of NS. This ecoregion has the warmest climate, generally lower elevations, and less rugged topography. Eastern hemlock (*Tsuga canadensis*), eastern white pine (*Pinus strobus*), and red oak (*Quercus rubra*) are more prominent here than elsewhere in the province.

The Nova Scotia Uplands, the second largest ecoregion, covers almost 20% of the province, is located in the northwestern part of the province and extends well into the southwestern part of Cape Breton Island.

The ecoregion has rounded hills and plateaus separated by lower-elevation uplands and lowlands. The ecoregion has a relatively cold climate, and sugar maple, American beech, and yellow birch tend to dominate the mature forests. On moister sites, mixed wood forests of red spruce, eastern hemlock, and yellow birch are common.

Figure 4: NS Ecological Classification System

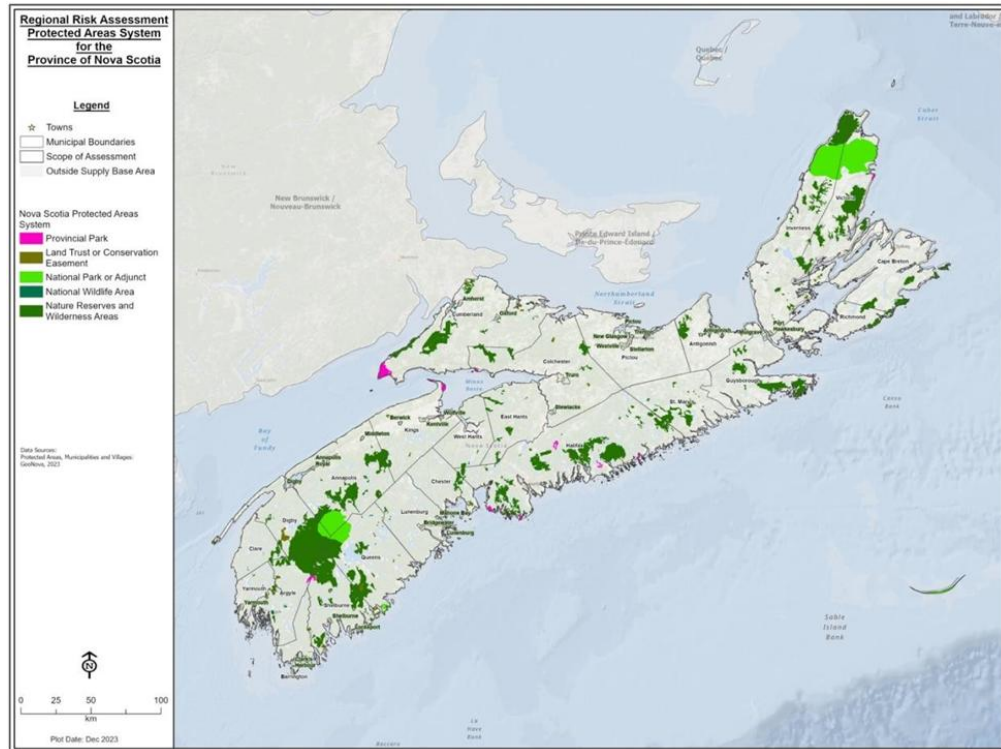


#### 2.1.2. Protected Areas and Parks

As of December 2023, 739,000 ha (13.5%) of NS land area is protected in parks and other types of protected areas. This area includes provincial parks and national parks. Additional protection is provided through wilderness areas, nature reserves, and heritage rivers. These areas are shown in Figure 5.

On private land, several voluntary measures for protection exist, including conservation covenants and easements. Seven provincial statutes enable private land protection.

Figure 5: Protected Areas



The NS Department of Environment and Climate Change (DECC), Protected Areas and Ecosystems Branch is responsible for the effective protection, management and conservation of NS’s water, land, air, and living resources. The Branch uses an ecological framework of 80 natural landscapes for selecting and protecting representative portions of distinctive natural landscapes. The Wilderness Areas Protection Act provides for the establishment, management, protection, and use of wilderness areas. The Special Places Protection Act provides for the preservation, protection, regulation, acquisition, and study of ecological sites which are considered important parts of the natural heritage.

The Department of Natural Resources and Renewables (DNRR), Parks and Recreation Division administers provincial parks under the Provincial Parks Act.

The province also supports private land conservation through land acquisitions.

Together, these protected area designations afford legal protection to many of the natural, recreational, and cultural features in NS. The term ‘protected area’ can indicate varying levels of protection: from complete restriction of human access to identifying allowable resource use activities that are compatible with conservation and recreation objectives.

### 2.1.3. Indigenous Peoples

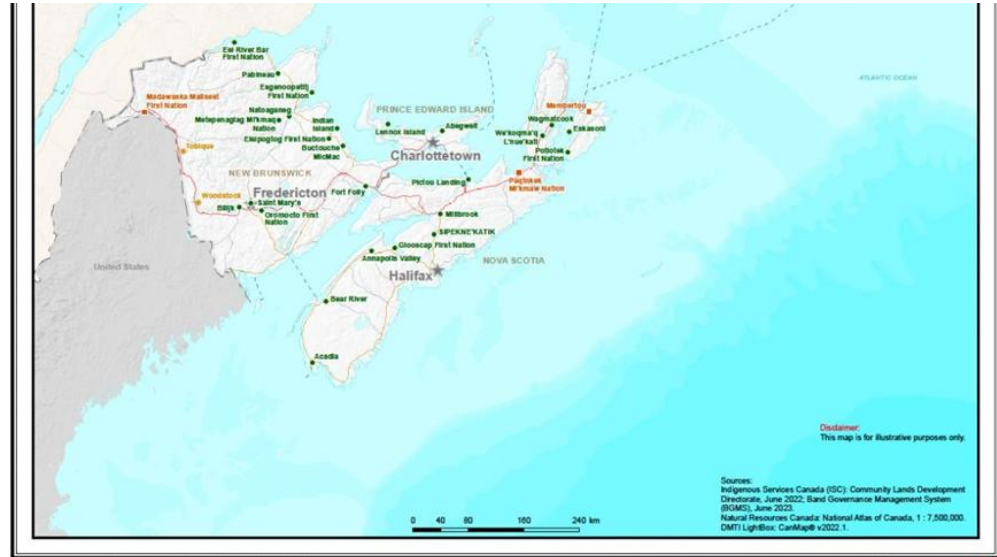
There are 13 Mi’kmaq First Nation communities<sup>2</sup> in Nova Scotia (NS).

In the most current 2021 census, Statistics Canada reported 52,430 Indigenous people in NS, representing 5.5% of the population. Of these, 28,050 (53.5%) identified as First Nation, 21,090 (40.2%) as Métis, 1,100 (2.1%) as Inuit and 2,190 (4.2%) identified under multiple Indigenous ethnicities or included responses not included elsewhere<sup>3</sup>. Figure 6 shows a map of Indigenous Peoples in the Atlantic Region.

<sup>2</sup> <https://novascotia.ca/abor/aboriginal-people/demographics/>

<sup>3</sup> [Indigenous Population Profile, 2021 Census of Population](https://www150.statcan.gc.ca/n1/pub/92-627-x/2021001/article/00001-eng.htm), statscan.gc.ca, Statistics Canada

Figure 6: Indigenous Peoples in Atlantic Region



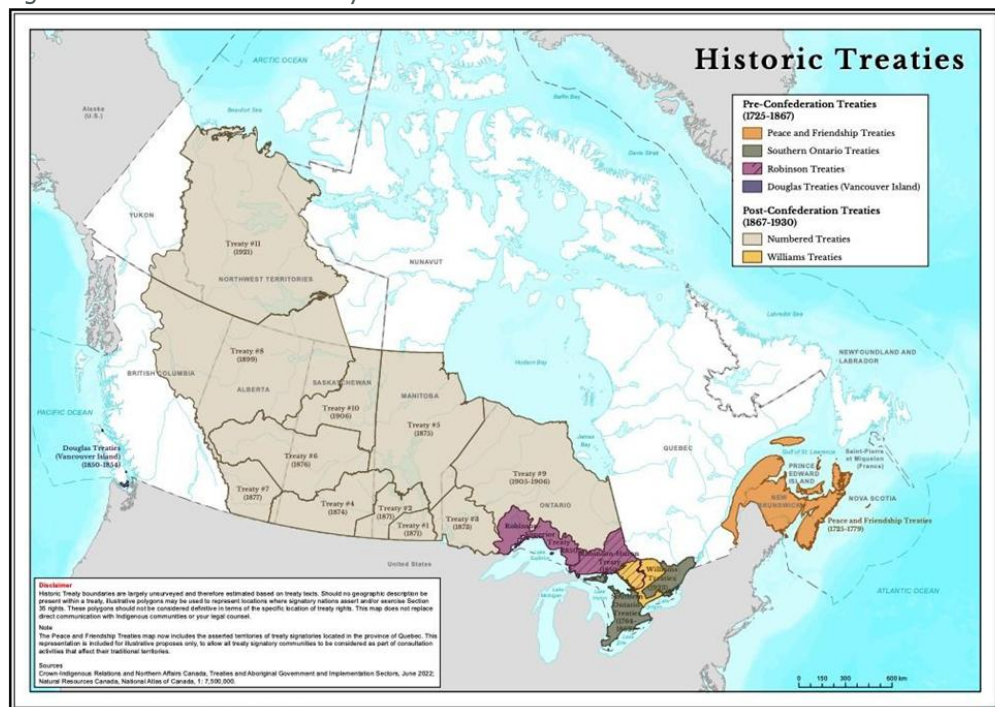
Indigenous Services Canada, Geomatics Services, June 2023.

The Assembly of Nova Scotia Mi'kmaq Chiefs consists of 11 Mi'kmaq Chiefs from the Nova Scotia Mi'kmaq communities. The Assembly is the highest level of decision-making in the negotiation and consultation processes in NS, supported by the Kwilmu'kw Maw-klusuaqn Negotiation Office. The Mi'kmaq Grand Council is the traditional and spiritual government of the Mi'kmaq Nation.

Historically, the Mi'kmaq signed a series of Peace and Friendship treaties with the British Crown between 1725 and 1779, intended to encourage peaceful relations between Indigenous Peoples and the British colonists. Those early pre-Confederation treaties covered present-day NS and New Brunswick, as well as parts of Maine and Quebec. The treaties do not involve First Nations surrendering rights over land or resources, which they had traditionally used and occupied<sup>4</sup>. A map of the territories covered by Historic treaties is shown in Figure 7.

<sup>4</sup> [Peace and Friendship Treaties](https://rcaanc-cirnac.gc.ca), rcaanc-cirnac.gc.ca, Government of Canada

Figure 7: Territories Covered by Historic Treaties



Indigenous Services Canada, Geomatics Services, June 2022.

In 1982, the Canadian government passed a revised Constitution Act, in which section 35 recognised and affirmed the Aboriginal and treaty rights of Indigenous Peoples.

#### Relevant Court Rulings

In 1999, the Supreme Court of Canada delivered a ruling on *R. v. Marshall*, overturning the conviction of an Indigenous man six years earlier for fishing eels out of season and without a licence. This decision established the right of First Nations people to “earn a moderate livelihood” from natural resources.

In 2001, the Nova Scotia Provincial Court fined 35 Mi’kmaq loggers \$200 each for cutting logs without a licence on Crown land. The Court’s decision was based on the loggers’ Indigenous title and/or treaty rights did not entitle them to harvest Crown timber commercially. The case was appealed to the Supreme Court of Canada and was decided in 2005, with the original convictions upheld.

In 2006, the Supreme Court of Canada acquitted three First Nations men in NB charged after cutting Crown timber for personal use. The ruling concluded the men’s Indigenous rights conferred the right to use Crown timber for personal use.

#### Reconciliation Process

In 1993, 1,144 ha in Gardner’s Mills was entrusted to the Acadia First Nation by its previous owner. The Acadia First Nation developed and implemented a Forest Management Plan (FMP) that included the building of the Acadia First Nation sawmill<sup>5</sup>.

The Mi’kmaq–Nova Scotia–Canada Tripartite Forum was established in 1997 to provide a forum to resolve issues of mutual concern<sup>6</sup>. The Forum’s vision is to develop Mi’kmaq communities and foster positive relationships with other Nova Scotians.

In 2007, a Mi’kmaq–Nova Scotia–Canada Framework Agreement was signed, creating a Made-in-Nova Scotia Process. The Framework Agreement confirms each party’s commitment to work “to resolve

<sup>5</sup> [Forestry.acadiafirstnation.ca](http://Forestry.acadiafirstnation.ca), Acadia First Nation

<sup>6</sup> [Tripartite Forum](http://TripartiteForum.cmmns.com), cmmns.com, The Confederacy of Mainland Mi’kmaq

Mi'kmaq rights issues through negotiation in a spirit of reconciliation". The Agreement intends to enhance legal clarity on rights, improve relations, and reduce social and economic disparity.

In 2010, the Assembly of Nova Scotia Mi'kmaq Chiefs, Governments of Canada and Nova Scotia signed a Terms of Reference for a Mi'kmaq–Nova Scotia–Canada Consultation Process, which lays out a consultation process.

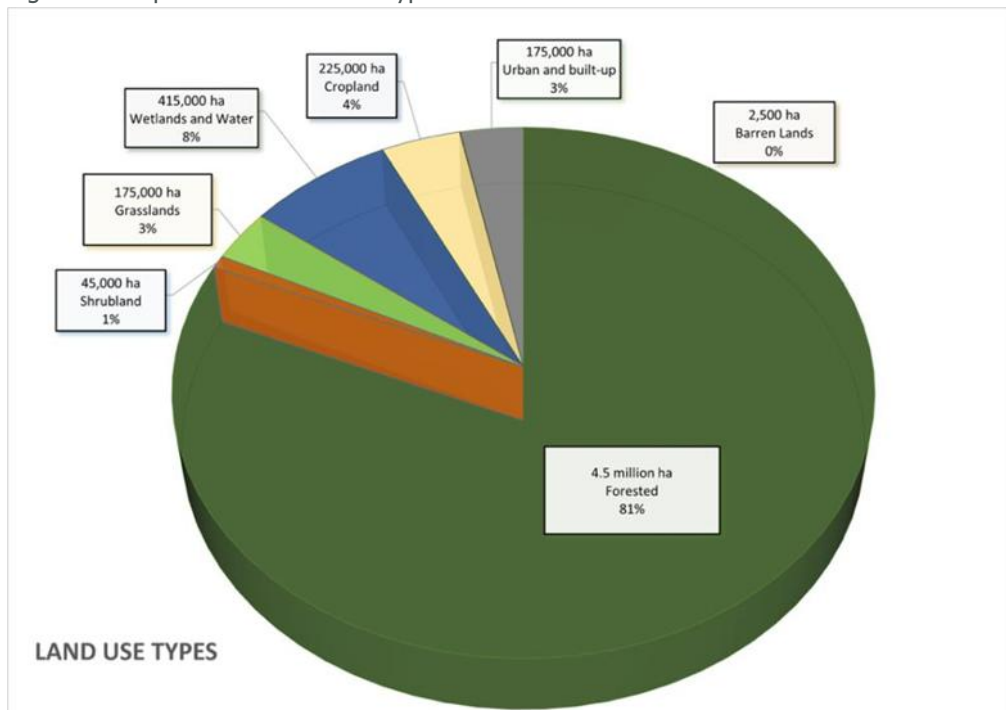
In 1999, the five Mi'kmaq communities of Unama'ki–Eskasoni, Membertou, Potlotek, Wagmatcook, and We'koqma'q formed the Unama'ki Institute of Natural Resources to address concerns regarding natural resources in Cape Breton and sustainability<sup>7</sup>.

In 2019, the Mi'kmaq Forestry Initiative was launched under the direction of the Assembly of Nova Scotia Mi'kmaq Chiefs. The Initiative allowed the Mi'kmaq to manage 20,000 ha of Crown forest on a pilot basis for three years. In 2022, an additional 10,000 ha was added to the land base. "Mi'kmaq guiding principles are informing our approach to forestry [and] through the practice of Etuaptmuk—Two-Eyed Seeing— we're bridging Mi'kmaq and Western worldviews to create jobs, revenue, and economic opportunities while preserving our natural world"<sup>8</sup>. The Mi'kmaq organisations administering and implementing the program and the NS government are negotiating a long-term forestry agreement for the Initiative.

#### 2.1.4. Land Use

Figure 8 identifies land cover and uses such as cropland and urban and built-up areas and provides the proportion of land use type in NS. Figure 9 provides the distribution of land use within NS<sup>9</sup>.

Figure 8: Proportion of Land Use Types of NS

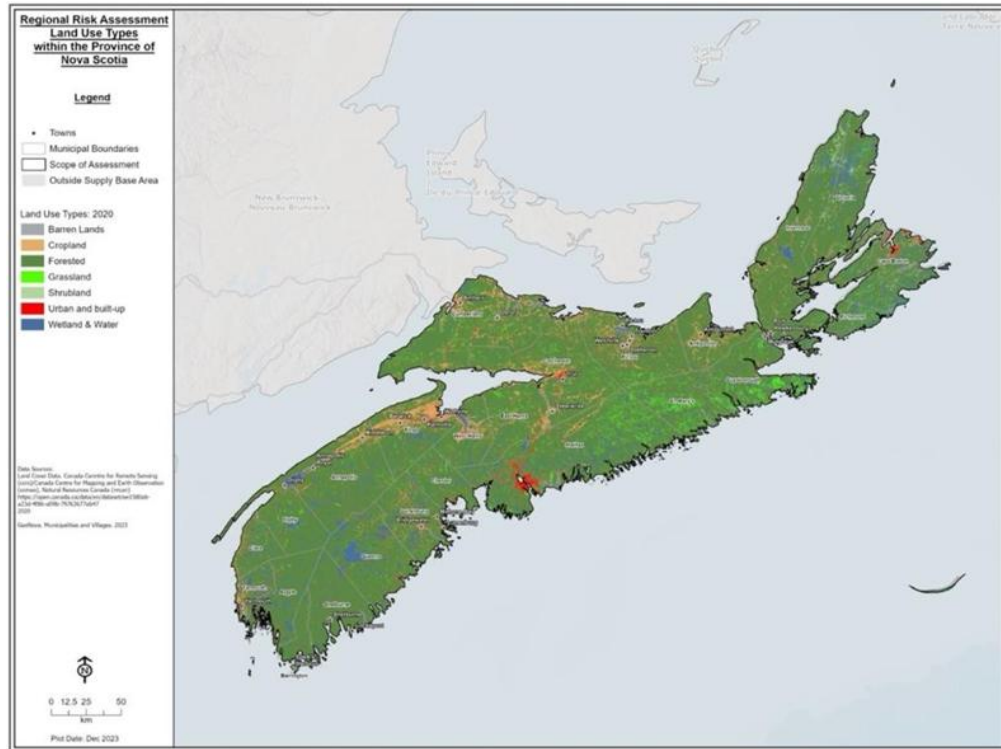


7 [About](http://uinr.ca), uinr.ca, Unama'ki Institute of Natural Resources

8 [Mi'kmaq Forestry Initiative Shapes Future of Nova Scotia's Forestry Sector](https://mikmaqrights.com), mikmaqrights.com, Mi'kmaq Rights Initiative - Kwilmu'kw Maw-klusuaqn

9 [2020 Land Cover of Canada](https://open.canada.ca), open.canada.ca, Government of Canada

Figure 9: Land Use Types of NS



### 2.1.5 Land Ownership

There are three principal types of land ownership in NS: federal land (which includes reserves), provincial Crown land, and privately owned land. Figure 10 shows the proportion of provincial land in each ownership type<sup>10</sup>.

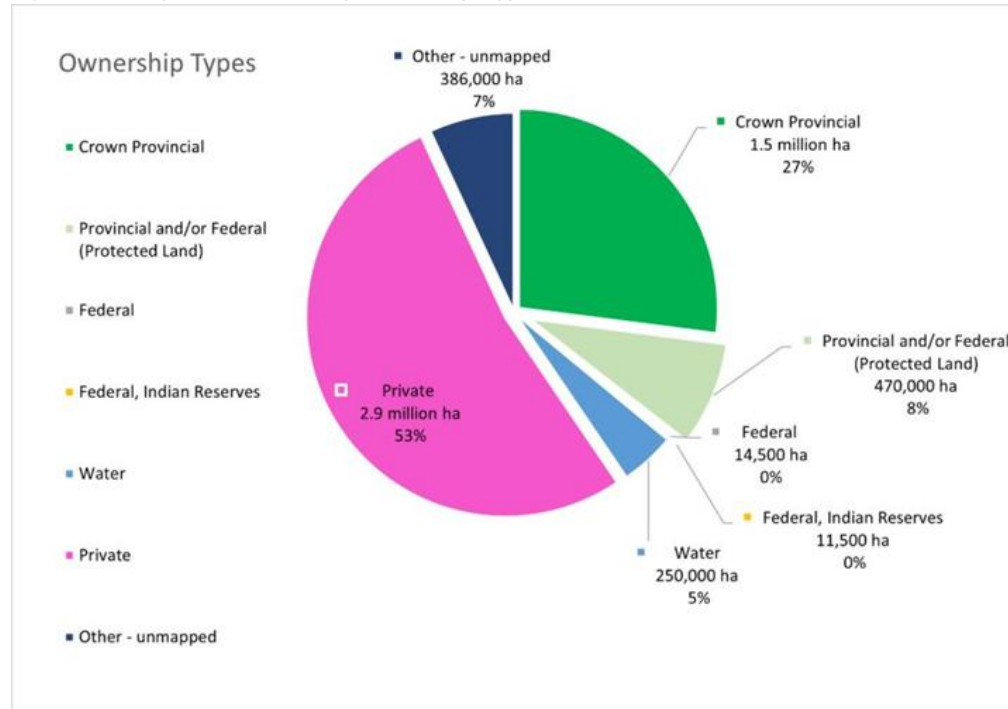
The province has a province-wide parcel fabric dataset. Crown land information is publicly available via the GeoNova. Information on the other land ownership types is not publicly available.

Specific information on these ownership types related to the forested land base is discussed below in

<sup>10</sup> [Map of Forest Management in Canada](#), Land Management Types: National Forest Inventory Map of Forest Management in Canada, open.canada.ca, Government of Canada, 2017

Section 4.6 Forest Sector by Land Ownership.

Figure 10: Proportion of Land by Ownership Types in NS



2.1.6. Forest Sector by Land Ownership

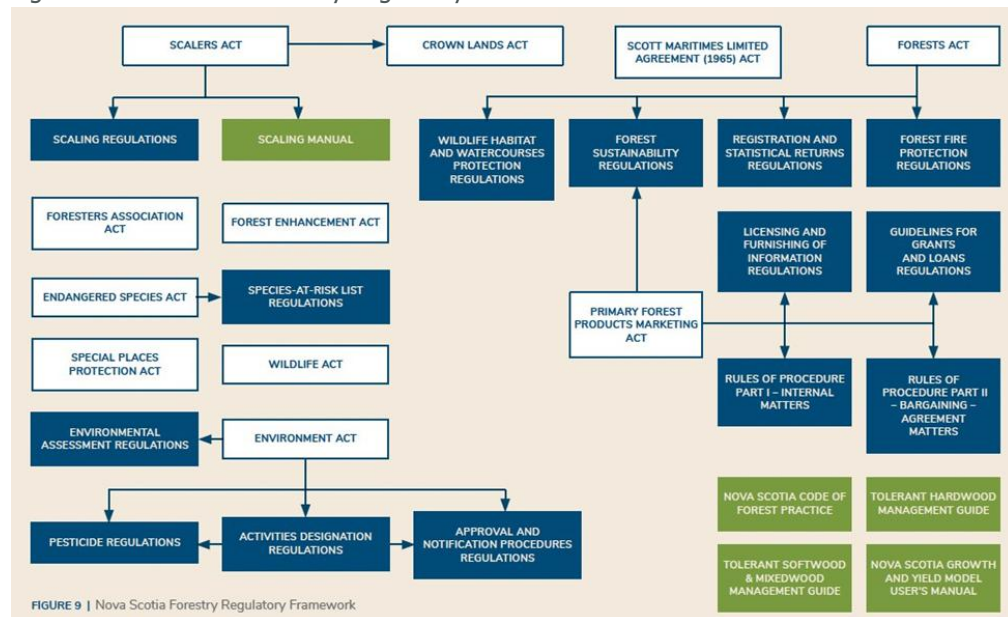
Overview

Nova Scotia's has a forested land base of 4.5 million ha. As shown in (Figure 11), the public owns 1.5 million ha of land, known as Crown land. Privately-owned land totals 2.9 million ha and is separated into two main ownership types: industrial private land and private woodlots. Industrial private land is owned by industrial forest products companies, and private woodlots are smaller tracts of land generally owned by individuals or small, non-industrial companies.



understand demand and supply, estimate and monitor sustainable harvest levels, determine long-term resource management needs, and identify forest product and value-added development opportunities. All timber harvested and transported for processing in NS must have a load slip, which allows for tracking the movement of timber. Load slips are required for transport from Crown licence, industrial private land, and private woodlots.

Figure 12: Nova Scotia Forestry Regulatory Framework

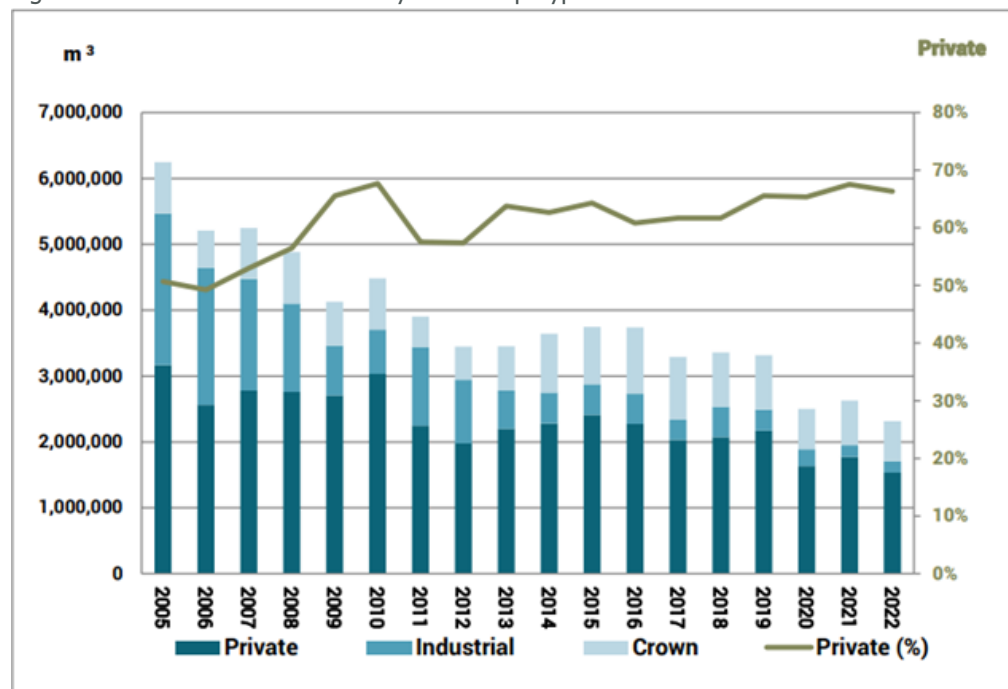


### Harvest Levels

Crown licence, industrial private land, and private woodlots contribute to the provincial wood supply. Currently, the distribution of harvest volumes in NS by ownership is similar to the proportion of land by ownership. Figure 13 shows the harvest volume by species group and land ownership type from 2005-2022<sup>12</sup>.

<sup>12</sup> Registry of Buyers of Primary Forest Products 2022 Calendar Year | Report for 2023-1, NS Department of Natural Resources and Renewables, 2023

Figure 13: Timber Harvest Volume by Ownership Type

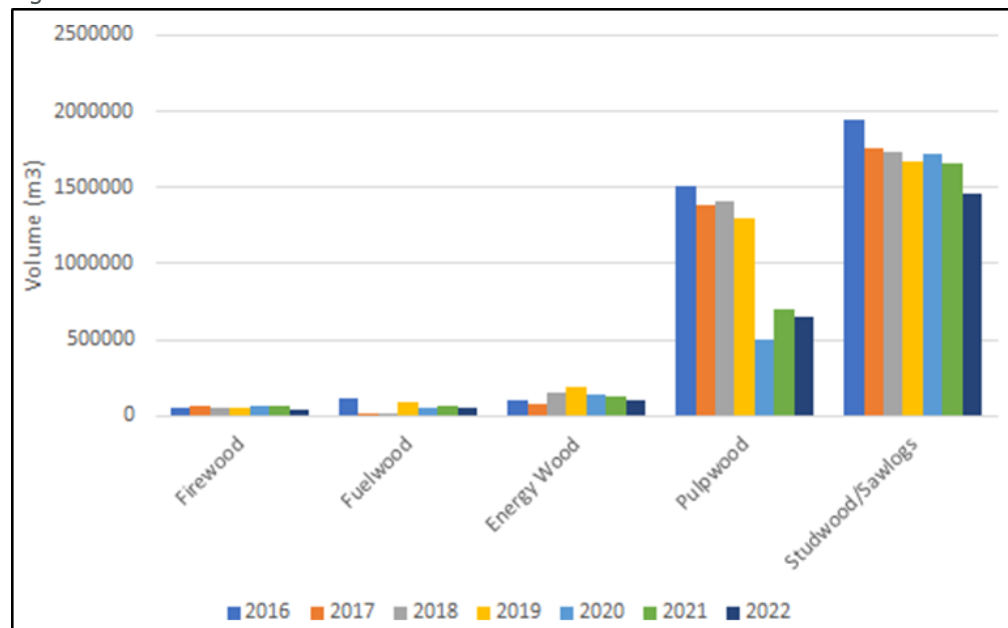


NOTES: "Tenure" in this report means land ownership.  
The Crown volume number includes Federal volume.

Figure 14 shows in 2022, sawmills acquired 1.46 million m<sup>3</sup> of sawlogs and studwood and pulp mills acquired 642,455 m<sup>3</sup> of pulpwood. Commercial firewood harvest was 106,433 m<sup>3</sup>, and fuelwood, which is defined as wood for non-residential heating, including pellet production, totalled 47,207 m<sup>3</sup><sup>13</sup>. Fuelwood only includes wood sourced by a facility directly from the forest; mill residuals are not part of this total.

<sup>13</sup> Registry of Buyers of Primary Forest Products 2022 Calendar Year | Report for 2023-1, NS Department of Natural Resources and Renewables, 2023

Figure 14: Wood Product Harvest Volumes



### 2.1.6.1. Crown Land

#### General

Roughly 1.5 million hectares of Nova Scotia’s total land area is Crown land. This included forested and non- forested land.

#### Governance & Legislation

DNRR manages crown land forests. Through the Forests Act, Crown Lands Act, and associated regulations, DNRR regulates the harvesting, transporting, and scaling of all timber harvested from Crown land. Harvested timber is tracked via a provincial system of load slips, designed to ensure that there is no illegal harvesting and that royalties owing to the government for harvested Crown timber (stumpage) are completely and accurately invoiced.

The Department of Environment and Climate Change (DECC) oversees the Environment Act and associated regulations. See Annex 3: List of Publications Used for a comprehensive list of applicable legislation.

DNRR has a Full- and Whole Tree Harvesting Policy on Crown Lands. The objective of the Policy is to prohibit the practice of whole-tree harvesting, where the entire tree (including stem, branches, stump and roots) is moved to a landing or roadside and to prohibit full-tree harvesting, where the entire tree (including stem and branch, but excluding stump and roots) is moved to a landing or roadside on Crown lands when any form of clearcut prescription is used.

#### Forest Management Tenure System

DNRR, under the Forests Act, is the authority that allocates forest tenure and oversees forest management of Crown land. Tenures are used by the government to allocate specific rights for using Crown forest and resources to others. DNRR issues licences, permits and letters of authority. The main instrument of Crown forest tenure is the Forest Utilization Licence Agreement (FULA). A FULA can only be issued to an entity that owns or operates a wood processing facility in the province. FULAs are twenty-year agreements where, after ten years, the FULA-holder’s performance is reviewed by DNRR, and if found to be satisfactory, the term of the FULA is extended by ten years. There is presently one

FULA in the province, signed with Port Hawkesbury Paper LP (PHP) in 2022. A second FULA is in draft form with Westfor.

Another tenure under the Crown Lands Act is licences. Licences are issued to companies that own mills and/or export timber. A licence allows the holder to harvest timber on Crown land that is not under a FULA. Licences are generally short-term. Two additional means of authorising Crown timber harvests are permits and letters of authority, which are most often used for small sales.

#### Annual Allowable Cut & Harvest Levels

In NS, Forest Management Plans (FMPs) include a determination of the Annual Allowable Cut (AAC) on Crown land. Crown licensees determine the AAC, which is reviewed by DNRR. The AAC is determined considering the principles of Nova Scotia's Code of Forest Practices. Code Principles 2.1 and 2.2 state that forest management practices will be designed and conducted to secure a long-term sustainable harvest of forest products, and forest management practices will be designed and conducted to improve the productivity, quality and value of forests and forest products.

The AAC for the one FULA in NS was determined through forest modelling as a joint project between Port Hawkesbury Paper and DNRR. On other areas of Crown land, DNRR issues volume-based licences, where the Crown licensee works cooperatively with DNRR to determine harvest levels. DNRR tracks harvest levels for permits and letters of authority.

#### Forest Management Planning & Practices Implementation

The Forests Act provides the basis for managing Crown lands while maintaining and enhancing non-economic resources. Under FULAs, crown licensees are responsible for the development of FMPs. FMPs have a planning horizon of 100 years. The Crown Lands Act states that DNRR reviews the performance of each FULA-holder every ten years. DNRR considers performance review results when evaluating extending each FULA back to the initial 20-year term. There has been one extension of a FULA in NS. FMPs are not required to be made public; however, some Crown licensees choose to do so. FMPs are submitted to DNRR for review and approval before implementation. Nova Scotia's Code of Forest Practice provides direction and requirements for managing Crown forests on landscape and stand levels. The Code has four sets of principles: Forest Ecosystems, Forest Products, Wildlife Habitat, and Integrated Forest Use.

The Crown land licensee develops proposed harvest areas and prescriptions based on Pre-Treatment Assessments and Forest Management Guides in Nova Scotia's Code of Forest Practice. DNRR reviews every proposed harvest plan to determine if it meets all requirements, including provincial strategic forest management plan, property lines and land ownerships, adjacency to protected areas, wildlife habitat, geological information, known recreational activities, areas of significance to Indigenous Peoples, and requirements for Special Management Practices.

Every proposed harvest area on Crown land is posted on the Harvest Plan Map Viewer, a publicly accessible interactive website that allows members of the public to comment on harvest plans. All comments are sent to the Crown land licensee and DNRR. Each harvest plan on the Harvest Plan Map Viewer has a closing date for public comment (40 days once posted). Harvest plans are updated on an approximate ten-day cycle. Crown land licensees are then notified if the proposed harvest plans are approved or if changes are required following the public comment period and an evaluation by DNRR. When harvest plans have been approved, the Crown licensee incorporates the plan into its operational schedules.

Annual Operating Plans (AOPs) must be submitted to DNRR for review and approval. Items to be included are areas of planned harvest for a minimum period of three operating years, all planned road construction within the same period, silviculture plan for the upcoming year with an estimate of total cost, and Silviculture Services' funding requirement by treatment category for the following year as per provisions of FULA.

#### Monitoring / Compliance & Enforcement of Forest Practices

Monitoring is the act of assessing activities and/or outcomes. Monitoring forest practices focuses on compliance, effectiveness, or how the realized outcomes compare with the anticipated outcomes. There are three levels of monitoring that occur on forest practices through the DNRR Forest Operations Monitoring Program (FOMP), Level 1 - Monitoring by Crown licensees, Level 2 - Monitoring by DNRR Regional Staff, and Level 3 - Monitoring by Regional Audit Committees.

DNRR has the provincial administrative authority for compliance monitoring, enforcement, and penalties. FOMP Inspection and Audit Program data is not publicly available.

#### Licensee Monitoring

Crown licensees undertake inspections of harvesting, road construction and silviculture as required by DNRR to ensure the effectiveness and conformance of operations. Crown licensees are also required to complete and submit Harvest Operations Inspection Forms within 30 days of the completion of operations, and road construction and watercourse crossing inspection forms for new road construction and major upgrades to DNRR. Crown licensees are encouraged to self-report non-conformances to DNRR.

#### Monitoring by DNRR Regional Staff

DNRR is responsible for inspecting harvesting, road construction, watercourse crossings, silviculture, and trucking operations on Crown licensees in NS. DNRR staff monitors Crown licensee forest operations based on targets and verifies inspection information received. The frequency of inspections can be increased based on the results of previous inspections or through a risk-rating protocol. Non-conformance reports can be issued to Crown licensees and must be followed up on by the Crown license holder with corrective action management.

#### Regional Audit Committees

Composed of DNRR staff, Regional Audit Committees conduct audits to assess safety and environmental compliance of Crown licensees. The audit scope includes general requirements, harvesting, silviculture, and road construction and watercourse crossings. The Regional Audit Committees can schedule audits based on results of previous audits, or high-risk sites.

#### Government Reviews & Initiatives

The government of Nova Scotia is implementing ecological forestry. An approach recommended in An Independent Review of Forest Practices in Nova Scotia, or the Lahey Report, in 2018, ecological forestry protects ecosystems and biodiversity while supporting economic growth and maintaining healthy and sustainable forests. It includes a Triad zoning process for Crown land which apportions forest lands into Conservation, Extensive, and Intensive Management zones.

The government has released a new forest practices guide called the Nova Scotia Silviculture Guide for the Ecological Matrix (SGEM), released a High Production Forestry in Nova Scotia Phase 1 Final Report, updated the An Old-Growth Forest Policy for Nova Scotia, completed two peer-reviewed papers on natural disturbance regimes, formalised the prohibition of whole and full-tree harvesting on Crown lands as the Full- and Whole Tree Harvesting Policy on Crown Lands, and consulted with the public, industry, and other stakeholders on forestry systems and policies.

The NS government is working on providing training to staff and forest professionals on methods under the new SGEM, identifying more Crown lands for high-production forestry, developing research and innovation initiatives for improved productivity and sustainability, working with partners to protect and conserve more Crown land, develop a draft framework for outcomes-based forest management, review existing Crown and private silviculture programs, and incorporating public feedback into new and revised guides, policies and processes.

The Path We Share: A Natural Resources Strategy for Nova Scotia which commits Nova Scotia to adopt an ecosystem approach to achieve sustainable resource development. Both the Biodiversity and Forests sections of the strategy identify landscape-level, ecosystem-based planning as the central goal. A forestry sector transition team, comprised of government and industry representatives, has been

created to ensure the forestry sector remains in Nova Scotia's long-term economy. The team advises the government on short-term actions to assist the sector and recommends potential areas for assessment.

There is a new Vision for Forestry in Nova Scotia, developed by the NS forestry sector transition team. The vision framework will guide decision-making for the government and the Forestry Innovation Transition Trust. Guiding principles include building on comparative advantage and supporting diversification and development of new products and markets, protecting and enhancing ecosystems and diversity, engaging local communities by incorporating local knowledge and encouraging local leadership in forest management, and developing and providing scientific and technical knowledge aimed at improving our capability to protect, manage, and use forests. Transition priorities include innovation, diversification and entrepreneurship, workforce development, woodlot owner leadership, and supply chain viability. The NS government has allocated money to the Forestry Innovation Transition Trust, which will be utilised for projects which align with the new vision for forestry in NS.

Our Parks and Protected Areas: A Plan for Nova Scotia advances the province's efforts to protect and conserve the natural landscape, potentially adding 220 properties and more than 249,000 ha to parks and protected areas. The target is to protect 13% of the province's outstanding lands. An interactive map detailing the approved protected areas within the province is available online. Sites have been announced for protection up to December 2023.

#### 2.1.6.2 Private Forest Land

Provincially there is 2.9 million ha of privately owned land, which is used for multiple purposes, including dispersed residential, agricultural, private forestry, commercial, industrial, utility, transportation, and institutional purposes. Private land forests have been divided into two groups—industrial private land and private woodlots (Figure 13).

##### 2.1.6.2.1. Industrial Private Land

Industrial private land is owned by forest products companies. There is little publicly available information on how many hectares industrial private land covers in NS.

##### Legislative Framework

Management and activities related to harvesting of trees on industrial private land are modestly constrained via limited federal and provincial legislation and local government bylaws.

##### Federal

Federal legislation includes the Fisheries Act, Migratory Birds Convention Act, and Species at Risk Act. See Annex 3: List of Publications Used for a comprehensive list of applicable federal legislation.

##### Provincial

Nova Scotia's Land Registration Act (2001) ensures that landowners in the province are able to obtain a guaranteed title to a property. Industrial private lands in NS are subject to the Forest Sustainability Regulations (under the Forests Act), Wildlife Habitat and Watercourses Protection Regulation, Forest Sustainability Regulations, Primary Forest Products Marketing Act, Registration and Statistical Returns Regulation, Scalers Act, and Environment Act and associated regulations.

When a registered buyer prepares to harvest timber on industrial private land, the buyer must submit a Wood Acquisition Plan to DNRR. The Wood Acquisition Plan must specify how the buyer intends to conduct silviculture in the harvest area. Most registered buyers undertake the silviculture themselves. However, there is an option to pay into the provincial Sustainable Forestry Fund, which provides silviculture on lands where the buyer has opted out of doing it themselves.

##### Local Government

The local government system is through the NS Department of Municipal Affairs and Housing. The Municipal Government Act authorises local governments to develop bylaws unique to the local government and provides the framework for private land in NS.

#### Annual Allowable Cut & Harvest Levels

There is no provincial AAC for industrial private land. There is no legal mechanism to regulate the level of harvesting.

The Registry of Buyers Annual Report provides harvest data for Crown licences, industrial private land, and private woodlots.

#### Forest Management Planning & Practices Implementation

There is no forest management planning framework on industrial private land in NS.

Industrial private landowners in NS are not required to write FMPs, so there is minimal information regarding the implementation of forest management. Provincial Best Management Practices are available for application, but it is at the discretion of the industrial private landowner to follow them.

#### Monitoring / Compliance & Enforcement of Forest Practices

Monitoring of forest practices is conducted by industrial private landowners.

DNRR and DECC can monitor and enforce each Department's respective legislation. DNRR is responsible for conducting inspections on silviculture activities conducted on industrial private land to ensure the activities were completed for funding purposes, as per the Forest Sustainability Regulations.

#### Government Reviews & Initiatives

The Lahey Report has recommended industrial private land should be subject to an accountability framework to achieve outcomes in forestry-related activities. The Lahey Report recommends ecological forestry be applied on industrial private land, with decision-making of forestry practices left to the industrial private landowner, and government, industry, and foresters actively encourage and support owners to manage industrial private land under the principles of an ecological forestry triad paradigm.

#### 2.1.6.2.2. Private Woodlots

Private woodlots are owned by individuals, families, and small corporations that do not have processing facilities. There are more than 30,000 private woodlots in NS. There is little publicly available information on how many hectares private woodlots cover in NS.

#### Legislative Framework

Forest management activities related to harvesting trees on private woodlots are modestly constrained by limited federal and provincial legislation and local government bylaws. See Annex 3: List of Publications Used for a comprehensive list of applicable requirements.

#### Federal

Federal legislation includes the Fisheries Act, Migratory Birds Convention Act, and Species at Risk Act. See Annex 3: List of Publications Used for a comprehensive list of applicable federal legislation.

#### Provincial

Private woodlots are regulated under the Forests Act and its Wildlife Habitat and Watercourses Protection Regulations (WHWPR), as well as the Endangered Species Act. Private landowners are encouraged, but not required, to adopt the Nova Scotia Code of Forest Practices.

The Forests Act sets out DNRR's responsibilities, describes the characteristics of forestry techniques to be used on Crown land and encouraged on private land, and enables DNRR to encourage and assist private landowners in implementing sustainable forest management.

The Forests Act defines the Registry of Buyers. Every entity that procures more than 5,000 m<sup>3</sup> of timber from all sources each year must be listed on the Registry.

When a registered buyer prepares to harvest timber on private woodlots, the buyer must submit a Wood Acquisition Plan to DNRR. The Wood Acquisition Plan must specify how the buyer intends to conduct silviculture in the harvest area. Most registered buyers undertake the silviculture themselves.

However, there is an option to pay into the provincial Sustainable Forestry Fund, which provides silviculture on lands where the buyer has opted out of doing it themselves.

DNRR sets standards for silviculture and monitors the work. DNRR may also supplement the Buyers' silviculture effort.

The Association for Sustainable Forestry receives approximately \$2 million/year from the government for additional silviculture on private woodlots.

#### Local Government

The local government system in NS, is through the Department of Housing and Municipal Affairs (DHMA). There are currently 49 municipalities and 21 villages in NS.

The Municipal Government Act provides authority for municipal governments to develop bylaws that are unique, which may limit the harvesting of trees, usually referred to as tree-cutting by-laws. Municipal government bylaws vary across the province; rural and remote areas have fewer bylaws and less capacity for enforcement. Differences in implementation, verification of compliance, priority and capacity of enforcement within local governments vary greatly across the province. There are no uniform set of bylaws that are adopted by local governments in relation to forest management practices, making provincial verification of monitoring and enforcement difficult.

#### Annual Allowable Cut & Harvest Levels

There is no provincial AAC for private woodlots. There is no legal mechanism to regulate the level of harvesting on private woodlots. The Registry of Buyers Annual Report provides harvest data for Crown land, industrial private land, and private woodlots. The most current data are provided in Figure 15. Private woodlot harvest accounted for nearly 70% of the provincial harvest from 2018 to 2022.

#### Forest Management Planning & Practices Implementation

Forest Management Plans are not a legislated requirement for private woodlot owners in NS. Forest management is undertaken according to the owners' goals, and there is a wide variation in owner goals and knowledge.

DNRR has private woodlot owner forest management training online.

The Nova Scotia Woodlot Owners and Operators Association assists private landowners in developing voluntary forest management plans. Forest Management Plans can be developed on private woodlots to receive funding and other benefits.

As of March 2024, minimal publicly available information exists regarding the implementation of forest management on private woodlots. Provincial Best Management Practices are available for application, but it is at the discretion of the private woodlot landowner to follow them.

#### Monitoring / Compliance & Enforcement of Forest Practices

DNRR conducts inspections of silviculture activities and roads to ensure that the activities planned in the Wood Acquisition Plan were undertaken to an acceptable standard, as per Forest Sustainability Regulations.

The Registry of Buyers serves a monitoring role. Registered buyers are required to report timber purchases, which allows DNRR to track private woodlot harvest levels and silviculture. DNRR is responsible for ensuring compliance with legislation and reporting data and information to the public, forest sector, and registered buyers.

Enforcement of applicable legislation on private woodlots is the responsibility of designated authorities, including DNRR, DECC, and the federal government's Environment and Climate Change Canada and Fisheries and Oceans Canada. The level of enforcement varies depending on each local government's capacity, resources, and priority. In most cases, compliance and enforcement are initiated by public complaints.

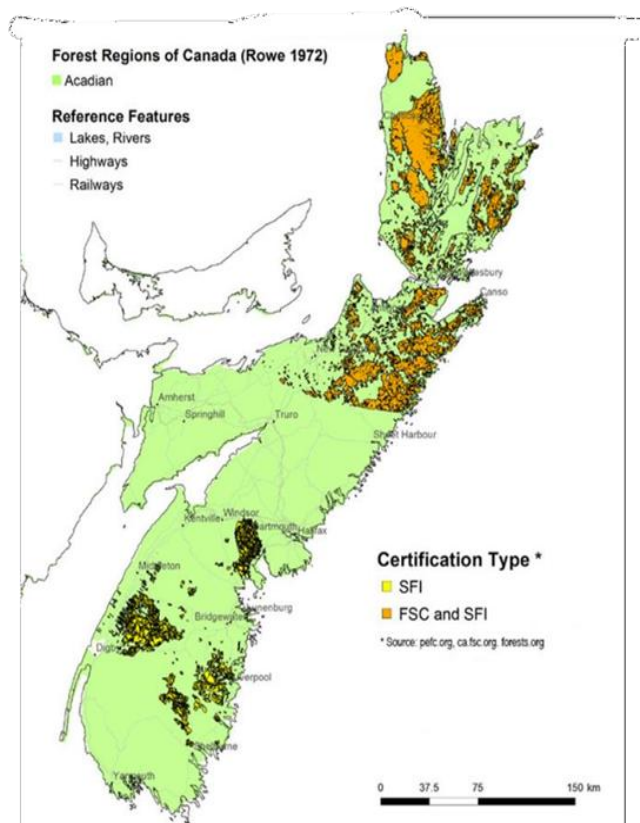
#### Government Reviews & Initiatives

The Lahey Report recommends that ecological forestry be applied to private woodlots. Decision-making regarding forestry practices should be left to the private woodlot landowner, and government, industry,

and foresters must more actively encourage and support private woodlot owners to manage their forested land in accordance with the principles of an ecological forestry triad paradigm.

### 2.1.7. Forest Certification

Figure 15: Forest Certification Map of Nova Scotia



Third-party certification supplements existing laws and is undertaken voluntarily by a forestry company or forest owner. Certification provides additional independent assurance that forest products are legally sourced from sustainably managed forests. Forest Management certification verifies the practices on the land, whereas Chain of Custody (CoC) verifies the sourcing of fibre (certified and uncertified) along the supply chain.

There are three Forest Management Certification systems within Canada: Canadian Standards Association (CSA®), Sustainable Forestry Initiative (SFI®) and Forest Stewardship Council (FSC®). The CSA and SFI programs are both endorsed internationally by the Programme for the Endorsement of Forest Certification (PEFC). Within the province of NS, SFI and FSC Certification are applied (Figure 15).

Certification Canada annually reports the organisations, hectares certified, and certification system for all provinces in Canada. Table 1: Certification by Ownership Type provides the hectares and percentages of certified area within NS as reported by Certification Canada for 2023 Year-End Status Report<sup>14</sup>.

Table 2: Certification Scheme Proportion by Ownership Type provides the proportion of each certification system.

Table 1: Certification by Ownership Type

Ownership		Certified Area	% Certified	Certified Area	% Certified
Type	Area	Incl double certification	Incl double certification	Excl double certification	Excl double certification
Crown Land (avail. for tenure)	3,409,488	1,356,613	40%	836,613	25%

14 Certification Canada, [Forest Management Certification in Canada. 2023 Year-End Status Report. Nova Scotia](#), May 2024

Private Land incl. Industrial	2,928,587	417,236	14%	417,236	14%
<b>Total</b>	<b>6,338,075</b>	<b>1,773,849</b>	<b>28%</b>	<b>1,253,849</b>	<b>20%</b>

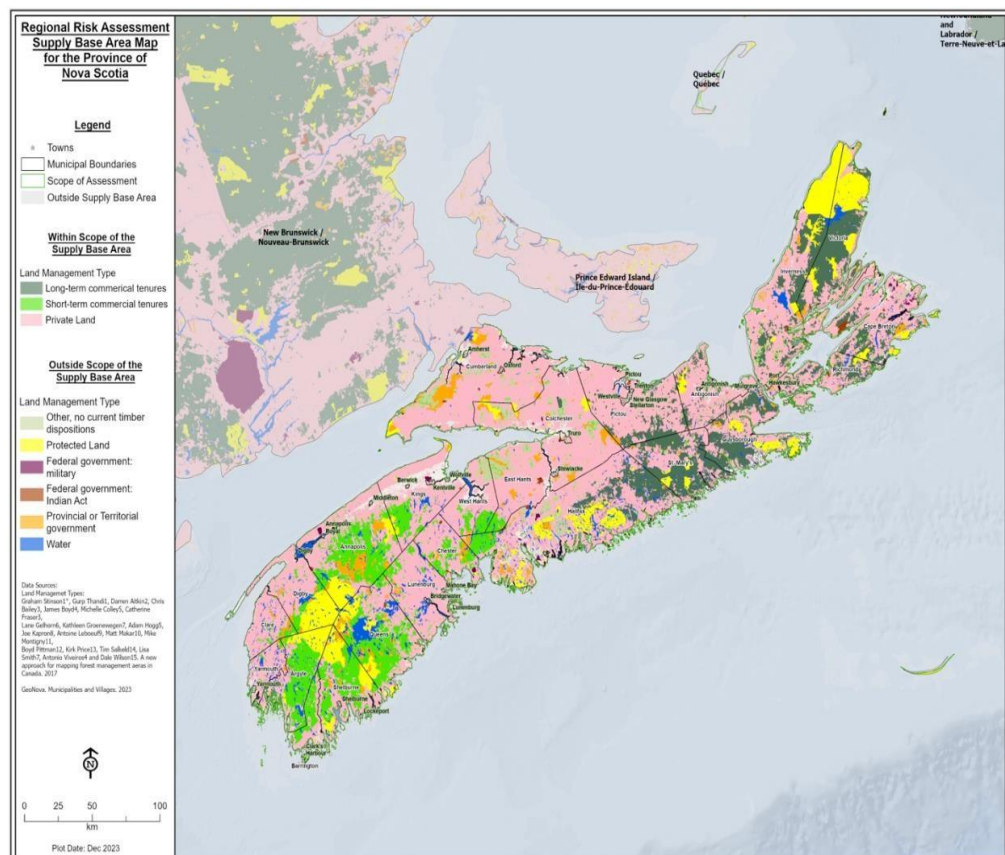
Table 2: Certification by Ownership Type and Certification schemes

Ownership Type	SFI		FSC		SFI & FSC	
	Ha	%	Ha	%	Ha	%
Crown Land	295,616	16%	514,161	29%	522,999	29%
Industrial Private Land	380,583	21%	21,423	1%	0	0
Private Woodlots	0	0	62,981	4%	0	0
<b>Total</b>	<b>676,199</b>	<b>37%</b>	<b>598,565</b>	<b>34%</b>	<b>522,999</b>	<b>29%</b>

## 2.2 Statement of scope and sub-scopes

Figure 16 provides a map of the Supply Base Area within the province of Nova Scotia (NS)<sup>15</sup>. NS's land base is 5.5 million ha. NS's forested land base is 4.5 million ha. Of NS's land, 1.5 million ha is owned by the public as Crown land and 2.9 million ha is privately owned.

Figure 16: Scope of RRA



<sup>15</sup> [Map of Forest Management in Canada](https://open.canada.ca), open.canada.ca, Government of Canada

The RRA-NS scope is the harvestable forest land base of New Scotia.

Sub-scopes

Following the requirements in SBP Standard 2 and SBP RRA Procedure, the Working Body evaluated the homogeneity of risk for the region under assessment—Nova Scotia—when determining the scope for gathering information and assessing risk. Establishing sub-scopes will allow for a clear designation of risk and the provision of clear and meaningful mitigation measures.

For most Indicators, the Working Body assessed homogeneous risk based on the ownership types defined in Section 2.1.6: Forest Sector by Land Ownership. Based on the different levels of risk across the ownership types, the following three Sub-scopes were defined as:

- Crown Licence
- Industrial Private Land
- Private Woodlots

The majority of feedstock is sourced from these above listed ownership types.

For some Indicators, the legislative requirements by ownership type did not delineate the homogenous risk for the area under assessment. In these situations, the scope of assessment was identified as provincial.

Sourcing feedstock from any other ownership type (i.e., federal land, First Nation Settlements, etc.) would be specified risk.

As described under the legislative framework, bylaws vary greatly in the province. The Working Body did not create further Sub-scopes as this level of detail is best verified at the local level .

The Working Body specifically did not delineate Ecoregions as a Sub-scope. Ecoregions are large and often cross more than one jurisdictional boundary, and there are no differences in the regulatory environment based on ecoregions. Ecoregions are assessed as an ecological component of the feedstock source area (i.e., tenure).

The Scale of Assessment (i.e., Sub-scope) is defined at the beginning of each Indicator finding. The risk designation at the end of each Indicator finding is based on that Scale of Assessment (See Annex 1: Detailed Findings for Indicators).

The Working Body evaluated Sub-scope risk independently. Due to the different types and levels of regulatory oversight for the Sub-scopes, scale, and intensity comparisons amongst the Sub-scopes were not used in determining risk in the RRA for NS.

**2.3**

**Overview of the local biomass sector**

Nova Scotia’s (NS’s) forest products industry is predominantly softwood lumber and is highly integrated. As of March 2024, NS wood products production and sales data were not publicly available. The majority of pellets are exported, principally to the UK.

**NS’s Pellet Industry**

As of March 2024, two pellet mills operated in NS (Figure 17). Table 3 lists the names, locations, Sustainable Biomass Program (SBP) certification, and capacity of the pellet facilities in NS<sup>16</sup>. In 2024, NS facilities accounted for 3.1% of Canadian pellet production capacity<sup>17</sup>.

Table 3: 2024 Capacity of Pellet Mills in Nova Scotia

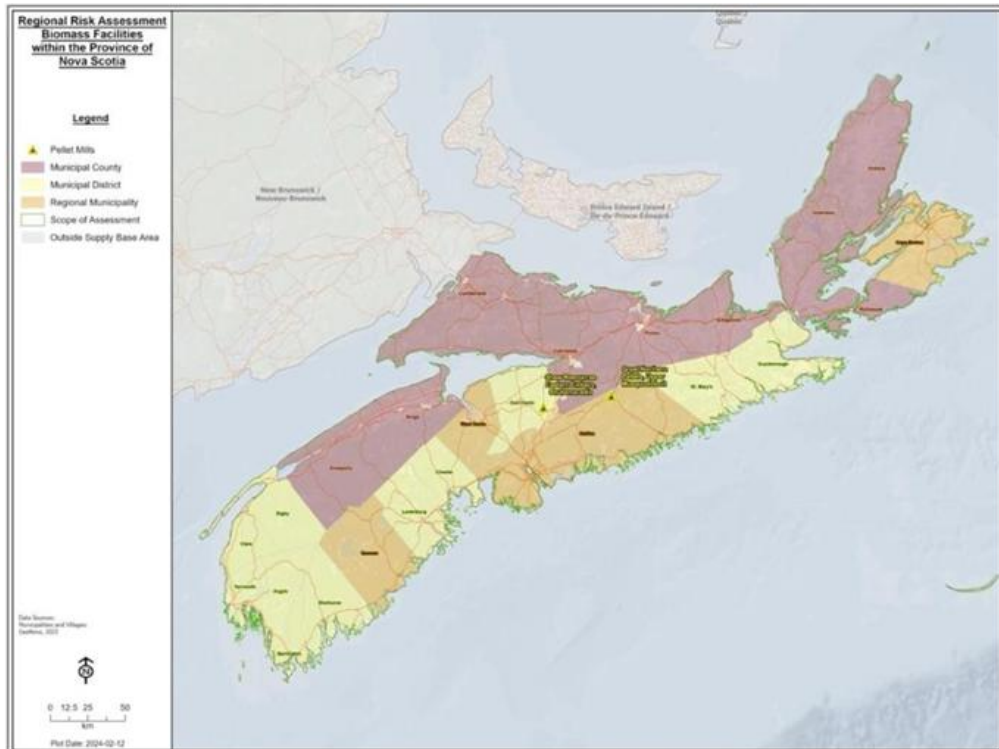
Biomass Producer	Mill Location	SBP Certified	2024 Capacity (tonnes/yr)
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<sup>16</sup> [Canadian Wood Pellet Producer Map](https://www.pellet.org), pellet.org, Wood Pellet Association of Canada, 2024

<sup>17</sup> SBP Audit Reports 2021 – 2023

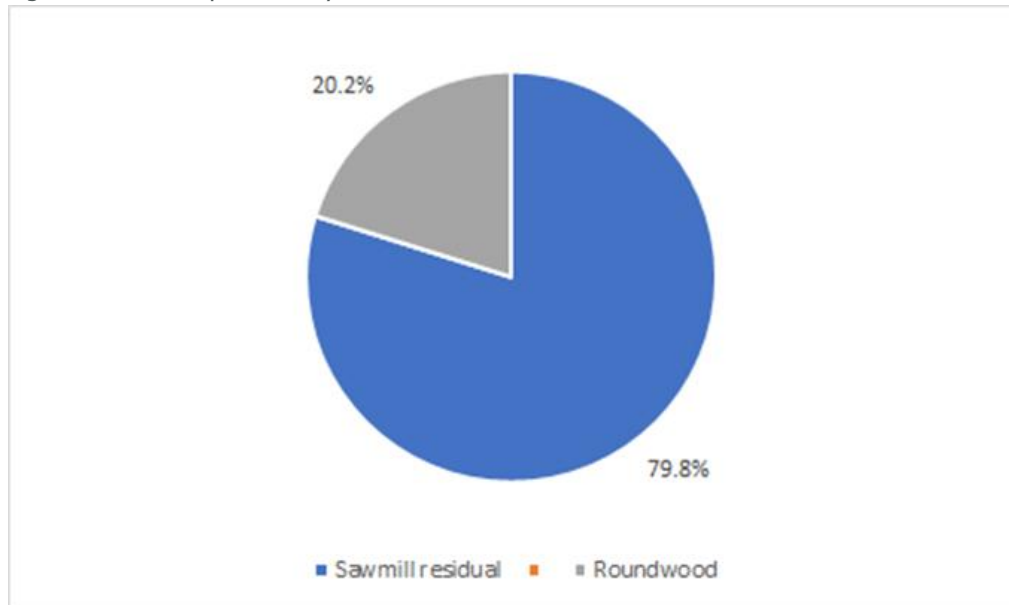
Shaw	Hardwood Lands	Yes	50,000
Great Northern Timber Inc.	Musquodoboit	Yes	100,000
<b>Total</b>			<b>150,000</b>

Figure 17: Location of Pellet Mills in Nova Scotia



Fibre sourcing was reported in the most recent SBP Audit Reports (September 2021 to October 2022) for NS pellet facilities. The Audit Reports show that 79.8% of the fibre used to make pellets came from mill residues (Figure 18). The residuals include chips, shavings, sawdust, and bark, as well as trim ends and other miscellaneous pieces ground by the pellet mill. The remaining 20.2% of the feedstock originated from low-quality roundwood chipped at the pellet facility. The pellet mills did not use any fibre chipped or ground in the bush during the period covered by the SBP Audit Reports. Feedstock comes from residuals of sawmilling and harvest activities and wood that cannot be used for other purposes.

Figure 18: Pellet Input Fibre by Feedstock<sup>18</sup>



## 3 Methodology

### Working Body for the Draft RRA

Brenda Hopkin, RPF of Hopkin Forest Management Consulting Ltd. was selected by the Wood Pellet Association of Canada (WPAC) and approved by the Sustainable Biomass Program (SBP) Secretariat as the Coordinator for the Working Body for the Draft RRA. The Working Body Coordinator was supported by a team of independent natural resource and certification professionals who collectively formed the Working Body. This team satisfied the mandatory qualification requirements of the SBP Regional Risk Assessment (RRA) Procedure (See Annex 2: List of Experts Consulted and Contact of Working Body).

### Applicable Standard

The Working Body methodology addressed the following requirements:

- SBP Standard 1: Feedstock Compliance, v2.0, May 2023
- SBP Standard 2: Feedstock Verification, v2.0, May 2023
- SBP Regional Risk Assessment Procedure, v1.2, May 2021
- Guidance for SBP Standard 1, v1.0, May 2023
- Guidance for SBP Standard 2, v1.0, May 2023
- Glossary of Terms and Definitions, SBP, v2.0, May 2023

### Geographic Scope

The region under assessment (i.e., geographic scope) is the forested land base of the province of Nova Scotia, as discussed in Section 2 Statement of Scope.

### 3.1 Data collection

The RRA approach is based on a due diligence system that includes Information Gathering and Risk Assessment.

In addition to the guidance provided in SBP documents, the Working Body completed extensive research on risk-based assessments, including but not limited to SBP-endorsed RRAs, FSC-PRO-60-002 v3-0, FSC-PRO-60-006b v2-0, FSC-NRA-CA v2.0, and FSC-NRA-USA v1-0. This analysis was incorporated into the Working Body Risk Evaluation Framework (REF) enabling a consistent, rigorous, and objective process for evaluation leading to a comprehensive risk conclusion for each of the 42 Indicators.

The RRA-NS aims to provide an effective and verifiable process that will assure end users that feedstock is legally and sustainably sourced from any forested land base in NS. The scope of the RRA-NS covers the first two elements: Information Gathering and Risk Assessment.

#### 3.1.1 Information Gathering

The first element of a due diligence system is collecting documented, relevant, and current information from credible sources to assess each Indicator and justify the risk designation. The internet provides access to a variety of sources of publicly available information. Information was obtained from Provincial authorities, such as the NS Department of Natural Resources and Renewables (DNRR) and Department of Environment and Climate Change (DECC) and federal authorities such as the Canadian Forest Service of Natural Resources Canada (NRCAN) and Environment and Climate Change Canada. Publicly available information was also obtained from many non-government organisations' websites and reports. Information included applicable legislation, reports from provincial authorities and other stakeholders, various databases, and statistical data sources. Information at the management unit level was not collected for the RRA; this information is more relevant at the local level (i.e., Supply Base Evaluation). In addition to publicly available information or in situations where there was a lack of publicly available information, the Working Body identified key organisations and/or individuals with knowledge (i.e., experts) to provide information in relation to one of many of the Indicators. Key organisations and individuals were consulted, and information was obtained verbally and in written format from public and private sources. During the information-gathering phase, the Working Body considered this outreach as a key component of consultation, resulting in the drafting of many of the Indicators within the RRA.

Annex 2: List of Experts Consulted and Contact of Working Body provides a listing of organisations and/or individuals that provided information.

Following the REF as described in the Guidance for SBP Standard 2, Table 4 describes the requirements of information gathered for each of the 42 indicators with respect to each of the relevant Sub-scopes:

Table 4: Information Gathering Requirements

	<b>Information Gathered – by Sub-scope</b>
<b>Regulatory Framework</b>	Acts, Regulations, policy, and/or required best management practices specific to the threat/impact to the Indicator.
<b>Implementation Mechanisms</b>	Mechanisms by which the organisation completing the forest management activity can demonstrate implementation and compliance with the regulatory requirement &/or best management practices that address the threat/impact.
<b>Oversight Framework</b>	Enforcement and/or monitoring framework of Acts, Regulations, policy, and/or required best management practices specific to the threat/impact to the Indicator.
<b>Results</b>	Verification of a compliance/enforcement and/or monitoring framework. Quantifiable or qualifiable results of current condition, including but not limited to: <ul style="list-style-type: none"> <li>• Monitoring results</li> <li>• Inventory &amp;/or analysis</li> <li>• Compliance &amp; enforcement results</li> <li>• Assessment reports</li> <li>• External agency reports</li> <li>• Publicly available data and/or websites</li> <li>• Expert &amp;/or Stakeholder information/results</li> </ul>

In some cases, the publicly available information was older (> ten years). Where this information was used the Working Body provided a rationale supporting the relevance and reliability of this information. Spatial data was collected and analysed for many of the land base Indicators. Credible spatial data was obtained from GeoNova, DNRR (provincial) and NRCAN (federal).

All information collected and used for evaluation in the risk assessment in the next step, is cited in the Evidence Reviewed section of each Indicator in Annex 1: Detailed Findings for Indicators. Providing references for the information allows for third-party verification.

### 3.2 Selection of indicators to be updated

As this is the first version of the RRA, this section does not apply.

### 3.3 Risk classification

#### Risk Assessment

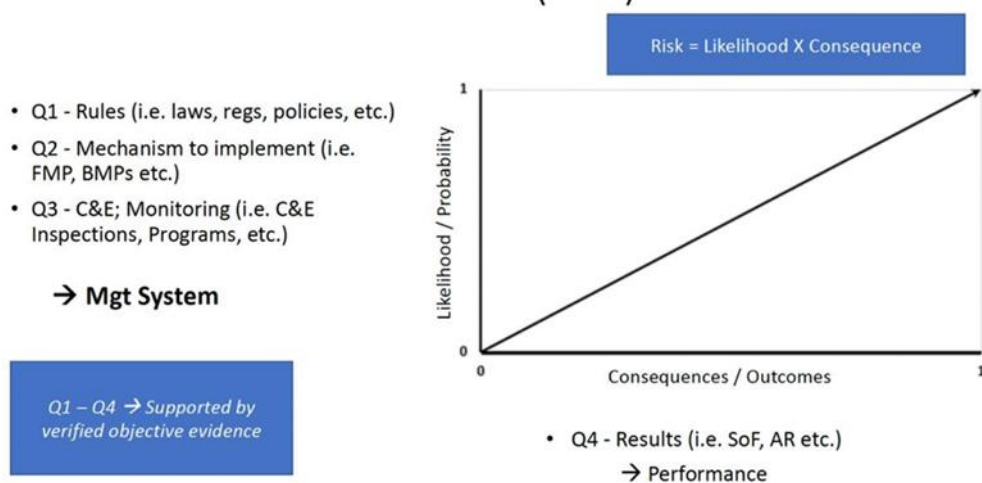
The Working Body followed the risk designation requirements described in SBP Standard 2 and SBP RRA Procedure (v1.2), as well as Guidance for SBP Standard 2. The SBP Guidance describes the REF. The Working Body has incorporated the REF and provides the following methodology.

The following key definitions are paramount in the REF:

- Threat: Anything that can exploit a vulnerability, intentionally or accidentally, and obtain, damage, or destroy an asset (in this case Indicator value). A threat is what needs to be managed to protect the value.

- Risk: Potential for loss, damage, or destruction of an Indicator value because of a threat exploiting a vulnerability.
  - Risk assessment: Defines the level of risk by considering the probability/likelihood against the consequence/severity.
- The REF provides a hierarchical set of questions to evaluate risk. The Working Body interprets the probability/likelihood as the management system and the consequence/severity as the performance measure as shown in the figure below.

Figure 19: Risk Evaluation Framework (REF)



Using the REF, the Working Body evaluated relevant information for each Indicator by Sub-scope at the provincial/regional scale (vs. individual forest management unit level). Table 2 describes evaluation criteria and logic that were considered for all Indicators and Sub-scopes to designate risk when evaluating the information (i.e., means of verification) gathered in the previous step relative to the identified threat. Assessing the probability/likelihood was verified through the evaluation criteria described in Table 5.

Table 5: Risk Evaluation Criteria

Evaluation Criteria	Examples by sub-scopes		
	Crown Land	Industrial Private Land & Private Woodlots	Province
<b>Context</b>	Describe the context or interpretation of the Indicator as it relates to the scale of assessment &/or forest management. Define what is considered in scope or out of scope by the Working Body. This section may indicate related Indicators.		
<b>Potential Threat/Impact</b>	Prior to assessing risk, describe the threat/impact (potential or perceived) to legality or sustainability Indicator because of forest management activities or sourcing. This is key to the REF as subsequent evaluation of the Indicator is focused on addressing the threat/impact.		
<b>Regulatory Framework</b>	Documentation of regulatory framework (as a whole) relative to the threat/impact: reviews applicable legislation. This could include widely accepted best management practices. Different types & levels of governance across the identified Sub-scopes.		
<b>Means of Verification (MoV)</b>	Regulatory framework	Limited & program specific regulatory framework	Regulatory framework
<b>Implementation Mechanisms</b>	Describe the mechanisms to support the regulatory requirements by which the organization completing the forest management activity can demonstrate implementation, conformance, mitigation that address the threat/impact. (i.e., management plans, best management practices (BMP), environmental management systems, industry initiatives, etc.).		
<b>MoV</b>	Legislative & BMP mechanisms	Limited & program-specific legislative & BMP mechanisms	Regulatory framework
<b>Oversight Framework</b>	Describe the oversight framework of the Indicator relative to the threat/impact reviews applicable compliance/enforcement or monitoring frameworks.		
<b>MoV</b>	DNRR Inspections, DNRR compliance & enforcement, government &/or NGO analysis/assessments	Bylaw enforcement	Oversight framework
<b>Results</b>	Describe the current state/condition &/or results of the Indicator relative to the threat/impact. This includes publicly available, current & relevant results &/or reports of monitoring, compliance & enforcement, audits, assessments, etc. This could include information generated from interviews with experts &/or stakeholders.		
<b>MoV</b>	Government &/or NGO analysis/assessments	Bylaw enforcement reports	Government &/or NGO analysis/assessments

<b>Rationale of Risk Designation</b>	<p>Designated risk is based on evidence gathered in each of the sections listed above and how the evidence manages/mitigates the identified threat/impact. Risk is assessed based on the evaluation of evidence (i.e., means of verification (MoV)) and calibration of likelihood and impact for each of the Indicators. Where there is a high probability that an Indicator has met all the evaluation criteria listed above for a Sub-scope, it is assessed as low risk. Where there is a reasonable likelihood that an Indicator is not being met for any or all the evaluation criteria listed above for a Sub-scope, the Indicator is assessed as specified risk.</p> <p>Where there is insufficient evidence (i.e., MoV) available to assess the risk for any or all the evaluation criteria listed above for a Sub-scope, then the Indicator is assessed as specified risk under the precautionary approach.</p>
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The Rationale for Risk Designation logic is summarised in Table 6. The best case scenario to rationalise low risk is that all four components of the REF verify evidence that the threat/impact is managed. As illustrated below, specified risk occurs when there is a gap in verifiable evidence for one or any of the components. If, however, there is verifiable evidence that only the current condition is met then low risk may be designated. The Working Body acknowledges this latter situation could occur, but it does not support a rigorous REF. This latter situation would require continuous verification, which is not appropriate for the RRA, but might be verifiable for a Supply Base Evaluation.

Table 6: Risk Designation Logic Matrix

Threat due to forest mgt	Yes	Yes	Yes	Yes	Yes
Legislation Framework	Met	Met	Met	Gap	Gap
Mechanism of Implementation	Met	Met	Gap	Gap	Gap
C&E &/or Monitoring Framework	Met	Gap	Gap	Gap	Gap
Current Condition / Situation	Met	Gap	Gap	Gap	Met
<b>Risk Designation</b>	Low	Specified	Specified	Specified	Low

Although spatial data was collected and analysed, it was not used to designate risk. It was used to provide context, as well as information regarding location, scale, and intensity.

The Working Body did not identify any new or additional risk factors beyond those identified in SBP Standard 1: Feedstock Compliance. The Working Body utilised the SBP Risk Reporting Template as provided in the RRA Procedures; however, it provided sub-headings to match the evaluation criteria and logic. As required by SBP Standard 2, a single risk rating is provided for each Sub-scope, resulting in each Indicator having more than one risk rating (see Section 5 - Conclusions).

## 4 Stakeholder consultation

### Stakeholder Consultation

Following the guidance of SBP RRA Procedures (v1.2) Section 5, the following is the approach to Stakeholder Consultation.

#### Phase 1: Development of draft RRA

During the development of the draft RRA, the Working Body reached out to key stakeholders via email, phone, and in-person to obtain and confirm publicly available information regarding Indicators. Key experts included in government, First Nations, biomass producers and ENGOs. Workshops were conducted with government and biomass producers. These contacts became part of the comprehensive stakeholder list.

#### Phase 2: Public Stakeholder Consultation

SBP implemented a 30-day public consultation beginning in November 2024 and ending in December 2024. The SBP Secretariat analysed all the information gathered during the consultation and documented it in the stakeholder consultation report. Modifications to the draft RRA report were completed as appropriate in response to relevant stakeholder feedback.

## 5 Conclusions

Indicator	Sub-scope			
	Provincial	Crown Licence	Industrial Private	Private Woodlots
1.1.1	Low risk	-	-	-
1.1.2	-	Low risk	Low risk	Low risk
1.1.3	Low risk	-	-	-
1.1.4	-	Low risk	Low risk	Low risk
1.1.5	-	Low risk	Low risk	Low risk
2.1.1	Low risk	-	-	-
2.1.2	Low risk	-	-	-
<b>2.1.3</b>	-	<b>Specified risk</b>	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.1</b>	-	<b>Specified risk</b>	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.2</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.3</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.4</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.5</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
2.2.6	Low risk	-	-	-
<b>2.2.7</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
<b>2.2.8</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
2.2.9	-	Low risk	Low risk	Low risk
<b>2.2.10</b>	-	Low risk	Low risk	<b>Specified risk</b>
2.2.11	-	Low risk	Low risk	Low risk
2.2.12	Low risk	-	-	-
3.1.1	Low risk	-	-	-
3.2.1	Low risk	-	-	-
<b>3.2.2</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
<b>3.2.3</b>	-	<b>Specified risk</b>	<b>Specified risk</b>	<b>Specified risk</b>
3.3.1	Low risk	-	-	-
4.1.1	Low risk	-	-	-
4.1.2	Low risk	-	-	-
4.1.3	Low risk	-	-	-
4.1.4	Low risk	-	-	-
4.1.5	Low risk	-	-	-
4.1.6	Low risk	-	-	-
4.1.7	Low risk	-	-	-
<b>4.1.8</b>	<b>Specified risk</b>	-	-	-
4.1.9	Low risk	-	-	-
<b>4.1.10</b>	-	Low risk	Low risk	<b>Specified risk</b>
<b>4.2.1</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
4.2.2	Low risk	-	-	-
<b>4.2.3</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
4.2.4	-	Low risk	Low risk	Low risk
4.2.5	-	Low risk	Low risk	Low risk
<b>4.2.6</b>	-	Low risk	<b>Specified risk</b>	<b>Specified risk</b>
4.2.7	-	Low risk	Low risk	Low risk

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### Principle 1 – Feedstock is legally sourced

#### Criterion 1.1 – Operators and operations are legal

1.1.1	<b>Operations related to feedstock sourcing and biomass production shall comply with all existing applicable laws and regulations.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> The intent of this Indicator is to ensure that applicable laws and regulations comply throughout forest planning and operations. There are several factors which are involved in evaluating the extent to which organisations comply with legislation. In politically stable countries two critical factors are a relative lack of corruption and the rule of law. In regions where there is a high degree of corruption and a lack of rule of law there is a higher degree of risk that feedstock sourcing and biomass productions do not comply with applicable and existing laws and regulations. There is a complex network of legislation governing forestry in Canada. Additional information on compliance with specific legislation is included in each specific Indicator of this Regional Risk Assessment. For the assessment of this indicator, the confirmation/verification of legally harvested timber and origin is paramount and interconnected with Indicators 1.1.2 Legal Ownership &amp; Land Use, 1.1.3 Trade Agreements and 1.1.5 Protection from Illegal &amp; Unauthorised Activities.</p> <p>In regions where there is a high risk of organisations not complying with law there is a higher potential of illegally sourced timber entering the supply chain, environmental damage, and human and labour rights violations.</p> <p>The Criminal Code of Canada is the principal anti-corruption legislation, prohibiting corruption, bribery, influence peddling, extortion and abuse of office. The Nova Scotia (NS) Ombudsman Act establishes the NS Office of the Ombudsman. The NS Public Interest Disclosure of Wrongdoing Act provides provincial government employees, and members of the public, with a reporting process to disclose allegations of government wrongdoing.</p> <p><b>Enforcement and monitoring</b> The Criminal Code of Canada is administered by the Attorney General of Canada. The Royal Canadian Mounted Police (RCMP) receive complaints and concerns of corruption. The Code is nationally applicable and is implemented in NS through the Department of Justice. The Department prosecutes crimes and shares information relative to legal issues. The NS Ombudsman Act is implemented by the NS Office of the Ombudsman.</p> <p>Many international organisations monitor and report on corruption levels around the globe.</p> <p>The Criminal Code is enforced throughout Canada by the Royal Canadian Police, local police and the judicial system. The NS Ombudsman receives complaints of corruption in public systems and conducts independent investigations. It does not hear complaints regarding professional associations or between private individuals and/or corporations. Transparency International maintains a Corruption Perception Index monitors country level corruption globally. In 2022 (the last available report as of September 2023) Transparency International rated Canada 14/180 countries (with one being the least corrupt) and gave it a score of 74/100 (with 100 being the best). GAN Integrity rates country level corruption and in November 2020 (the last available report as of September 2023) stated that “[Canada] possesses clear- cut regulations and transparent,</p>

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	<p>reliable courts.” Forestry was not identified as an industry at risk of corruption. In 2022 (the last available report available as of September 2023) the World Bank rated Canada at the 93rd percentile (with 100 being best) for both rule of law and control of corruption. A 2016 news release from Interpol states that global corruption in forestry accounts for USD 29 billion in global trade. The Organization for Economic Co- operation and Development finds that one in five cases of transnational bribery are in extractive industries and Transparency International has a focus on corruption in the extractive industries. However, both organisations focus on oil and gas and mining with no mention of forestry. The 2022/23 Office of the Ombudsman’s Annual Report (the latest available as of September 2023) stated that the Office heard 1,829 complaints; all but 23 were resolved. The report stated that six complaints were directed to the NS Department of Natural Resources and Renewables. An internet review conducted in September 2023 does not indicate there are any concerns with rule of law in forestry in NS.</p> <p><b>Risk conclusion and justification</b></p> <p>There is comprehensive federal and provincial legislation governing forestry. Canada is a low corruption country with a high degree of rule of law. Forestry is not identified as a high risk of corruption industry and there is no indication of systemic non-compliance with law in forestry in Nova Scotia. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level for Nova Scotia.</p>
<p><i>Supply Base Verifiers</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Company human resources policies/procedures, including anti-bribery policies and codes of conducts</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Company regulatory registry</li> <li>• Forest management plans</li> <li>• Best management practices</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Supplier verification program</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Criminal Code</a>.</li> <li>• NCASI. <a href="#">Canadian Forestry Regulations and Standards</a>. 2021.</li> <li>• Royal Canadian Mounted Police. <a href="#">Report Corruption</a>.</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• NS Office of the Ombudsman. <a href="#">Homepage</a>.</li> </ul>

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	<ul style="list-style-type: none"> <li>• NS Ombudsman Office. <a href="#">Annual Report</a>. 2022/2023.</li> <li>• <a href="#">Ombudsman Act</a>.</li> <li>• <a href="#">Public Interest Disclosure of Wrongdoing Act</a>.</li> </ul> <p><u>Other</u></p> <ul style="list-style-type: none"> <li>• Sustainable Biomass Program. <a href="#">Guidance for SBP Standard 1: Feedstock Compliance</a>. 28 April 2023.</li> <li>• Transparency International. <a href="#">Country Data – Canada</a>. 2022.</li> <li>• GAN Integrity. <a href="#">Country Profiles – Canada</a>. 05 November 2023.</li> <li>• World Bank. <a href="#">Interactive Data Access – Canada</a>. 05 November 2023.</li> <li>• World Bank. <a href="#">Worldwide Governance Indicators – Overview</a>.</li> <li>• Interpol. <a href="#">Global corruption in forestry sector worth USD 29 billion a year</a>. 09 December 2016.</li> <li>• Organization for Economic Co-operation and Development. <a href="#">Corruption in the Extractive Value Chain</a>. 2016.</li> <li>• Transparency International. <a href="#">Corruption in the Extractive Industries</a>.</li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>1.1.2</b>	<b>Legal ownership of land and resource use rights shall be respected.</b>
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b></p> <p>For the assessment of this Indicator, the confirmation of legally harvested timber and origin is paramount and interconnected with Indicators 1.1.1 Comply with Laws, 1.1.3 Trade Requirements, and 1.1.5 Protection from Illegal &amp; Unauthorised Activities. See Section 4.6 Forest Sector by Land Ownership for more information.</p> <p>Legality of ownership and land use is important in ensuring that the management of the forest, including the harvest of timber, can be conducted in an orderly manner. The threat, should ownership be contested or poorly established, is degradation of both the resource and the timber industry. A lack of clarity regarding permitted land or resource use would have similar effects.</p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Constitution Act of 1867</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Land Registration Act</li> <li>• Land Titles Clarification Act</li> <li>• Crown Lands Act</li> </ul>

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	<ul style="list-style-type: none"> <li>• Forests Act</li> </ul> <p><b>Enforcement and monitoring</b></p> <p>Canada’s Constitution Act of 1867 gives the provinces jurisdiction over the “development, conservation and management of...forestry resources,” and the provinces generally control and manage the non-private land in the province, with the exception of some lands under municipal and federal government jurisdiction. Nova Scotia’s (NS) Land Registration Act (2001)) established the present day land registration system in NS. The Act provides the legal basis for the registration of the title to land in the province and provides statutory authority for guaranteed land title on Crown licence, industrial private land, and private woodlots. The system is overseen by Service Nova Scotia. NS’s Land Titles Clarification Act, which includes reference to the historic Land Titles Registration Act, is a legislative process, administered by the Nova Scotia Department of Natural Resources and Renewables (DNRR), that was created to clear land title issues for residents who live in 13 Nova Scotian communities. This process allows residents to provide information about how they (or their ancestors) have used and occupied the land. On Crown land in NS, the Crown Lands Act and the Forests Act provide the authority for DNRR to issue licences to harvest Crown timber. The Forests Act sets out the principles of sustainable forest management that are intended to apply to all forests in the province and describes the scope of forest management planning as well as some of the techniques that are to be applied for Crown licences. The Crown Lands Act sets out the licencing and permitting options available to the government to allow the harvest of Crown timber. The main Crown forest land tenure instrument in NS is the Forest Utilization License Agreement (FULA). DNRR prepares forest management plans for other Crown land areas and issues shorter-term licences to enable timber harvesting. The Land Title Clarification Act sets out dispute resolution mechanisms and processes. Ownership of industrial private land and private woodlots is verified through the registration of land title. The province is well surveyed. For Crown licence, DNRR has the responsibility to oversee the licencing and permitting of timber harvesting and the adherence of licensees and permit holders to the terms of those instruments. DNRR has enforcement mechanisms in place to ensure that the terms of licences issued by the province are upheld. The Crown Lands Act, FULAs and licences provide direction regarding dispute resolution and the provincial court system is available to handle disputes that cannot be settled otherwise. For industrial private land and private woodlots, boundary disputes are resolved by surveys and the legal system is the primary means by which disputes or questions over the ownership of land are addressed. The ownership of forest land is surveyed and well-established in NS. The system of property rights functions to maintain the rights and benefits of ownership. Ownership is conferred through title. As of March 2024, there is no publicly available information indicating widespread or systemic non-compliance regarding legal ownership and use rights being respected.</p> <p><b>Risk conclusion and justification</b></p> <p>The legal basis for the ownership of land and resource use rights is established. The system of property rights functions to maintain the rights and benefits of ownership and there is no indication of systemic non-compliance. Based on evidence reviewed, this Indicator is designated at low risk for Crown licence, industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Strategic land use planning (i.e. landscape-level)</li> <li>• Forest management plans</li> <li>• Chain of custody procedures, including fibre tracking</li> </ul>

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	<ul style="list-style-type: none"> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Supplier verification program</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Tenure/licence agreements</li> <li>• Ownership titles &amp; land surveys</li> <li>• Supplier transportation documentation (origin)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with tenure agreement holders</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Constitution Act of 1867</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Land Titles Clarification Act</a></li> <li>• <a href="#">Primary Forest Products Marketing Act</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Low risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Low risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Low risk</b>						
Private Woodlots	<b>Low risk</b>						
<b>1.1.3</b>	<b>Feedstock shall be legally harvested, supplied and produced, including in compliance with CITES, EUTR and other applicable legal trade requirements.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> There are five applicable legal trade requirements relevant to this Indicator based on the potential areas of export of biomass from Canada:</p> <ol style="list-style-type: none"> <li>1. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);</li> <li>2. European Union Timber Regulation (EUTR);</li> <li>3. UK Timber Regulation;</li> <li>4. Japan Clean Wood Act; and</li> </ol>						

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### 5. Korea Act on the Sustainable Use of Timbers.

#### CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a safeguard against exploitation of endangered species caused by (often illicit) demand in international markets. CITES sets controls on three levels of allowable trade. Appendices I, II and III provide distinct trade restrictions and requirements that must be observed. Any type of wild plant or animal may be included in the list of species protected by CITES, and new species can be listed at any time depending on the degree of endangerment. The additional legality safeguard with this Indicator is covered off under the European Union's Timber Regulation (EUTR), the UK Timber Regulation, Japan Clean Wood Act, and Korea Act on the Sustainable Use of Timbers.

#### EUTR

The EUTR prohibits the placement of timber and timber products on the EU market if harvested illegally under the laws of the country of origin. It requires those who place timber on the EU market to employ a due diligence system to ensure timber was harvested legally. EUTR due diligence means businesses along the supply chain must keep records to facilitate the traceability of the products (i.e., they must maintain chain-of-custody data for the feedstock used).

#### UK Timber Regulation

The UK Timber Regulation mirrors the EUTR and pertains to wood products imported to the UK.

#### Japan Clean Wood Act

The Japanese Clean Wood Act is a voluntary registration system for organisations which procure domestic or foreign wood products in Japan. Registered organisations are required to keep documentation of origin for a period of five years.

#### Korea Act on the Sustainable Use of Timbers

The Korea Act on the Sustainable Use of Timbers requires imports of wood products to have appropriate documentation on origin. Assessment of this Indicator focuses on the compliance of producers to CITES. It also focuses on compliance to the EUTR, UK Timber Regulation, the Japan Clean Wood Act and the Korea Act on the Sustainable Use of Timbers (collectively referred to as the Illegal Harvesting Initiatives) as all of these deal with supply chain due diligence to minimise the risk of the trade of illegally harvested wood. The potential for illegal harvest of wood is further discussed in Indicators 1.1.1 Comply with Laws, 1.1.2 Legal Ownership & Land Use, and 1.1.5 Protection from Illegal & Unauthorised Activities.

#### CITES

Trade in endangered forest species elevates the threats of extirpation and extinction of commercially valuable species at risk.

#### Illegal Harvesting Initiatives

Illegal timber harvesting threatens the integrity of sustainable forest management and may lead to the damage of sites or values, deprives the timber owner of revenue and is often associated with the activities of larger illegal networks.

#### CITES

In Canada, CITES is implemented by the federal government through the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA) and the Wild Animal and Plant Trade Regulations. WAPPRIITA regulates the export/import of CITES listed species, including tree species. The Wild Animal and Plant Trade Regulation – Schedule 1 provides a listing of CITES flora and fauna. CITES-listed species may not be imported into Canada without a CITES permit.

#### Illegal Harvesting Initiatives

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Legal mechanisms, as defined in the Nova Scotia (NS) Crown Lands Act and the Forests Act, and associated regulations ensure that primary forest products are accompanied by a transportation certificate when being transported on public roads. This transportation certificate must identify the origin of the primary forest product.

### **Enforcement and monitoring**

#### CITES

In Canada, Environment and Climate Change Canada (ECCC) is the lead agency responsible for implementing and administering CITES under WAPPRIITA and the Wild Animal and Plant Trade Regulations. Within ECCC, the Canadian Wildlife Service administers WAPPRIITA and interacts with provincial, territorial and other federal agencies. ECCC has the licencing responsibility for wildlife harvesting. ECCC works with a broad range of partners, including the Canada Border Services Agency, to ensure imports comply with CITES and with relevant legislation and regulations in foreign countries for non-CITES species.

#### Illegal Harvesting Initiatives

The NS Crown Lands Act and the Forests Act, and various regulations are implemented by the NS Department of Natural Resources and Renewables (DNRR) who provides information on the website and maintains forms to be used for transportation.

#### CITES

ECCC oversees and reports publicly on the implementation of WAPPRIITA in Canada.

#### Illegal Harvesting Initiatives

DNRR oversees the implementation of the NS Crown Lands Act and the Forests Act, and various regulations, compliance, and reporting.

#### CITES

ECCC reports annually regarding the enforcement of WAPPRIITA. In the 2021 Wild Animal and Plant Trade and Protection Act Annual Report (the last available as of September 2023), 1,269 inspections were conducted across Canada, and 194 violations were identified. Three convictions were filed, none related to flora. An internet search conducted in September 2023 did not identify any concerns with the import or export of CITES listed species into or from NS.

#### Illegal Harvesting Initiatives

See Indicator 1.1.5 Protection from Illegal & Unauthorised Activities for results on legality of harvest in NS. An internet search conducted in September 2023 did not find any concerns with non-compliance of the NS legislation for transportation nor any concerns with forest products exported from NS meeting international trade regulations.

### **Risk conclusion and justification**

#### CITES

There is a comprehensive federal legislative framework governing CITES. There is ongoing monitoring and public reporting. There are no tree species on the CITES export list from Canada. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level for Nova Scotia.

#### Illegal Harvesting Initiatives

There is a high level of compliance with law in Canada (see Indicator 1.1.1 Comply with Laws); a low risk of illegal harvesting (see Indicator 1.1.5 Protection from Illegal & Unauthorised Activities); and a well-regulated system of forest product transportation under legislation in NS. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level for Nova Scotia.

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<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Supplier verification program</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Supplier transportation documentation (origin &amp; species)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>CITES</u></p> <p><u>International</u></p> <ul style="list-style-type: none"> <li>• Convention on International Trade in Endangered Species of Wild Fauna and Flora</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Government of Canada. <a href="#">Trade in protected species: Canadian act and regulation for wild animal and plant protection.</a></li> <li>• Government of Canada. <a href="#">Trade in Protected species: Canadian act and regulation for wild animal and plant protection: report.</a></li> <li>• Government of Canada. <a href="#">Trade in protected species: relevant authorities.</a></li> </ul> <p><u>Illegal Harvesting Initiatives</u></p> <p><u>International</u></p> <ul style="list-style-type: none"> <li>• Forest Legality Initiative. <a href="#">Laws &amp; Policies.</a></li> <li>• Timber Trade Portal. <a href="#">Japan Clean Wood Act.</a></li> <li>• NepCon. <a href="#">Basic EUTR: How to Get Started.</a></li> <li>• Korea Forest Service. <a href="#">Korea’s regulation to promote legal timber trade.</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act.</a></li> <li>• <a href="#">Forests Act.</a></li> <li>• Nova Scotia Department of Natural Resources and Renewables. <a href="#">Forestry.</a></li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>

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<b>1.1.4</b>	<b>Payments for harvest rights and feedstock, including duties, relevant royalties and taxes related to timber harvesting shall be complete and up-to-date.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b> Timber harvesting on Crown land, industrial private land, and private woodlots is typically completed by contractors, who pay for the right to harvest the timber subject to any requirements in the contract or licence. The price of standing timber is known as stumpage and is often charged as a rate per cubic metre of timber. Stumpage rates vary by species, grade/quality, and potential end-product. Revenue from the sale of Crown timber is frequently described as a royalty, and the revenue from royalties contributes to overall government revenues. Industrial private landowners treat the sale of standing timber as revenue. Private woodlot owners who receive payments from the sale of standing timber treat it as income. Duties are paid on timber that is sold from one jurisdiction into another. For Nova Scotia (NS), timber flows between the province and the United States, especially Maine. In addition, a substantial amount of fibre is exported overseas in the form of chips. Duties are not required when wood is moved to NS from other Canadian provinces. See Section 4.6 Forest Sector by Ownership for more information.</p> <p>One of the rights of ownership is the right to sell or exchange the owned property, which is done under contract or agreement. If payments are not made or cannot be collected for property that is sold, this undermines the principle of ownership. The specific threat for timber, in the absence of the rule of law, is a loss of revenue and a degradation of both the resource and the timber industry.</p> <p><u>Provincial</u></p> <ul style="list-style-type: none"><li>• Crown Lands Act</li><li>• Forests Act</li><li>• Municipal Government Act</li></ul> <p>Transactions involving timber harvested from industrial private land and private woodlots are governed by contract law.</p> <p><b>Enforcement and monitoring</b> All entities that intend to acquire any amount of primary wood products, no matter what the ownership type, are required to register with the NS Department of Natural Resources and Renewables (DNRR) Registry of Buyers and provide statistical return information each year. DNRR is authorised through the Crown Lands Act to set and collect stumpage for timber that is harvested under Crown licence or permit. The Act prescribes that royalties will be set at an equitable rate, and DNRR periodically surveys private timber sales to assess rates being paid in the private market. The results of these surveys are used to calibrate the royalty rates for Crown timber. Licensees are invoiced quarterly. DNRR periodically contracts a company to conduct surveys of buyers of timber from private woodlots to ensure that Crown stumpage prices are fair. Both mills and harvest contractors are surveyed. The province adjusts Crown stumpage rates based on the results of the private stumpage survey. In years when no survey is undertaken, the Crown indexes stumpage rates against product prices. Scale data is used to calculate the amount of royalty owed to the NS government and, depending on the nature of the contract, the amount of revenue owed to the private woodlot or industrial private landowner. For industrial private land and private woodlots, there will generally be a written contract between the landowner and the timber purchaser that includes a purchase price or a formula for determining the purchase price of the timber. Scale data is used by industry for transactions related to</p>

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>timber from industrial private land and private woodlots, such as the purchase or sale of forest products and contractor payment. On industrial private land and private woodlots, payments for timber harvested are made as prescribed in the contractual agreement. Contract will specify a rate to be paid per cubic metre of timber, varying by species and grade/product type. For industrial private land, a portion of the harvest is processed by the same company that owns the land, so there is no market price realised. Some contracts with private woodlot owners are lump-sum arrangements where the landowner receives an agreed upon total amount for all the timber that is harvested. NS Department of Municipal Affairs and Housing is responsible for the Municipal Government Act, which stipulates that owners of private woodlots and industrial private land pay property taxes to the municipal government. Property taxes must be up to date when a property is sold. A taxation rate of \$0.25/acre for forest land classed as resource property and \$0.40/acre for land classed as commercial property is prescribed in NS. DNRR compliance and enforcement mechanisms to ensure stumpage will be paid for Crown timber include but are not limited to:</p> <ul style="list-style-type: none"> <li>• Severe penalty for unmarked or incorrectly marked transportation certificate;</li> <li>• Penalties associated with non-compliance of Crown Lands Act;</li> <li>• Inspection and audit of records by government;</li> <li>• Government has extensive remedies to recover delinquent payments.</li> </ul> <p>The conditions of sale/purchase of timber from industrial private land and private woodlots, including the payment for the timber, are part of the timber sale contract and are enforceable through provincial law. Municipalities have mechanisms to ensure property taxes are paid, including seizure of property. All transport activities, scaling, and processing of scale data is subject to check-scaling, scale site inspections, data review, and audit.</p> <p>The provincial legal system is in place for resolving disputes for Crown licences, industrial private land, and private woodlots regarding payments and contracts. DNRR has the authority to refuse to approve annual operating plans if stumpage payments are not up to date. As of March 2024, there is no publicly available information indicating non- payment for harvested timber is widespread or systemic from industrial private land or private woodlots.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a comprehensive legal framework with appropriate controls to ensure the payments for Crown timber and harvest rights, including relevant royalties related to timber harvesting. Timber sales from industrial private land and private woodlots are conducted under contract law, which is enforced in NS. Municipalities have mechanisms in place to ensure property taxes are paid. There is no indication of widespread or systemic non- compliance with regards to non-payment. Based on evidence reviewed, this Indicator is designated at low risk for Crown licence, industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Stumpage payment records</li> <li>• Supplier transportation documentation (origin &amp; species)</li> <li>• Supplier invoices (origin &amp; species)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with suppliers</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

<p><i>Evidence reviewed</i></p>	<p>Provincial</p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Municipal Government Act</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products. Annual Report 2022-23. 2023-1.</a></li> <li>• <a href="#">Report on Prices of Standing Timber April 1, 2017 – March 31, 2018</a></li> </ul>						
<p><i>Risk rating</i></p>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Low risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Low risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Low risk</b>						
Private Woodlots	<b>Low risk</b>						
<p><b>1.1.5</b></p>	<p><b>There shall be adequate protection of the Supply Base from unauthorised and illegal activities, such as illegal logging, mining, and encroachment.</b></p>						
<p><i>Findings</i></p>	<p><b>Scale of assessment</b></p> <p>Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b></p> <p>For the assessment of this Indicator, the confirmation/verification of legally harvested timber and origin is paramount and interconnected with Indicators 1.1.1 Comply with Laws, 1.1.2 (Legal Ownership &amp; Land Use, and 1.1.3 Trade Requirements.</p> <p>Illegal timber harvesting threatens the integrity of sustainable forest management and may lead to the damage of sites or values, and may deprive the timber owner of revenue.</p> <p>Provincial</p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> <li>• Harvesting Timber on Crown Lands Regulation</li> <li>• Scalers Act</li> <li>• Scaling Regulation</li> <li>• Traffic Safety Act</li> <li>• Nova Scotia Trucking Rules &amp; Regulations</li> <li>• Land Registration Act</li> <li>• Lands Titles Clarification Act</li> </ul>						

### **Enforcement and monitoring**

#### Crown Licence

The Crown Lands Act and associated regulation establishes the Nova Scotia (NS) Department of Natural Resources (DNRR) as the legal authority for forestry leasing and licencing, charging stumpage, and establishing a “preference for timber production on private land.” The Act also provides the authority to control access, provide habitat protection, timber harvest, and recreation, including the issuance of permits, licenses, and utilisation agreements including fuelwood. A Crown licensee must harvest timber subject to an Forest Management Plan, associated regulations, and government approval. DNRR is responsible for training and providing certification, and maintaining a scalers database which tracks active and inactive licences. To maintain an active scaler status, a scaler must attend and pass a scaler refresher course every five years.

#### Industrial Private Land & Private Woodlots

On industrial private land and private woodlots, the Land Registration Act assigns Access Nova Scotia to grant title for private ownership of forested land and establishes the legal conditions for illegal trespass. Implementation of legal ownership is through land deeds and titles. On industrial private land and private woodlots, the landowner is responsible for supervision of illegal activity, encroachment, or trespass. Common law ensures the right of property owners to make contracts to sell or otherwise dispose of timber. These laws are enforced.

#### Crown licence, Industrial Private Land and Private Woodlots

Reporting of encroachment or trespass is enforced by government agencies, municipalities, or police through general civic or commercial law on Crown licence, industrial private land, and private woodlots. The NS Department of Public Works operates five scales houses and several mobile units in the province, to ensure vehicle compliance on Crown licence, industrial private land, and private woodlots.

#### Crown Licence

DNRR district offices oversee the implementation of forest operations and is responsible for investigating any reported illegal activities. DNRR monitors vehicle compliance through its Forest Operations Monitoring Program (FOMP). FOMP inspections are randomly conducted on trucking contractors to ensure transportation compliance. Crown licensees or DNRR staff identify non-conformances through non-conformance reporting at all levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re- occurrence. The Harvesting Timber on Crown Lands Regulation identifies the threshold as a person who cuts or removes timber from Crown lands in excess of 25 m3. The Scalers Act requires individuals or organisations scaling more than 1,000 m3 or more of primary wood products per year to possess an active scaling licence through DNRR.

#### Crown Licence

Fines for individuals illegally cutting on Crown land (provincial parks and all forested lands administered under the Crown Lands Act) range from up to \$50,000 for a first offence to up to \$100,000 in fines, imprisonment for up to a year or both for each subsequent offence. Companies can be fined up to \$250,000 for a first offence and up to \$500,000 for each subsequent offence. DNRR FOMP data showed that there were no notable issues found related to trucking contractor compliance and the transportation of timber for Crown licence.

#### Industrial Private Land & Private Woodlots

As of March 2024, there is no publicly available information indicating widespread or systemic occurrences of resource extraction conflicts, encroachment, or trespass on industrial private land and private woodlots.

### **Risk conclusion and justification**

#### Crown Licence, Industrial Private Land and Private Woodlot

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>There is a comprehensive legal framework with appropriate controls to protect from unauthorised and illegal activities related to timber harvesting. Government compliance programs monitor and track infractions. There is no indication of widespread or systemic non-compliance with regards unauthorised and illegal activities. Based on evidence reviewed, this Indicator is designated at low risk for Crown licence, industrial private land and private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Supplier transportation documentation (origin &amp; species)</li> <li>• Supplier invoices (origin &amp; species)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> <li>• DNRR FOMP Inspection Data 2017-2023</li> <li>• Harvesting Timber on Crown Lands Regulation</li> <li>• Land Registration Act</li> <li>• Lands Titles Clarification Act</li> <li>• Nova Scotia Scaling Manual</li> <li>• Nova Scotia Woodlot Owners and Operators Association</li> <li>• Scalers Act</li> <li>• Scaling Regulation</li> <li>• Traffic Safety Act</li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Low risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Low risk</b>
Crown Licence	<b>Low risk</b>						
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**Principle 2 – Feedstock sourcing does not harm the environment**

**Criterion 2.1 – Biodiversity is maintained or enhanced**

<p><b>2.1.1</b></p>	<p><b>Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Biodiversity is defined as the variety of natural processes that maintain ecosystems, genes, and species on earth. . Biodiversity is not easily measurable. Due to its complexity, the most effective way to assess biodiversity maintenance or enhancement is through proxies. In Criterion 2.1, the associated Indicators—2.1.1 Key Eco/HCV Identified, 2.1.2 Key Eco/HCV Threats ID &amp; eval, 2.1.3 Key Eco/HCV Maintained or Enhanced—use key species, habitats, ecosystems, and areas of high conservation value (HCV) as proxies for sustaining biological richness. Criterion 2.1 is a nested hierarchy that evaluate sustenance at two scales.</p> <p><u>Landscape-level Biodiversity Values (Coarse scale)</u> Key components of landscape-level biodiversity values include forests that contain concentrations of biological diversity and critical habitat for wide- ranging species. As well as large landscape-level ecosystems (&gt;5,000 ha) and/or Intact Forest Landscapes (&gt; 50,000 ha).</p> <p><u>Stand-level Biodiversity Values (Medium/Fine Scale)</u> Key components of stand-level biodiversity values include forests that contain concentrations of critical habitat for species with relatively small home ranges, RTE ecosystems and key habitat attributes. Key habitat attributes provide structures that sustain forest dwelling species such as large live and dead trees, large coarse woody debris, and complex stand structure. The scope of Indicator 2.1.1 Key Eco/HCV Identified—assesses whether the biodiversity values are identified. Indicator 2.1.1 is assessed at the provincial level. Indicator 2.1.2 Key Eco/HCV Threats ID &amp; Eval—assesses whether, once identified, appropriate actions are being taken to identify and evaluate threats/impacts that may compromise biodiversity values. Indicator 2.1.2 is assessed at the provincial level. Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced—assesses whether identified threats/impacts are mitigated, and biodiversity values are maintained or enhanced. Indicator 2.1.3 is assessed at the sub-scope level: Crown license, industrial private land and private woodlot.</p> <p>Resource-based activities can have a negative impact on functioning ecosystems, species and genetic diversity, and habitat protection. Harvesting disturbance, the direct and indirect effects associated with access, and the loss, fragmentation or degradation of ecosystems and/or habitats can influence the abundance and distribution of biodiversity values.</p> <p><u>Landscape-level Biodiversity Values (Coarse scale)</u> <u>Federal</u></p> <ul style="list-style-type: none"> <li>• Species at Risk Act (SARA)</li> <li>• Migratory Birds Convention Act (MCBA)</li> <li>• Fisheries Act</li> </ul>

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- Canada National Parks Act

### Provincial

- Endangered Species Act
- Wilderness Areas Protection Act
- Special Places Protection Act
- Forests Act
- Biodiversity Act
- Provincial Parks Act

### Stand-level Biodiversity Values (Medium/Fine Scale)

#### Federal

- Species at Risk Act
- Migratory Birds Convention Act
- Fisheries Act

#### Provincial

- Endangered Species Act
- Wilderness Areas Protection Act
- Special Places Protection Act
- Forests Act
- Wildlife Habitat and Watercourses Protection Regulations
- Biodiversity Act
- Provincial Parks Act

### **Enforcement and monitoring**

#### Landscape-level Biodiversity Values (Coarse scale)

At the federal level, the Species at Risk Act (SARA) enables the federal government to identify species at risk (SAR). The federal SARA is jointly implemented through:

- Environment and Climate Change Canada (ECCC) for overall coordination of SARA as well as Migratory Birds Convention Act (MBCA) for migratory bird SAR;
- Fisheries and Oceans Canada (DFO) for aquatic SAR;
- Parks Canada for SAR in national parks and historic sites.

Species assessments are made by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), a committee of wildlife experts. COSEWIC makes its list public and forwards it to Canadian Endangered Species Conservation Council along with a rationale for each designation. The Council determines and coordinates the most effective response actions. The MBCA includes a Schedule 1 to identify and list key species which overlaps with the SAR list. ECCC officially identifies and maintains the SAR Public Registry for identified species that fall under SARA. At the provincial level, for wide ranging species at risk, the Nova Scotia (NS) Biodiversity Act and the NS Endangered Species Act enables the Department of Natural Resources and Renewables (DNRR) to identify species at risk and critical habitat for inclusion in forest management planning. The DNRR includes the federal home ranges SAR list within the provincial list. The Atlantic Canada Conservation Data Centre (ACDC) provides DNRR with all known

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georeferenced locations for SARA species and the ACCDC data are used for conservation planning by DNRR. National parks, provincial parks, and protected areas identified in NS provide for conservation of biological diversity and ecosystem services for large landscapes. These parks and protected areas vary in size and conservation values. At the federal level, national parks, under the Canada National Parks Act, are the conservation tool used to conserve large landscapes and habitat of species at risk. The federal government under SARA uses multi-species recovery planning to protect species at risk and associated ecosystems within the national parks.

At the provincial level, the NS Department of Environment and Climate Change (DECC) define and manage conservation lands. DECC has identified key ecosystems in provincial parks and wilderness areas under the authority of the Wilderness Areas Protection Act (1998) and nature reserves under the Special Places Protection Act (1989). The purpose of the Special Places Protection Act is to identify and protect representative examples of natural ecosystems that contain rare or endangered native plants or animals within the province. Global Forest Watch completes analysis and produces publicly available maps that spatially identify Intact Forest Landscapes globally, including the province of NS.

### Stand-level Biodiversity Values (Medium/Fine Scale)

Much of the legislation and implementation mechanisms described in landscape-level biodiversity values above are applicable to stand-level biodiversity values identification. At the provincial level, for species at risk with small home ranges, DNRR follows the same process for identification as listed in landscape-level biodiversity values above. This includes Federal small home ranges species at risk in the province, enabled by the NS Biodiversity Act and Endangered Species Act. ACCDC lists and ranks ecosystems that occur in the Atlantic Provinces and assess status rank according to risk level and threats and map known occurrences. ACCDC use NatureServe ranking protocols to rank rare, threatened and endangered (RTE) ecosystems globally and provincially. Ecosystems are identified at the stand level using the NS Forest Ecosystem Classification system and can be mapped with terrestrial ecosystem mapping at the stand level. Key habitat attributes provide structures that are needed to sustain forest dwelling species and biodiversity at the stand level. Key habitat attributes can include large live and dead trees and large coarse woody debris. These attributes accumulate as forests age, such that the full suite of attributes and complex forest structure are present in old forests. The Nova Scotia Silvicultural Guide to the Ecological Matrix (SGEM) identifies key habitat attributes to be maintained at the stand level. In NS, old forests are defined and identified by DNRR. Old forests are identified and mapped for each eco-district on Crown land. The Ecological Landscape Analysis reports old forest areas related to the Old Growth policy for each eco- district. Old growth is identified based on a scoring system assessing stand structure and key ecological attributes. The identified old growth forests on Crown land are the basis for implementation of the Old Growth Forest Policy for Nova Scotia.

Much of the listed federal and provincial oversight is applicable for both landscape-level and stand-level biodiversity values. At the federal level, COSEWIC oversees SARA species, critical habitats and updates SARA listings annually. DFO oversees the Fisheries Act, ECCC oversees the MBCA, and Parks Canada oversees the Canada National Parks Act. At the provincial level, DNRR oversees species at risk including the Federal SARA, and NS Endangered Species Act. ACCDC oversees the RTE ecosystems. ACCDC is a jointly funded registry for all Atlantic provinces. DECC oversees conservation lands, key ecosystems and nature reserves under the Wilderness Areas Protection Act and Special Places Protection Act. DNRR under the Forests Act and Biodiversity Act oversees forest planning and practices related to conservation of identified biodiversity values. Global Forest Watch is responsible for oversight of Intact Forest Landscapes identification process.

### Landscape-level Biodiversity Values (Coarse scale)

ECCC SAR Registry identifies species at risk for each province. ECCC publishes the SAR Public Registry annually. COSEWIC produces species assessment reports and candidacy evaluations for inclusion in SARA. The Canadian Endangered Species Conservation Council publishes the General Status of Species of Canada report every five years. ECCC MBCA Schedule 1 identifies migratory bird species at risk requiring protection under the MBCA. Mainland moose is the only provincially listed wide-ranging SAR identified in NS. This species has critical habitat identified and a recovery strategy. With regards to large landscapes, the protected area in federal and provincial land includes national and provincial parks, heritage rivers, nature reserves and wilderness areas. The DECC implements the NS Parks and Protected Areas Plan and the Collaborative Protected

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	<p>Areas Strategy with a target of 20% protection by 2030. Currently, 739,000 hectares (13.5%) of NS is protected areas under the Wilderness Areas Protection Act and the Special Places Protection Act. The spatial delineation and actual hectares for each of the protected areas is available on DECC's Protected Areas website. Representation of protected areas is assessed in a natural landscape ecological framework to ensure broad representation in all landforms across the province.</p> <p>Global Forest Watch's most current report (2022) indicates there are no areas that meet the 50,000 ha threshold for Intact Forest Landscapes in NS.</p> <p><u>Stand-level Biodiversity Values (Medium/Fine Scale)</u></p> <p>Some of the above discussed results in landscape-level biodiversity values are applicable to stand-level biodiversity values identification. ACCDC identifies provincially listed species at risk and hosts records of observations. The data are georeferenced and contain records describing the sightings. Lists are updated annually and publicly available on-line with a mapping tool. ACCDC and NatureServe rank globally and provincially threatened ecosystems in NS. The current list of provincially identified RTE ecosystems for listing with the ACCDC, is under review and is to be updated in 2024. Information is posted on the ACCDC website. These ecosystems are identifiable using the NS ecological classification system at the stand level. Listed ecosystems are mapped in the Ecological Landscape Analysis reports. ACCDC only recognises the Atlantic Coastal Plain Flora landscape ecosystem as RTE. Key habitat attributes are identified in the SGEM, specifically Appendix 1 that outlines the data requirements for the Pre-Treatment Assessments and biodiversity values. The Old Growth Forest Policy for Nova Scotia has led to policy protection of 33,000 ha (7.6%) of the 434,000 ha of old growth forest in the province on Crown land. These old growth forest areas are identified in the Ecological Landscape Analyses and have been broadly distributed across ecodistricts with representation ranging from 8-54% of existing old forest. In addition, old growth restoration opportunities have been identified on Crown land.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a comprehensive federal and provincial regulatory framework with appropriate protocols and experts to identify landscape-level and stand-level biodiversity values. Government agencies, both at the federal and provincial level, are responsible for the process of identification, including the determination of the presence of relevant biodiversity values at the landscape- level or the stand-level. Government agencies provide oversight for the identification determination, as well as appropriate monitoring and/or adaptive management to adjust protocols, listings and/or presence. Government websites and resources include listing, reports, analysis, and spatial information (subject to confidentiality) demonstrating that landscape-level and stand-level biodiversity values such as key species, habitats, ecosystems, and areas of high conservation value are identified. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• SAR Public Registry – SARA listed species, critical habitat &amp; recovery plans</li> <li>• ACCDC Species at Risk and ecosystem lists</li> <li>• National and Provincial Parks boundary maps</li> <li>• Protected areas boundary maps and protection measures</li> <li>• Silvicultural Guide to the Ecological Matrix (SGEM)</li> <li>• Ecological Landscape Analysis</li> <li>• Global Forest Watch Intact Forest Landscape statistics and mapping</li> <li>• Nova Scotia Forest Ecological classification mapping</li> <li>• Field Guide to Biodiversity Stewardship</li> <li>• Old Forest dashboard and mapping</li> <li>• GeoNova map viewer – GIS data, shapefiles and/or maps (static and interactive)</li> </ul>

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<i>Evidence reviewed</i>	<p><u>International</u></p> <ul style="list-style-type: none"><li>• <a href="#">Global Forest Watch</a></li><li>• <a href="#">HCV Resource Network</a></li><li>• <a href="#">HCV Resource Network Common Guidance for the Identification of High Conservation Values.</a></li><li>• <a href="#">Intact Forest Landscapes, map</a></li><li>• <a href="#">IUCN Globally Threatened Ecosystems</a></li><li>• <a href="#">Nature Serve Canada</a></li><li>• <a href="#">NatureServe Conservation Status categories</a></li><li>• <a href="#">Shape of Nature Globally threatened ecosystems</a></li></ul> <p><u>Federal</u></p> <ul style="list-style-type: none"><li>• <a href="#">2020 Wild Species Report</a></li><li>• <a href="#">Canada National Parks Act</a></li><li>• <a href="#">Environment and Climate Change Canada</a></li><li>• <a href="#">Fisheries Act</a></li><li>• <a href="#">Migratory Birds Convention Act</a></li><li>• <a href="#">Species at Risk Act</a></li><li>• <a href="#">Species at Risk Public Registry</a></li></ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"><li>• <a href="#">An Old-Growth Forest Policy for Nova Scotia</a></li><li>• <a href="#">Biodiversity Act Bill4</a></li><li>• <a href="#">Endangered Species Act</a></li><li>• <a href="#">Field Guide to Forest Biodiversity Stewardship</a></li><li>• <a href="#">Forests Act</a></li><li>• <a href="#">Nova Scotia Ecological Classification System 2017</a></li><li>• <a href="#">Nova Scotia Endangered Species Recovery Plans</a></li><li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li><li>• <a href="#">Special Places Protection Act</a></li><li>• <a href="#">Wilderness Areas Protection Act</a></li><li>• <a href="#">Wildlife Habitat and Watercourse Protection Regulation</a></li></ul> <p><u>Other</u></p> <ul style="list-style-type: none"><li>• <a href="#">Atlantic Canada Conservation Data Centre</a></li><li>• <a href="#">East Coast Environmental Law Association. 2021. Protected on Paper Only: An Evaluation of Nova Scotia's Legal Obligations under the Endangered Species</a></li></ul>
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## Annex 1 Detailed findings for Supply Base Evaluation

	<p><a href="#">Act. 2021 Update.</a></p> <ul style="list-style-type: none"> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Noseworthy, Joshua and T. Beckley. 2020. Borealization of the New England-Acadian Forest: A Review of the Evidence. Env. Reviews. 28 5.284:293.</a></li> <li>• <a href="#">Stewart, Bruce J., Peter D. Neily, Eugene J. Quigley, Anthony P. Duke and Lawrence K. Benjamin. 2003. Selected Nova Scotia old-growth forests: Age, ecology, structure, scoring. The Forestry Chronicle. Vol. 79. No.3.</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>2.1.2</b>	<b>Threats to and impacts on the identified key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified and evaluated.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> See Indicator 2.1.1 Key Eco/HCV Identified context for the description of Criterion 2.1 and the two scales of biodiversity values. Indicator 2.1.1 Key Eco/HCV Identified—assesses whether the biodiversity values are identified. Indicator 2.1.1 is assessed at the provincial level. The scope of Indicator 2.1.2 Key Eco/HCV Threats ID &amp; Eval—assesses whether, once identified, appropriate actions are being taken to identify and evaluate threats/impacts that may compromise biodiversity values. Indicator 2.1.2 is assessed at the provincial level. Indicator 2.1.3 – Key Eco/HCV Maintained or Enhanced—assesses whether identified threats/impacts are mitigated, and biodiversity values are maintained or enhanced. Indicator 2.1.3 is assessed at the sub-scope level: Crown licence, industrial private land and private woodlot. Resource-based activities can have a negative impact on functioning ecosystems, species and genetic diversity, and habitat protection. Harvesting disturbance, the direct and indirect effects associated with access, and the loss, fragmentation or degradation of ecosystems and/or habitats can influence the abundance and distribution of biodiversity values.</p> <p><u>Landscape-level Biodiversity Values (Coarse Scale)</u></p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Species at Risk Act (SARA)</li> <li>• Migratory Birds Convention Act</li> <li>• Fisheries Act</li> <li>• Canada National Parks Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Endangered Species Act</li> <li>• Wilderness Areas Protection Act</li> <li>• Special Places Protection Act</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

- Forests Act
- Biodiversity Act
- Provincial Parks Act

### Stand-level Biodiversity Values (Medium/Fine Scale)

#### Federal

- Species at Risk Act (SARA)
- Migratory Birds Convention Act
- Fisheries Act

#### Provincial

- Endangered Species Act
- Wilderness Areas Protection Act
- Special Places Protection Act
- Forests Act
- Wildlife Habitat and Watercourses Protection Regulations
- Biodiversity Act
- Provincial Parks Act

### **Enforcement and monitoring**

#### Landscape-level Biodiversity Values (Coarse Scale)

At the federal level, the Species at Risk Act (SARA) enables the federal government to identify threats to and impacts on species at risk (SAR) persistence and develop recovery/conservation plans to mitigate threats to species habitat and associated ecosystems.

The federal SARA is jointly implemented through:

- Environment and Climate Change Canada (ECCC) for overall coordination of SARA as well as Migratory Birds Convention Act (MBCA) for migratory bird SAR;
- Fisheries and Oceans Canada (DFO) for aquatic SAR;
- Parks Canada for SAR in national parks and historic sites.

The Committee of the Status of Endangered Wildlife in Canada (COSEWIC), under ECCC, identifies threats and impact evaluations for federal SAR Registry. The processes include threat evaluations for populations and habitats including forest management threats. The MBCA provides legislation that enables assessment and protection of threats to and impacts on the persistence of migratory birds and the bird habitats. The MBCA includes a Schedule 1 list of key species which overlaps with the SAR list. ECCC and the Nova Scotia (NS) Department of Environment and Climate Change (DECC) and Department of Natural Resources and Renewables (DNRR) collaborate under an agreed framework, National Accord for the Protection of Species at Risk (1996), to ensure a coordinated and focused approach to the delivery of species at risk recovery in the province. This framework supports the development and implementation of recovery plans, strategies, and management plans to maintain and enhance federal and provincial listed species and ecosystems. Recovery planning includes threat assessment and identification of critical habitat. At the provincial level, the NS Biodiversity Act and the NS Endangered Species Act enables DNRR to conduct threat and impact evaluation for wide ranging species at risk. The process includes threat evaluations for populations and habitats and to prepare and implement recovery plans

## Annex 1 Detailed findings for Supply Base Evaluation

The Atlantic Canada Conservation Data Centre (ACDC) provides DNRR with all known georeferenced locations for SARA species and the ACDC data are used for conservation planning by DNRR. National parks, provincial parks and protected areas in NS are selected to conserve large landscapes. This process evaluates landscapes for concentrations of unique ecological features and rare/charismatic ecosystems that may be threatened by urban and resource development.

DNRR conducts Ecological Landscape Analyses and evaluates threats to landscape level ecosystems using change detection and a 2007 reference year. Global Forest Watch provides evaluation of change detection over time and an assessment of fragmentation threats of Intact Forest Landscapes.

### Stand-level Biodiversity Values (Medium/Fine Scale)

Much of the federal and provincial legislation and implementation mechanisms described in landscape-level biodiversity values above are applicable for the evaluation of threats and impacts of stand-level biodiversity values. At the provincial level, threat/impact evaluation on for species at risk with small home ranges and rare, threatened and endangered (RTE) ecosystem is through the ACDC listing processes and the DNRR recovery planning process. The processes include threat evaluations for populations and habitats including forest management threats. Threats to key habitat attributes have been evaluated by DNRR. Requirements to mitigate the threats are provided in the Nova Scotia Silvicultural Guide to the Ecological Matrix (SGEM), specifically Appendix 1. This appendix outlines the data requirements for the Pre-Treatment Assessments and biodiversity values. Threats to old forests have been evaluated by DNRR. Requirements to mitigate the threats are provided in the implementation of the Old Growth Forest Policy for Nova Scotia. Threats to old forests are assessed in the designation of forests protected under the Policy.

Much of the listed federal and provincial oversight is applicable for both landscape-level and stand-level biodiversity values. At the federal level, COSEWIC oversees SARA species, critical habitats and updates SARA listings annually. DFO oversees the Fisheries Act, ECCC oversees the MBCA, and Parks Canada oversees the Canada National Parks Act. At the provincial level, DNRR oversees species at risk including the Federal SARA, and NS Endangered Species Act. ACDC oversees the RTE ecosystems. ACDC is a jointly funded registry for all Atlantic provinces. DECC conservation lands, key ecosystems and nature reserves under the Wilderness Areas Protection Act and Special Places Protection Act. DNRR under the Forests Act and Biodiversity Act oversees forest planning and practices related to threats to biodiversity values. Global Forest Watch is responsible for oversight on the evaluation of threats and impacts to Intact Forest Landscapes. Threats to and impact on biodiversity values include the loss, fragmentation or degradation of ecosystems and/or habitats.

### Landscape-level Biodiversity Values (Coarse Scale)

ECCC SAR Registry provide listed species descriptions that include threat evaluations along with species distribution, biology, population size, and protection requirements for species at risk. COSEWIC produces species assessments with evaluations of threats to persistence for consideration in SAR ranking decisions.

ECCC MBCA Schedule 1 identifies migratory birds with threats to species persistence. The threats for listed birds, eggs, and nests and avoidance are detailed in the MBCA. The Canadian Wildlife Service, a branch of ECCC, provides guidelines, best management practices, and enforcement to address identified threats to nesting birds and eggs. Federal SAR and provincial ACDC listed species recovery plans identify critical habitat for inclusion in threat evaluations. DNRR maintains a list of species at risk. An Independent Evaluation of Implementation of the Forest Practices Report for Nova Scotia (2018) by Lahey in 2021 concluded the NS Endangered Species Act has not been fully implemented. Recovery plans with critical habitat identification have not been completed for all species. In NS, there is one wide ranging species at risk identified, Mainland Moose. The recovery and action plans assess the complex threats to persistence and provide BMPs for forest management. National parks, provincial parks and protected areas in NS are selected to conserve large landscapes that include unique ecosystems that may be threatened by urban and resource development. At the provincial level, Ecological Landscape Analysis (2023) have been completed and evaluate ecodistricts for extent of protected areas, Old Growth policy areas, land use pressure and forest age class distribution as measures for threat evaluation over the landscape.

Global Forest Watch's current report (2022) indicates there are no areas that meet the 50,000 ha threshold for Intact Forest Landscapes in NS.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p><u>Stand-level Biodiversity Values (Medium/Fine Scale)</u></p> <p>Some of the above discussed results in landscape-level biodiversity values are applicable to stand-level biodiversity values threats evaluation. ACCDC process for listing species at risk in NS, includes threat evaluations. The East Coast Environmental Law Report (2021) indicated that not all the required threat evaluations had been completed. The Lahey Report (2021) also confirmed that progress on implementation of the Endangered Species Act was limited. The current list indicates some species either have insufficient threat evaluation to develop a recovery plan or identify critical habitat. The ACCDC list of RTE ecosystems and threat evaluations for NS is under review, to be submitted February 2024. ACCDC website includes over one million georeferenced records of observations of SAR in the Atlantic provinces. SAR location submissions are voluntary. Threats to key <u>habitat attributes</u> evaluated by DNRR are identified in the SGEM. The SGEM identified 15 key habitat attributes to be retained and approximate natural disturbance legacies. These attributes are evaluated in the pre-treatment assessment data collection prior to approval to harvest. The SGEM also identifies six sensitive forest groups that are threatened by harvesting and prescribed to be retained intact. Old growth is mapped for Crown land and periodic assessment of implementation of the old growth policy provides an evaluation of threats to old growth forests.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a comprehensive federal and provincial regulatory framework with appropriate protocols and experts to identify and evaluate threats to and impacts on landscape-level and stand-level biodiversity values. Government agencies, both at the federal and provincial level, are responsible for the process of threats/impact evaluation and subsequent reporting for identified biodiversity values. Government agencies provide oversight for the threats/impact evaluation process, as well as appropriate monitoring and/or adaptive management to adjust threats/impact evaluations or resulting mitigation measures. Government websites and resources include listing, reports, analysis, recovery plans and spatial information (subject to confidentiality) demonstrating that landscape-level and stand-level biodiversity values such as key species, habitats, ecosystems, and areas of high conservation value have been evaluated or are in the process of being evaluated for threats to and impacts on identified biodiversity values. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• SAR Public Registry – SARA listed species, critical habitat &amp; recovery plans</li> <li>• ACCDC Species at Risk and ecosystem lists</li> <li>• National and Provincial Parks boundary maps</li> <li>• Protected areas boundary maps and protection measures</li> <li>• Silvicultural Guide to the Ecological Matrix (SGEM)</li> <li>• Ecological Landscape Analysis</li> <li>• Global Forest Watch Intact Forest Landscape statistics and mapping</li> <li>• Nova Scotia Forest Ecological classification mapping</li> <li>• Field Guide to Biodiversity Stewardship</li> <li>• Old Forest dashboard and mapping</li> <li>• GeoNova map viewer – GIS data, shapefiles and/or maps (static and interactive)</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Global Forest Watch</a></li> <li>• <a href="#">HCV Resource Network</a></li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

- [HCV Resource Network Common Guidance for the Identification of High Conservation Values.](#)
- [Intact Forest Landscapes, map](#)
- [IUCN Globally Threatened Ecosystems](#)
- [Nature Serve Canada](#)
- [NatureServe Conservation Status categories](#)
- [Shape of Nature Globally threatened ecosystems](#)

### Federal

- [2020 Wild Species Report](#)
- [Canada National Parks Act](#)
- [Environment and Climate Change Canada](#)
- [Fisheries Act](#)
- [Migratory Birds Convention Act](#)
- [Species at Risk Act](#)
- [Species at Risk Public Registry](#)

### Provincial

- [An Old-Growth Forest Policy for Nova Scotia](#)
- [Biodiversity Act Bill4](#)
- [Endangered Species Act](#)
- [Field Guide to Forest Biodiversity Stewardship](#)
- [Forests Act](#)
- [Nova Scotia Ecological Classification System 2017](#)
- [Nova Scotia Endangered Species Recovery Plans](#)
- [Nova Scotia Silvicultural Guide for the Ecological Matrix](#)
- [Special Places Protection Act](#)
- [Wilderness Areas Protection Act](#)
- [Wildlife Habitat and Watercourse Protection Regulation](#)

### Other

- [Atlantic Canada Conservation Data Centre](#)
- [East Coast Environmental Law Association. 2021. Protected on Paper Only: An Evaluation of Nova Scotia's Legal Obligations under the Endangered Species Act. 2021 Update.](#)
- [Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia](#)
- [Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia](#)
- [Noseworthy, Joshua and T. Beckley. 2020. Borealization of the New England-Acadian Forest: A Review of the Evidence. Env. Reviews. 28 5.284:293.](#)

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• <a href="#">Stewart, Bruce J., Peter D. Neily, Eugene J. Quigley, Anthony P. Duke and Lawrence K. Benjamin. 2003. Selected Nova Scotia old-growth forests: Age, ecology, structure, scoring. The Forestry Chronicle. Vol. 79. No.3.</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>2.1.3</b>	<b>Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be maintained or enhanced.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b> See Indicator 2.1.1 context for the description of Criterion 2.1 and the two scales of biodiversity values. Indicator 2.1.1 Key Eco/HCV Identified—assesses whether the biodiversity values are identified/present. Indicator 2.1.1 is assessed at the provincial level and is required to implement Indicator 2.1.2 and 2.1.3. Indicator 2.1.2 Key Eco/HCV Threats ID &amp; Eval—assesses whether, once identified, appropriate actions are being taken to identify and evaluate threats/impacts that may compromise biodiversity values. Indicator 2.1.2 is assessed at the provincial level and is required to implement Indicator 2.1.3. The scope of Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced— assesses whether identified threats/impacts are mitigated, and biodiversity values are maintained or enhanced. Applying the results of Indicator 2.1.1 and 2.1.2, this Indicator is assessed at the operational (i.e. sub-scope) level: Crown licence, industrial private land and private woodlots. Resource-based activities can have a negative impact on functioning ecosystems, species and genetic diversity, and habitat protection. Harvesting disturbance, the direct and indirect effects associated with access, and the loss, fragmentation or degradation of ecosystems and/or habitats can influence the abundance and distribution of biodiversity values.</p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Species at Risk Act (SARA)</li> <li>• Migratory Birds Convention Act</li> <li>• Fisheries Act</li> <li>• Canada National Parks Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Endangered Species Act</li> <li>• Wilderness Areas Protection Act</li> <li>• Special Places Protection Act</li> <li>• Forests Act</li> <li>• Wildlife Habitat and Watercourses Protection Regulations</li> <li>• Biodiversity Act</li> </ul>

- Provincial Parks Act

### **Enforcement and monitoring**

#### Provincial

Protection of large landscapes at the provincial level by the government of Nova Scotia (NS) allow for the maintenance and enhancement of both landscape-level and stand-level biodiversity values within those protected areas. Protected areas, that include large landscapes, are spatially defined and excluded from Crown licence, industrial private land and private woodlots management units. Intact Forest Landscapes, as per Global Forest Watch's 50,000 ha threshold do not exist in Nova Scotia. This requirement is not applicable and not further evaluated.

#### Crown Licence

The Department of Natural Resources and Renewables (DNRR) has authority to administer the Crown Lands Act, the Forests Act, and the Biodiversity Act which provides the regulatory framework for conserving biological diversity values on Crown lands. The Wildlife Habitat and Watercourses Protection Regulations define protection requirements of watercourses and wetlands through special management zones or buffers for forest management activities in NS. Crown licensees' Forest Management Plans (FMPs) and Annual Operating Plans (AOPs) are the implementation mechanism of current legislation related to conserving biodiversity values. Nova Scotia Code of Forest Practice provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code provides forest management landscape-level and stand-level practices for ecosystem-based management. Included are the use of Ecological Landscape Analysis and key stand level attributes to maintain stand complexity. The Code is mandatory on crown licence in NS. The Silvicultural Guide to the Ecological Matrix (SGEM) and A Field Guide to Biodiversity Stewardship identify important habitat and ecosystems for biodiversity conservation inclusion in forest management planning. The SGEM highlights implementation in FMPs of six forest groups that are found in sensitive ecosystems and are known for high biodiversity value and SAR requirements. The Old Growth Forest Policy for Nova Scotia provides for the maintenance and enhancement of old growth forests through protection of old growth forest seral stages and restoration opportunities in mature forest ecosystems. The Old Growth Forest Policy for Nova Scotia provides protection of 100% of old growth on Crown licence.

The FMPs components related to maintenance and enhancement of identified biodiversity values include:

- Where wide-ranging and local range species at risk with recovery plans exist on the licenced area, critical habitat is identified and recovery plan action requirements implemented against threats;
- Where MBCA Schedule 1 species exist on the licenced area, ensure no harvest practices harm birds, habitat, or eggs and nests;
- Atlantic Canada Conservation Data Centre (ACDC) rare, threatened and endangered (RTE) ecosystems are identified and mapped for each Eco- district in the Ecological Landscape Analysis Reports;
- SGEM provides prescriptions for protection of Sensitive Forest Groups including rare species. RTE ecosystems are not included in FMPs;
- Decision keys are provided by Forest Groups and ecosite for stand level treatment with retention or creation of key habitat attribute that will restore Acadian Forest to late successional conditions;
- Old Growth Policy protects all existing old growth on Crown land and uses legally protected and policy protection areas to achieve targets of a minimum of 8% of each Eco-district in protection;

Crown licensees develop proposed harvest areas and prescriptions based on Pre-Treatment Assessment and the SGEM, subject to requirements for operating on Crown licence. The Pre-Treatment Assessment is an analysis of data collected on-site by a forest professional trained and certified to carry out Pre-Treatment Assessments.

#### Industrial Private Land and Private Woodlots

## Annex 1 Detailed findings for Supply Base Evaluation

As of March 2024, there is no publicly available information describing the implementation mechanisms for managing the suite of landscape-level and stand-level biodiversity values applicable on industrial private land and private woodlots.

### Federal

Committee of the Status of Endangered Wildlife in Canada oversees SARA species, critical habitats and updates SARA listings annually. Fisheries and Oceans Canada oversees the Fisheries Act, Environment and Climate Change Canada oversees the MBCA, and Parks Canada oversees the National Parks Act. The ACCDC has oversight on identification, ranking, and listing of ecosystems in Atlantic provinces.

### Provincial

DNRR manages SAR listing with status categories and is responsible for administration and enforcement of the NS Endangered Species Act. DNRR monitors and enforces the Wildlife Habitat and Watercourses Protection Regulations.

### Crown Licence

DNRR provides oversight for old growth mapping and the publicly available old growth dashboard mapping tool for Crown licence. DNRR provides oversight of the Ecological Landscape Analysis reports and mapping. DNRR reviews and approves Crown licensees' FMPs and AOPs. DNRR reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various biodiversity values during the Integrated Resource Management process, such as adjacency to protected areas, species at risk recovery plans, bird/wildlife habitat and special management practices, as well as consistency with the SGEM and Old Growth Policy. Following the Integrated Resource Management process, every proposed harvest plan on Crown licence is posted on the Harvest Map Plan Viewer, that allows public comments on harvest plans. Crown licensees are notified if the proposed harvest plans are approved or if changes are required following the Harvest Map Plan Viewer process and evaluation by DNRR. DNRR monitors biodiversity values through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. Pre-Treatment Assessments are reviewed by DNRR and a list of harvest blocks will require a site visit. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.

### Industrial Private Land and Private Woodlots

Owners of industrial private land and private woodlots are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight and/or monitoring framework for landscape-level and stand-level biodiversity values on industrial private land and private woodlots.

### Other

Global Forest Watch is responsible for the oversight of Intact Forest Landscapes.

### Provincial

An Independent Evaluation of Implementation of the Forest Practices Report for Nova Scotia (2018) by Lahey in 2021 concluded the NS Endangered Species Act has not been fully implemented. Protection of large landscapes at the provincial level by the Government of Nova Scotia allow for the maintenance and enhancement of biodiversity values at both landscape-level and stand-level. Protected areas, that include large landscapes, are spatially defined and excluded from Crown licence, industrial private land and private woodlots management units. Intact Forest Landscapes, as per Global Forest Watch's 50,000 ha threshold do not exist in Nova Scotia.

### Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

Mainland moose is a wide ranging species at risk identified in NS. A recovery plan with critical habitat has been developed. Crown licensees' FMPs identified and addressed the recovery plan. The NS Ecological Landscape Analysis reports, identify and assesses landscape level ecosystems within all ecodistricts. The Ecological Landscape Analysis reports provide a detailed assessment of the occurrence of landscape level ecosystems along with detailed ecosite description and mapping of listed/ rare ecosites within landscape elements. RTE ecosystems are listed with ACCDC but not specifically addressed in Crown licensees' FMPs. The SGEM evaluate threats from forest management to biodiversity and have identified 15 key habitat attributes to be retained and approximate natural disturbance legacies. These attributes are evaluated in the pre-treatment assessment data collection prior to approval to harvest. The SGEM also identifies six sensitive forest groups that are threatened by harvesting and prescribed to be retained intact. SGEM identifies these as having high biodiversity value, fragile habitat and presence of species at risk. Use of the SGEM is a DNRR requirement for approval of the FMP. The NS Old Growth Policy protects all existing old growth forests on Crown land and uses legally protected and policy protection areas to achieve targets of a minimum of 8% of each Ecodistrict in protection. DNRR's approval of Crown licensees' harvest plans through the Integrated Resource Management and Harvest Map Plan Viewer processes verify legal conformance of planning requirements for maintenance of biodiversity values. Reviewed DNRR FOMP data from 2017 – 2023 showed a high percentage of inspections completed for blocks harvested (> 89% on average) and roads built (> 78% on average). These inspections would assess conformance with the implementation of approved harvest plans. These inspections identify limited non-conformances, however the actual non-conformance was not identified.

### Industrial Private Land and Private Woodlots

As of March 2024, there are no publicly available results to verify the current condition of the maintenance of landscape-level and stand-level biodiversity values on industrial private land and private woodlots.

### **Risk conclusion and justification**

#### Provincial

Biodiversity is a complex issue; it contains elements both at the landscape- level and stand-level, and sufficiency of maintenance or enhancement is difficult to evaluate within a risk assessment process. Indicator 2.1.3 Eco/HCV Maintained or Enhanced is focused on how effectively threats to key species, habitats, ecosystems and areas of high conservation value are mitigated to maintain or enhance biodiversity values. In most cases, mitigation results from some level of protection or permanence of sustenance. The federal and provincial regulatory framework governing the management and maintenance of biodiversity values is extensive. Legislative requirements, controls and guidance are in place to provide protection and/or allow the implementation of practices that maintain or enhance both landscape-level and stand-level biodiversity values. It should be noted that this risk assessment does not evaluate the sufficiency of the regulatory framework but evaluates its implementation for the elements of biodiversity values that are in place (See Indicator 2.1.1 Key Eco/HCV Identified Context section for details.)

#### Crown Licence

The Crown licensees' FMP, and subsequent operational plans are the primary implementation mechanism of legislation related the management and maintenance of biodiversity values. Government programs provide oversight and monitor regulatory planning and practices for biodiversity values. There is no indication of widespread or systemic legal non-compliance. However, government oversight is focused on legal compliance with legislation for biodiversity values but not on sufficiency relative to the maintenance and enhancement of biodiversity values. This reinforces uncertainty with respect to sufficiency/uniformity of implementation across diverse Crown licences.

The Nova Scotia government and other organisations have, and continue to, assess the maintenance and enhancement of landscape-level and stand-level biodiversity values. There are many assessments and reports covering different spatial and temporal scales. The results of this data, assessments, and reports are wide and varied, making it difficult to provide a definitive conclusion. Based on the extensive results, this risk assessment is unable to draw a sufficiency conclusion on the maintenance or enhancement

## Annex 1 Detailed findings for Supply Base Evaluation

of specific biodiversity values. This risk assessment does identify areas of uncertainty. In the evaluation of Crown land, the most evident areas of uncertainty for the maintenance of biodiversity values are related the following:

- SAR recovery plans and critical habitat for identified species-at-risk are at various stages of completion; and
- RTE ecosystems are not recognised at the stand level.

Based on evidence reviewed and applying the precautionary approach, this Indicator is designated as specified risk for Crown licences in Nova Scotia.

### Industrial Private Land and Private Woodlots

There is an extensive federal and provincial regulatory framework governing biodiversity values. On industrial private land and private woodlots, due to a lack of evidence to support implementation mechanisms, a monitoring framework and/or results of current condition of the maintenance of landscape- level and stand-level biodiversity values, and a precautionary approach is applied. As such, this Indicator is designated as specified risk (S) for industrial private land and private woodlots in Nova Scotia, low risk elsewhere (L).

Biodiversity Values – Maintained / Enhanced		Crown Licence	Industrial Land	Private	Private Woodlots
Landscape Level	SAR – wide- ranging / regionally significant	S	S		S
	Large landscape	L	L		L
	Intact Forest Landscapes	N/A	N/A		N/A
Stand Level	SAR – local / endemic	S	S		S
	RTE Ecosystems	S	S		S
	Key Habitat Attributes & Old Forests	L	L		L

### *Means of verification*

- SAR Public Registry – SARA listed species, critical habitat & recovery plans
- ACCDC Species at Risk and ecosystem lists
- National and Provincial Parks boundary maps
- Protected areas boundary maps and protection measures
- Silvicultural Guide to the Ecological Matrix (SGEM)
- Ecological Landscape Analysis (ELA)
- Global Forest Watch Intact Forest Landscape statistics and mapping
- Nova Scotia Forest Ecological classification mapping
- Field Guide to Biodiversity Stewardship
- Old Forest dashboard and mapping
- GeoNova map viewer – GIS data, shapefiles and/or maps (static and interactive)

### *Evidence reviewed*

International

## Annex 1 Detailed findings for Supply Base Evaluation

- [Global Forest Watch](#)
- [HCV Resource Network](#)
- [HCV Resource Network Common Guidance for the Identification of High Conservation Values.](#)
- [Intact Forest Landscapes, map](#)
- [IUCN Globally Threatened Ecosystems](#)
- [Nature Serve Canada](#)
- [NatureServe Conservation Status categories](#)
- [Shape of Nature Globally threatened ecosystems](#)

### Federal

- [2020 Wild Species Report](#)
- [Canada National Parks Act](#)
- [Environment and Climate Change Canada](#)
- [Fisheries Act](#)
- [Migratory Birds Convention Act](#)
- [Species at Risk Act](#)
- [Species at Risk Public Registry](#)

### Provincial

- [An Old-Growth Forest Policy for Nova Scotia](#)
- [Biodiversity Act Bill4](#)
- [Endangered Species Act](#)
- [Field Guide to Forest Biodiversity Stewardship](#)
- [Forests Act](#)
- [Nova Scotia Ecological Classification System 2017](#)
- [Nova Scotia Endangered Species Recovery Plans](#)
- [Nova Scotia Silvicultural Guide for the Ecological Matrix](#)
- [Special Places Protection Act](#)
- [Wilderness Areas Protection Act](#)
- [Wildlife Habitat and Watercourse Protection Regulation](#)

### Other

- [Atlantic Canada Conservation Data Centre](#)
- [East Coast Environmental Law Association. 2021. Protected on Paper Only: An Evaluation of Nova Scotia's Legal Obligations under the Endangered Species Act. 2021 Update.](#)

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Noseworthy, Joshua and T. Beckley. 2020. Borealization of the New England-Acadian Forest: A Review of the Evidence. Env. Reviews. 28 5.284:293.</a></li> <li>• <a href="#">Stewart, Bruce J., Peter D. Neily, Eugene J. Quigley, Anthony P. Duke and Lawrence K. Benjamin. 2003. Selected Nova Scotia old-growth forests: Age, ecology, structure, scoring. The Forestry Chronicle. Vol. 79. No.3.</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Specified risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Specified risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

### Criterion 2.2 – Ecosystem productivity, functions, and services are maintained or enhanced

<b>2.2.1</b>	<b>Feedstock shall not be sourced from land that had one of the following statuses in January 2008 and no longer has that status due to land conversion: a. Forests; b. Wetlands; c. Peatlands; d. Highly biodiverse grasslands</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b> The Sustainable Biomass Program (SBP) glossary defines:</p> <ul style="list-style-type: none"> <li>• Conversion as “the process of changing or causing something to change from one form to another form.”</li> <li>• Deforestation as “the conversion of forest to another land use or the long- term reduction of tree canopy cover below the 10% threshold.”</li> <li>• Afforestation as “the conversion from other land uses into forest, or the increase of the canopy cover to above the 10% threshold.”</li> </ul> <p>The focus of evaluation for this Indicator is on land classified as forest. The SBP glossary defines forest as “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.” Deforestation encompasses permanent conversion of forest to non-forest as a result of any anthropogenic-caused change in land use. Therefore, timber harvesting followed by re-establishment of forest tree cover is not deforestation. In Canada, the industrial groups contributing to deforestation include agriculture, built-up, forestry roads, hydro &amp; hydro lines, mines, oil &amp; gas, and transportation. The forestry industrial group has forest management type tenures. The other industry sectors (i.e., agriculture, built-up, hydro &amp; hydro lines, mines, oil &amp; gas, and transportation), do not have forest management tenures.</p> <p>Wetlands, peatlands, and grasslands ecosystems are not included in the evaluation of this Indicator because:</p> <ul style="list-style-type: none"> <li>• Wetlands, peatlands, and grasslands within forested ecosystems are excluded from the timber harvesting land base and subsequently not harvested.</li> <li>• Afforestation of wetlands, peatlands, and grasslands does not occur.</li> <li>• Wetlands, peatlands, and grasslands ecosystems are unique habitats that have been identified as having relatively high carbon stocks. The carbon and climate</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

impacts of land use change are described in the Indicators in Principle 3 – Feedstock is Only Sourced From Supply Basis Where the Forest Carbon Stock is Stable or Increasing Long Term.

Details on the management of wetlands and peatlands ecosystems are provided in Indicator 2.2.5 Water Quality/Quantify Maintained or Enhanced.

Negative impacts of conversion include deforestation, fragmentation, altered or degraded habitat and ecosystems, reduced productive forest areas, and increased carbon emissions.

### Crown Licence

- Crown Lands Act
- Forests Act

### Industrial Private Land and Private Woodlots

There is no regulatory framework to prevent conversion of forests on industrial private land or private woodlots.

### **Enforcement and monitoring**

#### Federal

The National Deforestation Monitoring System report areas affected by deforestation annually. The System was developed to fulfil Canada’s obligation under the United Nations Framework Convention on Climate Change. The System monitors deforestation activities using a sample of spatial cells to estimate areas of deforestation and then scale to national level. Satellite-based monitoring systems distinguish deforestation from other types of temporary forest cover loss (i.e., forest harvest, wildfires, insect damage). Deforestation estimates are attributed to specific industrial groups including agriculture, built-up, forestry roads, hydro & hydro lines, mines, oil & gas, and transportation. Deforestation in the forestry roads industrial group category is specific to new permanent forestry roads and any other large permanent clearings.

#### Crown Licence

The Crown Lands Act administered by the Nova Scotia (NS) Department of Natural Resources and Renewables (DNRR) requires all Crown licensees with forest management tenures to reforest following harvesting. Reforestation obligations are detailed in the Nova Scotia Silviculture Guide for the Ecological Matrix (SGEM). Nova Scotia’s Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code stipulates minimisation of forest conversion. The Code is mandatory on Crown licence in NS. Under the Crown Lands Act, Crown licensees are allowed to convert forest to non-forest during the construction of permanent roads, landings, and infrastructure required for operations. The Code details requirements. FMPs detail Crown licensees practices. On Crown land for the industry sectors that do not have forest management type tenures (i.e., agriculture, built-up, hydro & hydro lines, mines, oil & gas, and transportation), there is applicable legislation that does not restrict conversion. There are multiple government departments responsible for reviewing and approving projects, and variable permit-specific revegetation obligations. Land-use altering permits are for agriculture, built-up, hydro & hydro lines, mines, oil & gas, and transportation industry sectors. Once the land-use altering permits have expired, reclamation, remediation, or restoration requirements may be a condition of the permitted area to be released from the permit holder. As of March 2024, there is no publicly available information describing implementation mechanisms that prevents the conversion of forests for sectors operating on Crown land that do not have forest management type tenures.

#### Industrial Private Land and Private Woodlots

As of March 2024, there is no publicly available information describing implementation mechanisms that prevents the conversion of forests on industrial private land and private woodlots. Conversion is implemented at the landowner’s discretion.

#### Federal

## Annex 1 Detailed findings for Supply Base Evaluation

Deforestation is monitored by the federal government as part of Canada's national reporting on greenhouse gas (GHG) emissions. Natural Resources Canada is responsible for monitoring and reporting deforestation. Since 1990, the National Deforestation Monitoring System tracks deforestation area by industrial sector across Canada annually.

### Crown Licence

DNRR is responsible for the oversight of reforestation obligations of Crown licensees. Performance of licensees is assessed through DNRR's Forest Operations Monitoring Program (FOMP). FOMP results are compiled annually and DNRR verifies compliance levels. If a non-compliance is found during field checks, a corrective action plan is required. As of March 2024, there is no publicly available information describing an oversight framework that prevents the conversion of forests on Crown land utilised by non-forest management industry sectors.

### Industrial Private Land and Private Woodlots

As of March 2024, there is no publicly available information describing an oversight or monitoring framework that prevents the conversion of forests on industrial private land and private woodlots. Owners are responsible for the oversight of operations.

### Federal

The Government of Canada reports deforestation in the State of Canada's Forests Annual Reports, deforestation statistics to the United Nations Food and Agriculture Organization's Global Forest Resources Assessments, and provides annual estimates of GHG emissions from deforestation in Canada's National Inventory Report: Greenhouse Gas Sources and Sinks in Canada. The State of Canada's Forest Annual Report 2023, states Canada has contributed 0.37% of the total global deforestation that has occurred since 1990. Canada has 9% of global forests. The annual rate of deforestation in Canada is 0.01% of its forest area. Deforestation was responsible for approximately 2% of Canada's national annual carbon dioxide emissions in 2020. The Annual Report 2023 reports in 2021, 50,518 ha were attributed to deforestation in Canada. Agriculture made up 22,378 ha (44.2%), mining and oil & gas 15,147 ha (30.0%), built-up 9,629 ha (19.1%), hydroelectric 2,273 ha (4.5%), and forestry (specific to new permanent forestry access roads and any other large permanent clearings) 1,092 ha (2.2%). Forest-area change numbers were not broken down by province.

### Crown Licence

Crown licensees have reforestation obligations. Results are verified by DNRR and tracked by FOMP (see results from Indicator 2.2.10 Regen After Harvest). Crown licensees track forest land converted as a result of the construction of permanent roads, landings, and infrastructure. As of March 2024, there are no publicly available results to verify the current condition of deforestation specific to non-forest management industry sectors.

### Industrial Private Land and Private Woodlots

As of March 2024, there are no publicly available results to verify the current condition of deforestation on industrial private land and private woodlots.

### **Risk conclusion and justification**

Data shows Canada's annual rate of deforestation is low and Canada has contributed a fraction of a per cent to global deforestation since 1990. National data also shows that non-forest industry sectors (i.e., agriculture, built-up, hydro & hydro lines, mines, oil & gas, and transportation) are the economic drivers of deforestation and ultimately land conversion. Although the deforestation rate is low, this Indicator is to evaluate the risk of land conversion, not the rate.

### Crown Licence

On Crown land for licensees with forest management tenures, there is a comprehensive regulatory framework governing reforestation requirements and limited conversion to non-forest use. Government programs monitor regeneration. FOMP inspection results verify compliance with reforestation requirements. On Crown land for the industry sectors that do not have forest management type tenures, legislation does not restrict land conversion. Due to a lack of evidence to support implementation mechanisms, a

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>monitoring framework, and/or results of current condition of deforestation, a precautionary approach is applied. As such, this Indicator is designated as specified risk for Crown land in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework, and results of current condition of deforestation, a precautionary approach is applied. As such, this Indicator is designated as specified risk on industrial private land and private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Forest management plans</li> <li>● Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>● Chain of custody procedures, including fibre tracking</li> <li>● Fibre procurement policy &amp; procedures</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Oversight agency database records and/or reports</li> <li>● Deforestation/conversion assessments, applicable to the supply base area</li> <li>● Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>● Supplier verification program</li> <li>● Interviews with regulatory/oversight agency</li> <li>● Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>● <a href="#">National Deforestation Monitoring System</a></li> <li>● <a href="#">The State of Canada's Forests Annual Report (2023)</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>● <a href="#">Crown Lands Act</a></li> <li>● <a href="#">Forests Act</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Specified risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Specified risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>2.2.2</b>	<b>Ecosystems, their health, vitality, functions and services in the Supply Base shall be maintained or enhanced.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence</p>						

## Annex 1 Detailed findings for Supply Base Evaluation

Industrial Private Land  
Private Woodlots

### Analysis

The assessment of this Indicator focuses on the maintenance of healthy and vital ecosystem functions and services. To maintain health and vital, ecosystems must maintain functions and services. Functions and services have been evaluated more specifically in other Criterion 2.2 Indicators, including:

#### Maintaining productivity:

- Indicator 2.2.4 – Residue Removal Minimises Neg Impact to Ecosystem
- Indicator 2.2.9 – Long-term Production Capacity
- Indicator 2.2.10 – Regen After Harvest

#### Maintaining soil productivity:

- Indicator 2.2.3 – Soil Quality Maintained or Enhanced

#### Maintaining water quality and quantity:

- Indicator 2.2.5 – Water Quality/Quantity Maintained or Enhanced

#### Managing natural disturbances:

- Indicator 2.2.11 – Natural Processes are Managed

Management that impedes, alters, or disrupts ecological functions reduces the ability of forests to sustain healthy and vital ecological services. Consequently, ecosystems are more susceptible to degradation and irreversible losses or damage.

See Indicators:

- Indicator 2.2.3 – Soil Quality Maintained or Enhanced;
- Indicator 2.2.4 – Residue Removal Minimises Neg Impact to Ecosystem;
- Indicator 2.2.5 – Water Quality/Quantity Maintained or Enhanced;
- Indicator 2.2.9 – Long-term Production Capacity;
- Indicator 2.2.10 – Regen After Harvest;
- Indicator 2.2.11 – Natural Processes are Managed.

### Enforcement and monitoring

See Indicators:

- Indicator 2.2.3 – Soil Quality Maintained or Enhanced;
- Indicator 2.2.4 – Residue Removal Minimises Neg Impact to Ecosystem;
- Indicator 2.2.5 – Water Quality/Quantity Maintained or Enhanced;
- Indicator 2.2.9 – Long-term Production Capacity;
- Indicator 2.2.10 – Regen After Harvest;
- Indicator 2.2.11 – Natural Processes are Managed.

See Indicators:

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• Indicator 2.2.3 – Soil Quality Maintained or Enhanced;</li> <li>• Indicator 2.2.4 – Residue Removal Minimises Neg Impact to Ecosystem;</li> <li>• Indicator 2.2.5 – Water Quality/Quantity Maintained or Enhanced;</li> <li>• Indicator 2.2.9 – Long-term Production Capacity;</li> <li>• Indicator 2.2.10 – Regen After Harvest;</li> <li>• Indicator 2.2.11 – Natural Processes are Managed.</li> </ul> <p><b>Risk conclusion and justification</b></p> <p>All six Indicators which detail the functions and services that must be maintained to have a healthy and vital ecosystem (2.2.3, 2.2.4, 2.2.5, 2.2.9, 2.2.10, 2.2.11) have low risk designations for Crown licence in Nova Scotia. As such, this Indicator also has a low risk designation for Crown licence in Nova Scotia. Two of the six Indicators which detail the functions and services that must be maintained to have a healthy and vital ecosystem, (2.2.3 – Soil Quality Maintained or Enhanced and 2.2.5 Water Quality/Quantity Maintained) have a specified risk designation for industrial private land and private woodlots in Nova Scotia. As such, this Indicator also has a specified risk designation for industrial private land and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p>See Indicators:</p> <ul style="list-style-type: none"> <li>• Indicator 2.2.3 – Soil Quality Maintained or Enhanced;</li> <li>• Indicator 2.2.4 – Residue Removal Minimises Neg Impact to Ecosystem;</li> <li>• Indicator 2.2.5 – Water Quality/Quantity Maintained or Enhanced;</li> <li>• Indicator 2.2.9 – Long-term Production Capacity;</li> <li>• Indicator 2.2.10 – Regen After Harvest;</li> <li>• Indicator 2.2.11 – Natural Processes are Managed</li> </ul>

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Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>2.2.3</b>	<b>Soil quality in the Supply Base shall be maintained or enhanced.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  In the context of this Indicator, soil quality is equivalent to soil productivity, which is defined as the ability of forest soil to allow forests to grow, produce crops and function with minimal human intervention. This Indicator evaluates soil quality on an individual site level. Cumulative impacts on soil quality on the landscape from harvesting and road construction are beyond the scope of this Indicator. Soil quality as it affects water quality via sedimentation is further discussed in Indicators 2.2.5 (Water Quality/Quantity Maintenance or Enhanced) and 4.2.3 (Basic Needs of Community Maintained or Enhanced). Forest residue and coarse woody debris retention are discussed in Indicator 2.2.4 (Residue Removal Minimises Neg Impact to Ecosystem).  Potential impacts from forest management activities (i.e., harvesting, and roadbuilding) can include on- and off-site negative impacts to soil productivity, hydrology, watersheds, and ecological values. Disturbances such as landslides, erosion and sedimentation can result in public safety and/or infrastructure damage.</p> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Forests Act</li> </ul> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> </ul> <p><b>Enforcement and monitoring</b></p> <p><u>Crown Licence</u>  The Department of Natural Resources and Renewables (DNRR) has authority to administer the Crown Lands Act and Forests Act. The Forest Management Plan (FMP), under the Crown Lands Act, is the primary guide to the implementation mechanism of current legislation related to soil productivity and protection. DNRR is responsible for the development and implementation of FMPs on Crown licence. NS Code of Forest Practice provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code provides forest management landscape and stand level practice guidelines for air, water and soil values. The Code is mandatory on crown licence in NS. The Nova Scotia Silviculture Guide for Ecological Matrix (SGEM) describes soil damage hazards such as rutting and compaction and impacts of forest management on soil productivity and soil health. SGEM uses an ecological classification scheme based on soil nutrient and moisture regimes with silvicultural prescriptions for ecosites related to soil productivity, hazards, and protection.</p> <p><u>Industrial Private Land</u></p>						

## Annex 1 Detailed findings for Supply Base Evaluation

On industrial private land, there are no regulatory requirements to manage or maintain soil quality. As of March 2024, there is no publicly available information describing implementation mechanisms to manage or maintain soil quality.

### Private Woodlots

On private woodlots, there are no regulatory requirements to manage or maintain soil quality. The SGEM guidance is recommended. Private woodlot owners are also encouraged to use best management practices (BMPs). The Nova Scotia Woodlot Owners and Operators Association (NSWOOA) provides guides related to soil compaction and soil conservation from other jurisdictions, as well as links to ecosite soil descriptions, soil type, and ecological landscape analyses which have regional landscape descriptions of soils and ecosites. It is encouraged, but not mandatory, to utilise the SGEM and NSWOOA guidelines. As of March 2024, there is no publicly available information describing implementation mechanisms to manage or maintain soil quality on private woodlots.

### Crown Licence

DNRR reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various forest management values during the Integrated Resource Management process, including soil quality considerations consistent with the SGEM. DNRR monitors soil quality through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.

### Industrial Private Land

On industrial private land, owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework to manage or maintain soil quality on industrial private land.

### Private Woodlots

DNRR is responsible for assisting private woodlot landowners to manage land more effectively by providing professional and technical advice and assistance in the development and implementation of management planning consistent with the SGEM. On private woodlots, owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework to manage or maintain soil quality on private woodlots.

### Crown Licence

DNRR FOMP data verified Crown licensees comply with soil quality requirements.

### Industrial Private Land

As of March 2024, there are no publicly available results to verify the current condition of soil quality on industrial private land.

### Private Woodlots

As of March 2024, there are no publicly available results to verify the current condition of soil quality on private woodlots.

## **Risk conclusion and justification**

### Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>There is a comprehensive regulatory framework governing the management and maintenance of soil quality for Crown licence. Operational guidelines and the FOMP monitor forest management practices on Crown licence. FOMP inspection results verified Crown licensees comply with practice requirements related to soils. As a result, this Indicator is designated as low risk for Crown licence in Nova Scotia.</p> <p><u>Industrial Private Land</u> Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results of current condition of soil quality, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land in Nova Scotia.</p> <p><u>Private Woodlots</u> Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results of current condition of soil quality, a precautionary approach is applied. As such, this Indicator is designated as specified risk for private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Soil assessments, applicable to the supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• DNRR FOMP Inspection Data 2017 - 2023</li> </ul>						
<i>Risk rating</i>	<table border="0"> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

## Annex 1 Detailed findings for Supply Base Evaluation

2.2.4	<p><b>Where the removal of harvest forest residues and / or stumps occurs, this shall not lead to irreversible negative impacts to the ecosystem.</b></p>
Findings	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  Forest harvest residues refer to the fibre left 'in-block' (in the forest) or at roadside after primary harvesting operations have been completed. This fibre includes smaller and poor-quality logs, pieces of logs, branches, and other woody biomass. It has historically been called waste or harvest residue (See Indicator 2.2.9 Long-term Production Capacity). In Nova Scotia (NS) stumps are not removed unless the site is converted to a non-forest use (See Indicator 2.2.1 Conversion – a, b, c, d). In NS, trees are delimited and cut to length in-block. The NS industry does not pile harvest forest residue to be burned or left to decay (See Indicator 2.2.6 Air Emissions Comply with Laws). Harvest residue remaining in-block contributes to woody debris that provides site nutrients and stand-level biodiversity. The Indicators within Criterion 2.2 and Criterion 2.1 discuss other ecological values that may be impacted.  Forest harvest residue removal, if not properly planned and implemented, can harm the ecosystem productivity by reducing nutrient availability and changing the site's characteristics in terms of species and habitats.</p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Forests Act</li> </ul> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>There is no regulatory framework regarding the removal of harvest residues and not negatively impacting the ecosystem on industrial private land and private woodlots.</p> <p><b>Enforcement and monitoring</b></p> <p><u>Crown Licence</u></p> <p>On Crown licence, the NS Department of Natural Resources and Renewables (DNRR) has authority to administer the Forests Act which provides the regulatory framework regarding timber utilisation and harvest residues. The NS Code of Forest Practice has two code principles which provide direction that the harvesting of timber and removal of too much biomass could negatively impact ecosystems by reducing nutrient pools and impairing moisture regimes. The guidelines for stand level and active timber harvesting operations stipulate that that timber harvest and biomass removal from a site must remain below rates that would impair long-term site productivity. The direction provided by the NS Code of Forest Practice is mandatory on Crown licence. The objective to DNRR's Full- and Whole Tree Harvesting Policy on Crown Lands is to prohibit the practice of whole-tree harvesting, where the entire tree (including stem, branches, stump and roots) is moved to a landing or roadside and to prohibit full-tree harvesting, where the entire tree (including stem and branches, but excluding stump and roots) is moved to a landing or roadside) on Crown lands when any form of clearcut prescription is used. Crown licensees implement NS's Code of Forest Practice, which includes a code principle related to forest health and diversity. Stand level guidelines identify stand attributes to be considered when prescribing forest management treatments, which includes downed coarse woody debris. There are no specific requirements on maximum or minimum slash retention. The Nova Scotia Silvicultural Guide to the Ecological Matrix (SGEM) is used by Crown licensees. The SGEM provides guidance on the habitat</p>

## Annex 1 Detailed findings for Supply Base Evaluation

values and soil health benefits of coarse woody material and recommends limiting removal or disposal of slash, particularly of large diameter pieces. The SGEM recommends that DNRR employ the Nutrient Budget Model – Nova Scotia to establish site level, science-based limits on biomass removal to sustain nutrient regimes.

### Industrial Private Land

On industrial private land, there are no utilisation regulatory requirements or defined standards. Utilisation is implemented at the landowner's discretion. As of March 2024, there is no publicly available information describing implementation mechanisms for the removal of harvest residues and not negatively impacting the ecosystem on industrial private land.

### Private Woodlots

On private woodlots, there are no utilisation regulatory requirements or defined standards. Utilisation is implemented at the landowner's discretion. The Nova Forest Alliance Best Management Practices provide guidance on management planning development and include reference to coarse woody debris retention. As of March 2024, there is no publicly available information describing implementation mechanisms for the removal of harvest residues and not negatively impacting the ecosystem on private woodlots.

### Crown Licence

DNRR reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan meets all requirements for operating on Crown lands, including adhering to the Full- and Whole-Tree Harvesting Policy. DNRR monitors the application of the Full- and Whole-Tree Harvesting Policy on Crown Lands through the harvest plan approval process through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk- rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non- conformances to minimise the risk of re-occurrence.

### Industrial Private Land

On industrial private land, landowners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework for harvest residue removal.

### Private Woodlots

On private woodlots, landowners are responsible for the oversight of operations. Nova Forest Alliance Best Management Practices implementation is not monitored. As of March 2024, there is no publicly available information describing an oversight framework for harvest residue removal.

### Crown Licence

As of March 2024, there are no publicly available results from DNRR regarding the current condition of the Full- and Whole-Tree Policy applicable to Crown Licences.

### Industrial Private Land and Private Woodlots

On industrial private land and private woodlots, utilisation is implemented at the landowner's discretion and subject to market conditions for timber merchantability and economic viability for forest harvest residue removal.

### **Risk conclusion and justification**

#### Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>There is a comprehensive regulatory framework that prohibits full-tree and whole- tree harvesting on Crown licences. Operational guidelines and government programs which monitor forest operation practices to address harvest residue utilisation while minimizing negative impacts to the ecosystems are in place. Trees are delimbed and processed in-block, harvest residues are left in the forests. As such, there is no removal of harvest residues to negatively affect the ecosystem. Controls and procedures in place, and there is no indication of systemic non-compliance. Based on evidence reviewed, this Indicator is designated at low risk for Crown licences in Nova Scotia.</p> <p><u>Industrial Private Land, and Private Woodlots</u></p> <p>There is no regulatory requirements regarding the removal of harvest residues on industrial private land and private woodlots. . As such, this Indicator is designated as specified risk for industrial private land and private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Waste &amp; residue assessments, applicable to the supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Full- and Whole-Tree Harvesting Policy on Crown Lands (2021)</a></li> <li>• <a href="#">Nova Forest Alliance Contractors &amp; Operators Best Management Practices Manual, March 2012</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia’s Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a></li> </ul>						
<i>Risk rating</i>	<table border="0"> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

## Annex 1 Detailed findings for Supply Base Evaluation

2.2.5	<p><b>Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.</b></p>
Findings	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  The intent of this Indicator is to maintain or enhance water quality and quantity by managing ecosystem functions and services. Maintenance of drinking water is addressed in Indicator 4.2.3 Basic Needs of Community Maintained or Enhanced. Spills and waste requirements are addressed in Indicator 2.2.8 Waste Disposal. Forest management activities may negatively affect water resources directly and indirectly by changing ecosystem functions and services. Impacts include sedimentation, disturbance of site’s hydrology above and underground, modification of the site’s capacity to control seasonal precipitation fluctuances (i.e., flooding), spawning habitat, hinder fish’s capability to move up or downstream, water temperature, water quality (i.e., turbidity) and/or quantity, and loss of riparian habitat and function.</p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Fisheries Act</li> <li>• Species at Risk Act</li> <li>• Canadian Navigable Waters Act</li> <li>• Canadian Environmental Protection Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Environment Act</li> <li>• Activities Designation Regulation</li> <li>• Forests Act</li> <li>• Wildlife Habitat and Watercourses Protection Regulations</li> <li>• Water Resources Protection Act</li> </ul> <p><b>Enforcement and monitoring</b></p> <p><u>Federal</u>  The federal Fisheries Act, administered through Fisheries and Oceans Canada (DFO), makes it mandatory safe passage for fish is provided on all “fish bearing” watercourses. Safe fish passage is the free movement of fish in and about streams, lakes, and rivers. Unless proven otherwise, all watercourses are to be classified as “fish bearing.” The federal Canadian Navigable Waters Act, administered through DFO, sets the requirements for watercourse crossings. DFO has an approval process and management requirements for projects near water ensuring there are no deleterious impacts associated with the activity while working within or near water courses or water bodies. Environment and Climate Change Canada (ECCC) is responsible for the Species at Risk Act and the Canadian Environmental Protection Act. ECCC implements water quality protection through the Federal Environmental Quality Guidelines. Federal Acts apply to Crown licence, industrial private land, and private woodlots.</p> <p><u>Provincial</u></p>

## Annex 1 Detailed findings for Supply Base Evaluation

In Nova Scotia (NS), the Department of the Environment and Climate Change (DECC) administers the Environment Act which provides the regulatory instrument for water resources and the designation of protected waters. This Act applies to Crown licence, industrial private land, and private woodlots. Under the Environment Act, the NS Watercourse Alterations Standard defines minimum requirements that apply to watercourse alteration activities where notification is required to be provided as per the Activities Designation Regulation. Alteration of watercourses and wetlands require an approved plan and permit from DECC. All work conducted in a watercourse is required to be overseen by a certified professional sizer and/or installer. Qualifications for certified sizers and installers are identified on the DECC Watercourse Alteration website. There is a public listing of certified professionals. Supplemental to the Watercourse Alteration Standards, DECC has published the Guide to Altering Watercourses, which provides guidelines to crown licensees, industrial private land owners, and private woodlot owners, to avoiding the disturbance of watercourses, identifying when experts are required to properly alter watercourses, and providing direction for activities that alter watercourses and pose a higher risk to the environment. The Department of Natural Resources and Renewables (DNRR), under the Forests Act, Wildlife Habitat and Watercourses Protection Regulations (WHWPR) define protection requirements of watercourses and wetlands through special management zones or buffers for forest management activities in NS. The WHWPR is applicable to crown licence, industrial private land, and private woodlots.

### Crown Licence

On Crown licence, the Forest Management Plans (FMPs) and Annual Operating Plans (AOPs) specify implementation of watercourse protection regulations (wetland and stream buffers) including Special Management Zones and machine free zones in harvest blocks, in accordance with the WHWPR. Licensees develop proposed harvest areas and prescriptions based on Pre-Treatment Assessment and the SGEM, subject to requirements for operating on Crown licence. The Pre-Treatment Assessment is an analysis of data collected on-site by a forest professional trained and certified to carry out Pre-Treatment Assessments. NS Code of Forest Practice provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code provides forest management landscape and stand level practice guidelines for air, water and soil values. The Code is mandatory on crown licence in NS.

### Industrial Private Land

As of March 2024, there is no publicly available information describing implementation mechanisms for water quality/quantity maintenance on industrial private land.

### Private Woodlots

Additionally, for private woodlot owners, the Nova Scotia Woodlot Owners & Operators Association (NSWOOA) recommends the use of the Nova Forest Alliance's Contractors and Operators Best Management Practices (BMP) Manual. The BMP requires that watercourses be mapped and provide guidance on standard practices for watercourse and stream crossings (including reducing the number of stream crossings to minimise impacts), wetland and watercourse alteration permitting, and certified supervision. It is encouraged, but not mandatory, to utilise the NSWOOA guidelines. As of March 2024, there is no publicly available information describing implementation mechanisms for water quality/quantity maintenance on private woodlots.

### Federal

DFO provides oversight of federal legislation for applicable streams and waterbodies.

### Provincial

DECC is responsible for the compliance and enforcement of the Environment Act and the Activities Designation Regulations. An inspection may be conducted for multiple reasons, including application review, complaints-based, risk-based compliance audits, follow-up compliance inspection/monitoring, or the sector being targeted for focused audits. Enforcement actions by DECC include warning tickets, summary offence tickets, or orders. DNRR monitors and enforces the WHWPR on crown licence, industrial private land, and private woodlots.

### Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>DNRR reviews and approves Crown licensees’ FMPs and AOPs. DNRR is responsible for reviewing and approving every proposed harvest plan as part of the Integrated Resource Management process and determines if the plan meets all requirements for operating on Crown licence. DNRR considers various forest management values during the Integrated Resource Management process, including water quality/quantity. Following the Integrated Resource Management process, every proposed harvest plan on Crown licence is posted on the Harvest Map Plan Viewer, that allows public comments on harvest plans. Crown licensees are notified if the proposed harvest plans are approved or if changes are required following the Harvest Map Plan Viewer process and evaluation by DNRR. DNRR monitors water quality and quantity through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk- rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non- conformances to minimise the risk of re-occurrence.</p> <p><u>Industrial Private Land and Private Woodlots</u> Beyond the DECC monitoring, as of March 2024, there is no publicly available information describing an oversight framework for water quality/quantity maintenance on industrial private land or private woodlots. Landowners are responsible for the oversight of operations.</p> <p><u>Crown Licence</u> Reviewed DNRR FOMP data verifies Crown licences comply with water quality and quantity requirements.</p> <p><u>Industrial Private Land</u> As of March 2024, there are no publicly available results of current condition of water quality/quantity for industrial private land.</p> <p><u>Private Woodlots</u> As of March 2024, there are no publicly available results of current condition of water quality/quantity for private woodlots.</p> <p><b>Risk conclusion and justification</b></p> <p><u>Crown Licence</u> On Crown licence, the federal and provincial legislation related to the maintenance of water quality and quantity is comprehensive. There are operational guidelines and government programs monitor forest management practices. FOMP inspection results verified Crown licensees comply with practice requirements related to water quality/quantity. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licence in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u> On industrial private land and private woodlots, the federal and provincial legislation related to the maintenance of water quality and quantity is comprehensive. There is no publicly available results to verify compliance with WHWPR, or the Environment Act and Activities Designation Regulations. There is insufficient evidence of guidance or monitoring results to verify current condition of water quality or quantity, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Watershed and/or riparian assessments, applicable to supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>						
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canadian Navigable Waters Act</a></li> <li>• <a href="#">Canadian Environmental Protection Act</a></li> <li>• <a href="#">Fisheries Act</a></li> <li>• <a href="#">Species At Risk Act</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Environment Act</a></li> <li>• <a href="#">Activities Designation Regulation</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Wildlife Habitat and Watercourses Protection Regulations</a></li> <li>• <a href="#">NS Watercourse Alterations Standard</a></li> <li>• <a href="#">Guide to Altering Watercourses</a></li> <li>• <a href="#">Watercourse Alteration – Public List of Certified Professionals</a> (2024)</li> <li>• <a href="#">Compliance and Enforcement Under the Environment Act</a></li> <li>• <a href="#">Nova Forest Alliance Contractors and Operators Best Management Practices Manual</a>, March 2012</li> <li>• <a href="#">Nova Scotia’s Code of Forest Practice. Report FOR 2012-3</a></li> <li>• <a href="#">NSWOOA - Water and Wetlands</a></li> <li>• DNRR FOMP Inspection Data 2017-2023</li> </ul>						
<p><i>Risk rating</i></p>	<table> <tr> <td>Crown Licence Area</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence Area	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence Area	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

## Annex 1 Detailed findings for Supply Base Evaluation

2.2.6	<p><b>Air emissions shall comply with national legislation or in the absence of national legislation with industry best practice.</b></p>
Findings	<p><b>Scale of assessment</b>            Crown Licence            Industrial Private Land            Private Woodlots</p> <p><b>Analysis</b>            The scope of this Indicator is specific to open burning and management of smoke due to forest management activities. It does not include emissions from industrial sources such as facilities (i.e., sawmills, including log sort yards) and/or transportation and machinery sources (federal and provincial statutes). Trees are harvested, delimbed and cut to length at the stump in-block. Slash piles are not created and burned in Nova Scotia (NS).            Burning of wood and vegetation is standard industry practice for abating fire hazard, however, air emissions, particularly fine particulate matter emissions, from slash / prescribed burning can raise air quality above the Canadian Ambient Air Quality Standards at varying scales, (i.e., communities, valleys, airsheds). Threats/impacts can include:</p> <ul style="list-style-type: none"> <li>• Emittance of increased levels of air pollutants such as particulate matter, carbon monoxide, nitrogen oxides and volatile organic compounds into the environment;</li> <li>• Reduced air quality and possible related health impacts, particularly for seniors and breathing compromised patients;</li> <li>• Public complaints related to reduced air quality.</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Canadian Environmental Protection Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Environment Act</li> <li>• Environment Act, Air Quality Regulations</li> <li>• Forests Act</li> <li>• Forests Act, Forest Fire Protection Regulation</li> <li>• Municipal Government Act</li> </ul> <p><b>Enforcement and monitoring</b></p> <p><u>Federal</u></p> <p>The Canadian Environmental Protection Act provides the regulatory framework for setting air quality standards across the country. Environment and Climate Change Canada (ECCC) plays a role in setting standards, monitoring and research on a national level. ECCC provides monitoring equipment and a centralised national database for the air quality information collected. The Canadian Air Quality Management System provides a comprehensive, cross-Canada framework for intergovernmental collaborative action to further protect human health and the environment through continuous improvement of air quality. The Canadian Ambient Air Quality Standards are set for airshed zones in each province and drive air quality management across the country. Federal, provincial and territorial governments have specific roles and responsibilities. The National Air Pollution Surveillance Program assesses the quality of ambient air in populated regions of Canada and is a cooperative agreement between the federal government and</p>

## Annex 1 Detailed findings for Supply Base Evaluation

provinces. The National Air Pollution Surveillance Program has 286 sites in 203 communities located in every province and territory. These measurements are used by the provinces to report Air Quality Index and by ECCC to report the Air Quality Health Index. Through the Canadian Air Quality Management System, the Canadian Council of Ministers of the Environment Air Quality website provides the most current information on air quality by reporting the Canadian Ambient Air Quality Standards across Canada. NS is a member of the Canadian Council of Ministers of the Environment. The Canadian Council of Ministers of the Environment has developed federal standards for particulate matter and ground-level ozone.

### Provincial

The NS Environment Act, and Air Quality Regulations, implemented by the Department of Environment and Climate Change (DECC), provides the provincial regulatory framework regarding air emissions. DECC protects, enhances, and promotes the sustainable use of NS's ambient air resources by regulating designated activities that emit air pollutants, monitoring ambient air quality, and reporting. NS has adopted national air quality objectives and standards for a number of contaminants in the atmosphere. Limits are used to gauge current and historical air quality, guide airshed planning efforts, develop regulatory frameworks and management strategies such as air quality advisories. Four air zones are identified in NS as part of the province's commitments under the Canadian Air Quality Management System. Under the Forests Act, DNRR is responsible for the Forest Fire Protection Regulations, which define open fires and stipulate that no person shall burn or permit the burning of any material in an open fire without obtaining a permit from DNRR, with the exception of burning wood for a fire for recreation purposes. It also establishes conditions for industrial burning including slash burning and the appropriate conditions and permitting required. Under the Municipal Government Act, regional and municipal governments may also create bylaws which address the air quality impacts of burning within municipal boundaries and would be implemented by the relevant municipal authorities.

Air quality monitoring in NS is conducted by DECC, in cooperation with ECCC. There are seven ambient air quality monitoring stations in the province. Monitoring stations measure the presence of contaminants in the air. Air quality data from monitoring stations are validated by DECC staff. ECCC conducts audits of provincial air quality monitoring stations. Air zone reports are prepared annually by DECC to summarise how air quality levels in the four air zones of NS compare to the AAQS over a three-year reporting period. DNRR is responsible for issuing industrial burning permits, which is brush piles larger than two metres by three metres or burning more than four piles of brush at a single time. Local DNRR offices receive payment for an industrial burning permit. DNRR staff will conduct a site visit prior to a permit holder burning. Permit holders must call daily to ensure that conditions are safe for burning. Permits can be revoked if the Forest Fire Protection Regulation is not followed. Depending on the nature of air quality complaints, DECC or DNRR are responsible for the respective legislation and take enforcement actions are necessary, including following up on complaints. Complaints by the public regarding potential burning violations of the Environment Act can be raised to DECC. The department investigates and, where necessary, enforces the requirements of the Environment Act. To report a wildfire or open burning violation, individuals should call 1-800- 565-2224 or 911.

The most current information on the status of Canada's air quality is reported on the Canadian Council of Ministers of the Environment Air Quality website. As of March 2024, the Canadian Council of Ministers of the Environment Canada's Air Website states that 3,239 tonnes of fine particulate matter, representing 1.57% of all fine particulate matter was emitted from prescribed burning and structural fires across Canada. Prescribed burning and structural fires were not found to emit a significant amount of nitrogen oxides, sulphur oxides and volatile organic compounds, the other three emissions that are tracked nationally. From 2018 to 2021, Canadian Ambient Air Quality Standards were achieved in all four of NS's air zones for fine particulate matter, as per Annual Nova Scotia Air Zone Reports. Canada's State of the Forest Annual Reports reported 176 wildfires burned 709 ha in 2021, 723 wildfires burned 3,275 ha in 2020, and 135 wildfires burned 154 ha in 2019. Air quality monitoring data is available on the DECC Ambient Air Quality Data Portal.

### Risk conclusion and justification

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>There is a federal and provincial regulatory framework governing levels of air emissions. NS has a regulation for open burning applicable at the provincial level. There is ongoing monitoring and public reporting of air emissions. National and provincial results verify air emission thresholds are being met. Forest industry is operating within industry best practices. Based on evidence reviewed, this Indicator is designated as low risk for Crown licence, industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Air Quality Health Index</a></li> <li>• <a href="#">Canadian Environmental Protection Act</a></li> <li>• <a href="#">National Air Pollution Surveillance Program</a></li> <li>• <a href="#">The State of Canada's Forests Annual Report (2022)</a></li> <li>• <a href="#">The State of Canada's Forests Annual Report (2021)</a></li> <li>• <a href="#">The State of Canada's Forests Annual Report (2020)</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">DECC Ambient Air Quality Data</a></li> <li>• <a href="#">DNRR Annual Wildfire Statistics 2023</a></li> <li>• <a href="#">Environment Act</a></li> <li>• <a href="#">Forest Fire Protection Regulations</a></li> <li>• <a href="#">Nova Scotia Air Zone Report 2021</a></li> <li>• <a href="#">Nova Scotia Air Zone Report 2020</a></li> <li>• <a href="#">Nova Scotia Air Zone Report 2019</a></li> <li>• <a href="#">Nova Scotia Air Zone Report 2018</a></li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

<i>Risk rating</i>	<table border="0"> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Low risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Low risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Low risk</b>						
Private Woodlots	<b>Low risk</b>						
<b>2.2.7</b>	<b>Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best practice. Banned pesticides shall not be used.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private  Land Private Woodlots</p> <p><b>Analysis</b>  This indicator will use the terms ‘chemical use’ or ‘use of chemicals’ to address pesticides, herbicides, insecticides, and fungicides collectively. In some instances, a specific term may be used. Integrated Pest Management is a decision-making process for managing pests effectively, economically, and environmentally soundly. Integrated Pest Management techniques range from preventative and cultural measures to the use of biological, physical, behavioural, and chemical controls. This Indicator intends to minimise chemical use and ensure other non-chemical strategies and/or practices are considered and defined in industry best practices. A banned chemical is one that has been prohibited within one or more categories by final regulatory action, with the aim of safeguarding human health or the environment. The classification of chemicals as banned is a result of the processes outlined in International Conventions (Stockholm and Rotterdam) on sustainability and the environment. These processes lead to the compilation of a ‘banned’ list of chemicals, which individual countries then incorporate into respective national lists. Refer to Indicator 4.1.8 Training to Workers for forestry-related training, Indicator 4.1.10 for Worker H&amp;S Safeguards and Indicator 2.2.8 Waste Disposal requirements.</p> <p>The primary threat from the use of chemicals in forest management is the possible adverse effects on the health of humans, wildlife, and fisheries. If misused or inadequately monitored, chemical use can also lead to loss of insect and plant biodiversity.</p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Pest Control Products Act</li> <li>• Pest Control Products Regulations</li> <li>• Pest Control Products Incident Reporting Regulations</li> <li>• Pest Control Products Sales information Reporting Regulations</li> <li>• Hazardous Products Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Environment Act</li> <li>• Pesticides Regulations</li> <li>• Activities Designation Regulations Industrial Private Land and Private Woodlots</li> <li>• Forests Act, Forest Sustainability Regulations</li> </ul>						

### **Enforcement and monitoring**

Crown Licence, Industrial Private Land, and Private Woodlots

The Pest Control Products Act enables the Pest Management Regulatory Agency federally. Pesticides that fall under the Act include herbicides and insecticides. A federal public registry, based on the lists from International Conventions, identifies pest control products registered for use in Canada. Only chemicals registered by the federal government may be used in Nova Scotia (NS). The federal Pest Control Products Act and regulations aim to ensure pesticides are used, stored and disposed of with minimum impact on non-target species, human health, or the environment. In NS, the Department of Environment and Climate Change (DECC) has authority to administer the Environment Act and Pesticide Operators' Licenses, Pesticide Use Permits and Pesticide Applicator Certification. Pesticide vendors and applicators must pass a provincial certification exam to become certified. This requirement applies for pesticide use on Crown licence, industrial private land and private woodlots. Provincially, the use of chemicals must abide by requirements found in the NS Pesticide Regulations, including forestry pesticide storage, operator's certification, and pesticide ground and aerial application. The Regulations are administered by DECC. On Crown licence, industrial private land and private woodlots, DNRR provides best management practices (BMPs) for forest herbicide use with guides in the Forestry Field Handbook. These describe timing, methods, equipment, and Regulations specific to forestry including permits, water buffers, signage, and notification requirements. While Integrated Pest Management is encouraged in NS, there are no specific regulatory or policy requirements for Integrated Pest Management in forest operations on Crown land, industrial private land, and private woodlots. The NS Code of Forest Practice states that pesticides and herbicides will be used only when deemed necessary to prevent crop tree mortality or growth loss. The NS Code of Forest Practice is mandatory for Crown licensees and used as voluntary guidance for industrial private land and private woodlot owners.

#### Crown Licence, Industrial Private Land and Private Woodlots

Federally, the Pest Management Regulatory Agency has oversight for the registration and approval of chemicals for intended use. In NS, approvals for the use of herbicides are issued by DECC. DECC monitors approval holders and will revoke an approval if a product is not being used in accordance with the Regulations.

#### Crown Licence, Industrial Private Land and Private Woodlots

The Stockholm Convention (2019) identifies 16 pesticides, 13 industrial chemicals, three chemicals categorised as both a pesticide and industrial chemical and seven chemicals as unintentional production. The chemicals are organised into three categories: elimination, restriction and unintentional production.

In the Rotterdam Convention Annex III dated October 2023, there are 55 chemicals listed which include 36 pesticides, 18 industrial chemicals and one chemical in both the pesticide and industrial chemical categories, which have been banned or severely restricted for health or environmental reasons. The Pesticide Action Network International Consolidated List Of Banned Pesticides identifies banned pesticides by country on an annual basis. The most current was dated May 2022. Canada's list includes 32 banned pesticides and industrial chemicals. Only chemicals registered by the federal government may be used in NS.

#### Crown Licence

As published in the High Production Forestry in Nova Scotia Phase 2 Guidance for Implementation, pesticide use as a forest management tool on Crown licence has not been used since 2010.

#### Industrial Private Land and Private Woodlots

Annual approvals of pesticide application for industrial private land and private woodlots are available on the DECC website. However, as of March 2024, there is no publicly available reporting on pesticide application, monitoring, enforcement or results of current condition of pesticide use for industrial private land and private woodlots.

### **Risk conclusion and justification**

Only chemicals registered by the federal government may be used in NS. The use of pesticides is regulated by DECC and DNRR.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p><u>Crown Licence</u> Pesticide use has not been used as a forest management tool on Crown licence in NS since 2010. As a result, this Indicator is designated as low risk for Crown licence in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u> There is publicly available information regarding all approved pesticide applications on the DECC website, but there is no publicly available reporting on monitoring or enforcement of pesticide use. As a result, a precautionary approach is applied and this Indicator is designated as specified risk for industrial private land and private woodlots in Nova Scotia.</p>
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>
<i>Evidence reviewed</i>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">All POPs listed in the Stockholm Convention</a></li> <li>• <a href="#">Rotterdam Convention Annex III Chemicals</a></li> <li>• <a href="#">Pesticide Action Network International Consolidated List Of Banned Pesticides</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Pest Control Products Act</a></li> <li>• <a href="#">Pest Control Products Incident Reporting Regulations</a></li> <li>• <a href="#">Pest Control Products Regulations</a></li> <li>• <a href="#">Pest Control Products Sales information Reporting Regulations</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Activities Designation Regulations</a></li> <li>• <a href="#">Department of Environment and Climate Change Integrated Pest Management webpage</a></li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• <a href="#">Environment Act</a></li> <li>• <a href="#">Forestry Field Handbook (Application Timing and Methods Guide for Herbicides)</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">High Production Forestry in Nova Scotia – Phase 2 Guidance for Implementation</a></li> <li>• <a href="#">Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a></li> <li>• <a href="#">Pesticide Application Approvals</a></li> <li>• <a href="#">Pesticide Applicator Certification</a></li> <li>• <a href="#">Pesticide Regulations</a></li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>2.2.8</b>	<b>Waste shall be disposed of in an environmentally appropriate manner.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence Private Industrial Land Private Woodlots</p> <p><b>Analysis</b></p> <p>The European Union defines waste as “any substance or object that the holder discards or intends to discard or is required to be discarded.” According to the European Union Commission’s guidance on the Classification of Waste, the following types of hazardous environmental waste apply within the context of forest management activities and are the focus of this Indicator:</p> <ul style="list-style-type: none"> <li>• Oil wastes and wastes of liquid fuel;</li> <li>• Waste organic solvent, refrigerants, and propellants; and</li> <li>• Waste packaging: absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.</li> </ul> <p>The retention of wood waste and post-harvest residue from forest management activities is covered under Indicator 2.2.4 Residue Removal Minimises Neg Impact to Ecosystem. Refer to Indicator 4.1.8 Training to Workers for forestry related training and 4.1.10 for Worker H&amp;S Safeguards training requirements related to the respective indicators. Refer to 2.2.7 Pesticides &amp; Pest Management Comply with Laws for pesticide use.</p>						

## Annex 1 Detailed findings for Supply Base Evaluation

Leaving waste in the forest causes pollution which enters the ecosystem in numerous ways, depending on the nature of the waste and the site. Waste fluids may enter waterways and/or pose a direct hazard to wildlife. Waste also compromises aesthetic values and recreational use opportunities. Over the longer term, persistent pollution from inadequate waste disposal can negatively impact public health, wildlife, and the ecosystem.

### Federal

- Canadian Environmental Protection Act
- Hazardous Products Act and its Regulations Provincial
- Environment Act
- Forests Act
- Environment Act, Activities Designation Regulation
- Environment Act, Petroleum Management Regulations
- Environment Act, Used Oil Regulation
- Environment Act, Contaminated Sites Regulation
- Environment Act, Environmental Emergency Regulations
- Occupational Health and Safety Act
- Occupational Health and Safety Act, Workplace Hazardous Materials Information System Regulations
- Municipal Government Act

### **Enforcement and monitoring**

#### Federal

Health Canada is the federal government agency responsible for regulating pollution caused by inadequate waste disposal through the Canadian Environmental Protection Act (1999). The Act provides for codes of practice, requirements to set environmental quality objectives, and the provision of guidelines recommending limits on the release of substances into the environment.

Health Canada is responsible for the Workplace Hazardous Materials Information System (WHMIS), which is a federal hazard communication standard under the Hazardous Products Act. WHMIS is implemented through coordinated federal and provincial legislation. Health Canada acts as the secretariat for the federal and provincial government partner system. Each province is responsible for establishing WHMIS requirements for employers.

Suppliers, employers, and workers each have requirements under WHMIS.

Suppliers who sell or import a hazardous product must identify if the product is a hazardous product, prepare labels and Safety Data Sheets, and provide the labels and Safety Data Sheets to buyers who intend to use the hazardous products for workplace use.

Employers must educate and train workers on the hazards and safe use of hazardous products in the workplace, ensure hazardous products are properly labelled and ensure appropriate control measures are in place to protect the health and safety of workers.

Workers must participate in WHMIS training programs, take necessary steps to protect themselves and co-workers, and participate in identifying and controlling hazards.

#### Provincial

The Nova Scotia (NS) Department of Labour, Skills and Immigration is responsible for enforcing the WHMIS provincial requirements. There are a select number of inspectors that are responsible for conducting federal WHMIS inspections regulating manufacturers and distributors of hazardous products.

## Annex 1 Detailed findings for Supply Base Evaluation

The Department of Environment and Climate Change (DECC) is responsible for enforcing pollution by waste disposal under the Environment Act and Regulations. The Environment Act includes control of the deposition of litter, waste or contaminants in ground water, and water courses. The Environment Act states no person shall release or permit the release into the environment of a substance in any amount, concentration, or level or at a rate of release that causes or may cause an adverse effect unless authorised by approval or the Regulations. The Activities Designation Regulation sets limits on contaminant discharge as well as stream and wetland alteration permitting processes. The Environmental Emergency Regulations stipulate how oil spills should be reported and managed in and around water courses. The Used Oil Regulation stipulates how used oil is to be handled, stored, and disposed. Petroleum Management Regulations identify petroleum storage tanks that must be registered with DECC. The Contaminated Sites Regulation defines the procedures around contaminated sites and ensures that clean-ups are consistent province wide. Violations to the Environment Act can be reported to DECC, through local offices, or through an environmental emergency phone line.

### Crown Licence

Additionally, for Crown licence, the NS Department of Natural Resources and Renewables (DNRR) is the governing agency for the Forest Act, and DECC is responsible for the Environment Act. Crown licence holders and contractors operating on Crown licence in NS maintain management systems that include procedures for managing waste and spills. Operations guidelines are outlined in the NS Code of Forest Practice for ensuring proper storage, handling and disposal of fuels, oils and other hazardous materials, and that no garbage is to be left on forest sites. Crown licence holders include requirements, either in contracts or prework documents that specify appropriate waste management practices. Crown licence holders commonly have a company response plan for spills that directly address and meet the regulatory requirements as per Environment Act and the Forests Act. These plans frequently contain best management practices and procedures, as well as company-specific forms for recording spill response.

### Industrial Private Land and Private Woodlots

Additionally, for industrial private land and private woodlots, if waste is on municipal property, local municipalities must be contacted. It is common for municipalities to have litter bylaws, but each municipality bylaw is unique. Litter bylaws may include a complaints process.

### Industrial Private Land

On industrial private land, the owner is responsible to remain compliant with provincial regulatory waste requirements. As of March 2024, there is no publicly available information describing implementation mechanisms for waste disposal.

### Private Woodlots

Additionally, and specific for private woodlots, The Nova Forest Alliance under the Forest Nova Scotia developed a Best Management Practices Manual (2012) for its members including the Federation of Nova Scotia Woodlot Owners. This Manual provides detailed guidance on forest harvesting, fuel, and oil handling and performance monitoring. On private woodlots, the owner is responsible to remain compliant with provincial regulatory waste requirements. As of March 2024, there is no publicly available information describing implementation mechanisms for waste disposal.

### Provincial

Department of Labour, Skills and Immigration conducts inspections and monitors activities related to WHMIS. Occupational Health and Safety Officers enforce the WHMIS provincial requirements through workplace inspections. Under the Contaminated Sites Regulation, any spill must be reported to the DECC immediately and must be assessed by a qualified professional for appropriate handling and disposal. DECC have inspectors who enforce compliance with the Environment Act and related regulations. There are many enforcement actions, such as warning tickets, summary offence tickets, long form information and orders. DNRR Conservation Officers conduct investigations and respond to violation reports from the public.

### Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>DNRR monitors waste disposal through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting and silviculture operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk- rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non- conformances to minimise the risk of re-occurrence.</p> <p><u>Industrial Private Land and Private Woodlots</u> Municipalities can take actions of enforcement through municipal bylaws. Enforcement are fines to the offender of littering on industrial private land and private woodlots.</p> <p><u>Provincial</u> As of March 2024, there are no publicly available Department of Labour, Skills and Immigration reports related to WHMIS conformance.</p> <p><u>Crown Licence</u> DNRR FOMP data verified Crown licensees comply with waste disposal requirements.</p> <p><u>Industrial Private Land &amp; Private Woodlots</u> As of March 2024, there are no publicly available information results to assess the current condition of waste disposal for industrial private land or private woodlots.</p> <p><b>Risk conclusion and justification</b></p> <p><u>Crown Licence</u> There is a comprehensive regulatory framework, compliance, and enforcement systems, including reporting to address the handling and disposal of waste to minimise negative impacts. The controls and procedures in place. FOMP monitor forest management practices on Crown licence. FOMP inspection results verified Crown licensees comply with practice requirements related to waste disposal. Based on evidence reviewed, this Indicator is designated as low risk for Crown licence in Nova Scotia.</p> <p><u>Industrial Private Land &amp; Private Woodlots</u> The provincial legislation related to the waste management is comprehensive. Due to a lack of evidence to implementation mechanisms and/or results to verify current condition of waste management, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• Watershed and/or riparian assessments, applicable to supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">European Commission – Commission notice on technical guidance on the classification of waste</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Environmental Protection Act</a></li> <li>• <a href="#">Hazardous Products Act and its Regulations</a></li> <li>• <a href="#">Workplace Hazardous Materials Information System 2015</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Environment Act</a></li> <li>• Environment Act, <a href="#">Activities Designation Regulation</a></li> <li>• Environment Act, <a href="#">Petroleum Management Regulations</a></li> <li>• Environment Act, <a href="#">Used Oil Regulation</a></li> <li>• Environment Act, <a href="#">Contaminated Sites Regulation</a></li> <li>• Environment Act, <a href="#">Environmental Emergency Regulations</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Municipal Government Act</a></li> <li>• <a href="#">Occupational Health and Safety Act</a></li> <li>• Occupational Health and Safety Act, Workplace Hazardous Materials Information System (WHMIS) Regulations</li> <li>• <a href="#">Nova Scotia’s Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a></li> <li>• <a href="#">Nova Forest Alliance Contractors and Operators Best Management Practices Manual</a>, March 2012</li> <li>• DNRR FOMP Inspection Data 2017-2023</li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
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Private Woodlots	<b>Specified risk</b>						

## Annex 1 Detailed findings for Supply Base Evaluation

2.2.9	<p><b>Harvesting levels shall be justified as to how they can be sustained with reference to inventory and growth data for the Supply Base.</b></p>
Findings	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  The assessment of this Indicator considers whether long-term sustainable harvest levels have been determined using appropriate information and assumptions and whether actual harvests are below these levels. Forest inventory and yield curves are key determinants of the long-term sustainable harvest levels used in forest estate modelling. Long-term sustainable harvest levels cannot exceed the annual net growth rate of the forest, with losses due to natural disturbances taken into account. A potential supply is determined from these long-term sustainable harvest levels. The potential supply represents the upper annual harvest limit during the management plan term. Biomass Producers in Nova Scotia (NS) source the majority of fibre from mill residues. The balance is obtained by grinding harvesting slash or chipping low-grade roundwood. Fibre from these sources is not considered volume that counts against the AAC. (See Section 4.8 – Overview of the Biomass Sector as well as Indicator 2.2.4 Residue Removal Minimises Neg Impact to Ecosystem).  Timber harvesting that exceeds the long-term sustainable harvest level of the forest is unsustainable and will erode the productivity of the forest, ecosystem services and the timber supply it produces.</p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act (CLA)</li> </ul> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>There is no regulatory framework that requires the determination and maintenance of long-term sustainable harvest levels on industrial private land and private woodlots.</p> <p><b>Enforcement and monitoring</b></p> <p><u>Crown Licence</u></p> <p>The NS Department of Natural Resources and Renewables (DNRR) has authority to administer the Crown Lands Act (CLA) which provides the regulatory framework to enable the determination of long-term sustainable harvest levels on Crown licences. Paragraph 2(a) of the CLA states that the purpose of the Act is to: “provide the legislative and regulatory framework that will ensure Crown lands are sustainably used, protected and managed.” Subsection 25(1) of the CLA further states that the Minister of DNRR “shall provide for the long-term productivity, diversity and stability of the forest ecosystem.”</p> <p>In 2021, the CLA’s Purpose clause (section 2) was amended to: “Ensure Crown lands are sustainably used, protected and managed to maintain and enhance biodiversity and consider climate change and for purposes that include wilderness conservation, recreation, economic opportunity if forestry, tourism and other sectors, community development, and for the cultural, social and aesthetic enjoyment of Nova Scotians.” The CLA authorises DNRR to enter into Forest Utilization License Agreements (FULAs), which are long-term licences that cover substantial areas of Crown land. Holders of FULA’s calculate long-term sustainable harvest levels. On other areas of Crown land, DNRR issues volume-based licences. Under volume-based licences, the licensee works cooperatively with DNRR to determine the potential harvest.</p>

## Annex 1 Detailed findings for Supply Base Evaluation

### Industrial Private Land

On industrial private land, as of March 2024, annual allowable cuts (AACs) are not publicly available. DNRR maintains estimates of the long-term sustainable wood supply level applicable to industrial private lands.

### Private Woodlots

Private woodlots are individually too small to support a long-term sustainable harvest level. DNRR maintains estimates of the long-term sustainable wood supply level applicable to private woodlots. Actual harvest levels from private woodlots are the result of the decisions of each individual woodlot owner. Historically, actual harvest levels are variable, usually rising as the market price for timber increases and declining when it falls.

### Crown Licence

DNRR determines regional potential supply for Crown licences. DNRR monitors harvest levels on Crown licences to ensure the actual harvest levels do not rise above the potential supply.

### Industrial Private Land

On industrial private land, oversight of forest management and actual harvest is managed by the landowner. As of March 2024, there is no publicly available information describing an oversight framework for long-term sustainable harvest levels.

### Private Woodlots

On private woodlots, oversight of forest management and actual harvest level is managed by the landowner. As of March 2024, there is no publicly available information describing an oversight framework for long-term sustainable harvest levels.

### Provincial

The most recent publicly available NS sustainable wood supply estimate was provided in the 2016 State of the Forest Report, which reported a potential short-term harvest level for 2016 to 2018 based on the Crown Lands Forest Model. The 2016 State of the Forest Report estimated the potential annual provincial softwood supply was 4.15 million m<sup>3</sup>, of which 1.3 million m<sup>3</sup> was from Crown land and 2.85 million m<sup>3</sup> was from the combination of industrial private land and private woodlots. The potential annual provincial hardwood supply was 1.59 million m<sup>3</sup>, with 410,000 m<sup>3</sup> from Crown land and 1.18 million m<sup>3</sup> from industrial private land and private woodlots combined. Provincial actual harvest levels fell during the review period covered in the 2016 State of the Forest Report (2002-2015). Since 2012, provincial harvest levels have been below the potential supply. Between 2012-2015, the average annual softwood harvest was 2.9 million m<sup>3</sup> and the average annual hardwood harvest was 672,500 m<sup>3</sup>. Between 2012-2015, actual softwood harvests were roughly 30% below the potential supply, and the actual hardwood harvest was 58% below the potential supply. Data provided in Registry of Buyers of Primary Forest Products, 2022 Calendar Year, show further declines in the actual total provincial harvest. In 2022, only 2.32 million m<sup>3</sup> was harvested, a decline from the roughly 3.3 million m<sup>3</sup> harvested annually between 2017 and 2019. The sharp decline in 2022 was largely due to the indefinite closure of Northern Pulp early in 2020. Actual harvest levels have declined as a percentage of the potential supply. In 2015 the provincial softwood harvest was 70% of the potential supply and the hardwood harvest was at 53% of potential supply. By 2022, the softwood harvest level was 47% and hardwood harvests was 22% of the allowable levels. Harvesting has not exceeded the long-term wood supply levels on Crown land or aggregated industrial private and private woodlots during this period.

### Crown Licence

On Crown licence, the Registry of Buyers of Primary Forest Products, 2022 Calendar Year Report shows the actual annual Crown harvest volume has remained relatively steady between 2005 and 2022, fluctuating from 500,000 to 750,000 m<sup>3</sup>. In 2022, the softwood harvest was 529,000 m<sup>3</sup>, representing 40% of the sustainable Crown softwood supply. The 2022 actual Crown hardwood harvest was 79,000 m<sup>3</sup>, representing 19% of the sustainable Crown hardwood supply.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p><u>Industrial Private Land</u> On industrial private land, the Registry of Buyers of Primary Forest Products, 2022 Calendar Year Report shows the actual annual harvest volume has declined from roughly 2 million m3 in 2005 and 2006, to 1 million m3 in 2012 to approximately 100,000 – 200,000 m3 between 2020 and 2022.</p> <p><u>Private Woodlots</u> On private woodlots, the 2016 State of the Forest Report shows the actual annual harvest has declined. Annual harvest between 2006 and 2010 was between 2.5 million m3 and 3 million m3. Between 2020 and 2022 it was 2 million m3 annually.</p> <p><u>Industrial Private Land and Private Woodlots</u> The total annual private harvest (industrial private land and private woodlots) was roughly 2 million m3 between 2020 and 2022, representing 50% of the sustainable private land wood supply.</p> <p><b>Risk conclusion and justification</b> The provincial harvest levels in NS have declined during the past 20 years and are well below the potential supply. The total actual harvest levels from Crown land, industrial private and private woodlots were well below the sustainable wood supply volumes available on each ownership. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licence, industrial private land, and private woodlots</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Timber supply analysis, applicable to the supply base area</li> <li>• AAC vs actual harvest analysis, applicable to the supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">National Forest Database</a></li> <li>• <a href="#">Nova Scotia 2016 State of the Forest Report</a></li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• <a href="#">Registry of Buyers Annual Reports</a></li> <li>• <a href="#">National Forestry Database, Annual Harvest vs Wood Supply</a></li> </ul>
<i>Risk rating</i>	<p>Crown Licence                <b>Low risk</b></p> <p>Industrial Private Land    <b>Low risk</b></p> <p>Private Woodlots            <b>Low risk</b></p>
<b>2.2.10</b>	<b>Harvested areas shall be regenerated.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b> To ensure future forests, regeneration with natural or planted seedlings following harvest must be prompt and adequate. Sufficiency is a measure of species selection, seedling distribution, and time of establishment. Species selection needs to be consistent with site ecology (i.e., original stand composition, ecosite, and natural disturbance) and considerate of future climate change risks. Distribution must be sufficient to allow future crop trees to occupy the site in a free-growing state, and timing needs to be prompt enough to allow early establishment unhindered from competing vegetation. The terms regeneration and reforestation are interchangeable for this Indicator. See Indicator 2.2.1 Conversion – a, b, c, d. See Indicator 2.2.12 Genetically Modified Trees not Used. Inadequate regeneration can result in a considerable time delay following harvest, unacceptable species, inadequate control of competing vegetation, and significantly uneven density. These will compromise future forest fibre harvest volume and value, as well as ecosystem functions and related productivity.</p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> <li>• Forests Act</li> </ul> <p><u>Industrial Private Land</u></p> <ul style="list-style-type: none"> <li>• Forests Act, Forest Sustainability Regulations Private Woodlots</li> <li>• Forests Act, Forest Sustainability Regulations</li> </ul> <p><b>Enforcement and monitoring</b></p> <p><u>Crown Licence</u> In Nova Scotia (NS), the Crown Lands Act (CLA) regulates harvest on Crown licence. The Forests Act (1989) and the Forest Sustainability Regulation (2001) regulates forest regeneration. The Department of Natural Resources and Renewables (DNRR) is responsible for ensuring regeneration after harvest. The forest management intent is to facilitate suitable natural regeneration wherever practical. Licensees on Crown licence are required to have a Forest Utilization License Agreement (FULA), licence or permit, which requires a Forest Management Plan (FMP) containing silviculture activities, including reforestation plans. On Crown licence, the Code of Forest Practice (2012) and</p>

## Annex 1 Detailed findings for Supply Base Evaluation

Silviculture Guide for the Ecological Matrix (SGEM) (2020) provide guidelines for reforestation planning and implementation. On Crown licence, participation in the silviculture program provides government funding in reforestation and requires an approved silviculture plan including reforestation plans.

### Industrial Private Land and Private Woodlots

On industrial private land and private woodlots, there is no legislated requirement to regenerate except for those landowners participating in the silviculture program, under the Forest Sustainability Regulations. The Forest Sustainability Regulations outline technical standards for reporting on natural regeneration for industrial private land and private woodlots. The Forest Sustainability Regulations require registered buyers provide silviculture on NS forest land in proportion to the value of primary forest products buyers require in a year. Wood Acquisition Plans are submitted by registered buyers (who acquire greater than 5,000 m<sup>3</sup> of wood annually from industrial private land and private woodlots in NS). A Wood Acquisition Plan details how a registered buyer will meet obligations under the Forest Sustainability Regulations. Registered buyers can opt to pay money directly to the Sustainable Forestry Fund, or carry out silviculture activities on industrial private land, or private woodlots. Silviculture activities conducted by registered buyers must be done to standards outlined in Schedule 1 of the Forest Sustainability Regulations. Registered buyers must provide an annual report detailing completed silviculture work to DNRR. Registered buyers may negotiate contracts with contractors and private industrial land or private woodlot owners to conduct the silviculture activities. The Association for Sustainable Forestry assists in application for reforestation silviculture funding. Pre-Treatment Assessments are required to receive funding. The SGEM is a guide, not a requirement for reforestation on industrial private land and private woodlots.

### Private Woodlots

Additionally for private woodlots, the Nova Scotia Woodlot Owners and Operators (NSWOOA) and the Nova Scotia Federation of Woodlot Owners (NSFWO) aid in developing management plans, which include reforestation.

### Crown Licence, Industrial Private Land, and Private Woodlots

The Registry of Buyers and DNRR have the authority to enforce violations and penalties regarding regeneration requirements. Silviculture activities are reported in the Registry of Buyers of Primary Forest Products Reports on an annual basis.

### Crown Licence

DNRR monitors regeneration through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on silviculture operations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.

### Industrial Private Land & Private Woodlots

On industrial private land and private woodlots, DNRR, and the Association for Sustainable Forestry administer silviculture program funding and review reforestation reports. Registered buyers are required to conduct post-treatment assessments to be submitted to the Association for Sustainable Forestry to ensure reforestation has been successful. DNRR is responsible for auditing post-treatment assessments to ensure compliance with the Forest Sustainability Regulations. On private woodlots that do not participate in the silviculture program there is no publicly available information describing an oversight framework for regeneration. Owners are responsible for the oversight of operations.

### Crown Licence

The Nova Scotia Ecological Landscape Analysis, by Ecodistrict (2023 Update) report, details areas planted on Crown licence by ecodistrict from 2011 to 2021. Total area planted on Crown licence from 2011 to 2021 amounted to 15,212 ha. The annual Registry of Buyers of Primary Forest Products Reports indicate 1,874 ha were planted in 2022, 1,894 ha in 2021, and 4,247 ha in 2020 on Crown licence. DNRR FOMP data verified Crown licensees comply with regeneration requirements.

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	<p><u>Industrial Private Land and Private Woodlots</u> The Nova Scotia Ecological Landscape Analysis, by Ecodistrict (2023 Update) report, details areas planted on private land (industrial private land and private woodlots) by ecodistrict from 2011 to 2021. The total area planted on private land (industrial private and private woodlots) from 2011 to 2021 amounted to 32,113 ha.</p> <p><u>Industrial Private Land</u> Additionally, the annual Registry of Buyers of Primary Forest Products Reports indicate 296 ha were planted in 2022 and 230 ha in 2021, 27 ha were naturally regenerated, and 194 ha were planted in 2020 on industrial private land.</p> <p><u>Private Woodlots</u> Additionally, the annual Registry of Buyers of Primary Forest Products Reports indicate 1,578 ha were planted in 2022, 5,819 ha were naturally regenerated, and 1,602 ha were planted in 2021, 7,246 ha were naturally regenerated, and 1,701 ha were planted in 2020 on private woodlots.</p> <p><b>Risk conclusion and justification</b></p> <p><u>Crown Licence</u> There is a comprehensive regulatory framework governing regeneration on Crown licence. Government programs monitor regeneration. FOMP inspection results, the Nova Scotia Ecological Landscape Analysis by Ecodistrict (2023 Update) report, and the annual Registry of Buyers of Primary Forest Products Reports verify Crown licensees comply with regeneration requirements. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licence in Nova Scotia.</p> <p><u>Industrial Private Land</u> The Registry of Buyers of Primary Forest Products Annual Reports verified regeneration is completed on industrial private land. Based on the evidence reviewed, this Indicator is designated as low risk for industrial private land in Nova Scotia.</p> <p><u>Private Woodlots</u></p> <p>There is evidence that regeneration activities are completed on private woodlots that participate in the Private Woodlots Silviculture Program, however, the level of participation is not being applied consistently across private woodlots. Most private woodlot areas harvested are naturally regenerated, and there is no systematic survey of regeneration that would attest to the adequacy of stocking. Due to a lack of results, a precautionary approach is applied and this Indicator has been designated as specified risk for private woodlots.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Regeneration assessments, applicable to the supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> </ul>

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	<ul style="list-style-type: none"> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>						
<i>Evidence reviewed</i>	<p>Provincial</p> <ul style="list-style-type: none"> <li>• <a href="#">Association for Sustainable Forestry</a></li> <li>• <a href="#">Crown Lands Act</a></li> <li>• DNRR FOMP Inspection Data 2017-2023</li> <li>• <a href="#">DNRR The Registry of Buyers</a></li> <li>• <a href="#">Ecological Landscape Analysis by Ecodistrict - 2023</a></li> <li>• <a href="#">Forest Sustainability Regulation</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• <a href="#">Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management (2012)</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2023</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2022</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2021</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2020</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Low risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>2.2.11</b>	<b>The impacts of natural processes such as fires, pests and diseases shall be managed.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b></p>						

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Wildfires, pests, diseases, and windthrow are natural disturbance events that shape the ecological attributes of all forests. These events can be small events such as single tree deaths, but most often are stand modifying or replacing events and work to create a persistent landscape pattern related to the dominant disturbance type. Disturbance is essential to forest health and regeneration, although it can pose challenges to tenure holders and communities. Insect damage and windthrow are the primary sources of natural disturbance and cause more temporary forest loss than timber harvesting. Aspects of healthy and vital ecosystem services are addressed in Indicator 2.2.2 Health, Vitality & Other Services. Localised timber diseases are left untreated as they tend to be small, are difficult to control, and generate a variety of key ecological attributes for sustaining biodiversity. Similarly, for wildfires, not all fires need to or should be suppressed. Extensive fire suppression can lead to the build-up of fine fuels, increasing the risk of large-scale fires.

Inappropriate management of impact from natural disturbances can lead to:

- Loss or long-term alteration of forest ecosystems;
- Reduction of productive forest area;
- Reduction in forest growth rate;
- Loss of socio-economic benefits from forests;
- Property losses; and
- Danger to human lives.

### Federal

- Pest Control Products Act
- Pest Control Products Regulations
- Plant Protection Act

### Provincial

- Forests Act
- Forest Fire Protection Regulation

### **Enforcement and monitoring**

The federal Acts are implemented through provincial forest departments and forest legislation. In Nova Scotia (NS), the Forests Act allows the Department of Natural Resources and Renewables (DNRR) to intervene on Crown licence, industrial private land, and private woodlots to manage natural disturbance events in forests. The Forest Fires Protection Regulation allows DNRR to issue fire permits and control wildfires and fire hazards on Crown licence, industrial private land, and private woodlots.

### Pests and Diseases

The federal Pest Control Products Act and its Pest Control Product Regulations apply to Crown licence, industrial private land, and private woodlots. On Crown licence, the Forests Act stipulates that forest management programs use Forest Management Plans (FMPs). FMPs must consider protection from insects and disease and provide description of techniques used. FMPs are either prepared by licensees and must be approved by DNRR or are prepared by DNRR for Crown land that is not under a long-term licence. Blocks that are scheduled to be harvested must be approved by DNRR, and before approval, they are required to undergo a public review that is facilitated by an online mapping tool. The Act also stipulates techniques used on Crown land reflect prevailing hazard management for insects. On industrial private land and private woodlots, the Forests Act recommends management planning compatible with those developed by DNRR for Crown land be effectively implemented. These plans are not reviewed by DNRR.

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### Wildfire

DNRR is responsible for prevention, detection, and suppression of wildfires. The Forest Fire Protection Regulation applies to Crown licence, industrial private land, and private woodlots and stipulates the need for industrial and domestic burning permits approved by DNRR and for lands administered through forests district offices. The Regulation also describes forest fire protection equipment required on forest operations. On Crown licence, FMP techniques for fire protection must reflect the prevailing hazard for wildfire. FMPs are reviewed by DNRR. On industrial private land and private woodlots, fire protection actions are guided by DNRR direction.

### Windthrow

On Crown licence, industrial private land, and private woodlots windthrow hazard rating and mapping is provided in the Silvicultural Guide for Ecological Matrix (SGEM). SGEM provides guidance on where, when, and how salvage should be conducted on all tenures. Windthrow treatments are required to be included in FMPs on Crown licence.

### Pests and Diseases

For Crown licence, private land, and private woodlots, DNRR also provides regular provincial aerial and ground plot monitoring and assessment of eight major forest pests on all tenures. On Crown licence, DNRR provides oversight on the Forests Act protection elements through review of FMPs and field review of individual harvest blocks. Blocks are assessed for pests and disease and reported to DNRR. DNRR implements pests and disease outbreak treatments with permission from industrial private land and woodlot owners.

### Wildfire

On all tenures, DNRR provides forest fire weather forecasts and real time conditions of fire weather index, as well as fire protection services. Aerial surveys are conducted regularly through the high to extreme fire hazard season and when hotspots are reported. DNRR report size, fuel types, and threatened values on spotted fires. On Crown licence, harvest block reviews are specific to burning permit requirements and implementation of the FMP wildfire protection techniques. On industrial private land and private woodlots, DNRR conducts harvest block reviews specific to burning permits.

### Windthrow

On Crown licence, industrial private land, and private woodlots, windthrow is monitored annually with aerial surveys and satellite imagery following major wind events or hurricane tracks. The SGEM provides windthrow hazard rating for wind prone sites and windthrow conditions. SGEM provides harvest recommendations for salvage only after major wind events.

Results presented below apply to Crown licence, industrial private land, and private woodlots.

### Pests and Diseases

The most current regular monitoring on the eight major forest pests was for 2016. In that year, only two of eight pests showed an increase over the previous year, most prominent being eastern spruce budworm up 68% from 2015. No major forest diseases requiring treatment were reported. The only disease reported was yellow witches' broom on balsam fir in Christmas tree farms. Updated reporting for insects and disease current to 2023 is in preparation and publicly available on request. The province is currently planning and implementing an early intervention strategy for spruce budworm to reduce chances of major outbreaks.

### Wildfire

Wildfires over the last five years ranged from 197 to 3,389 ha, the largest in 2022 from an undetermined cause in Yarmouth County. Wildfires resulting from slash burn escapes ranged from six to 16 and from 1.5 ha to 20 ha in size.

### Windthrow

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	<p>DNRR forest inventory branch conduct satellite surveys and reporting following major hurricane wind events. The most recent reporting available online was from hurricane Juan (2004) which indicated 15,800 ha blowdown in a 680,000 ha survey area (2%). Subsequent helicopter surveys indicated blowdown patches under 1 ha in size. Windthrow reporting is pending for Kyle (2008), Igor (2010), Dorian (2019) and Fiona (2022). Windthrow reports are not currently available online, but are available on request.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a comprehensive regulatory framework to assess, respond, and manage natural disturbances such as pests, disease, wildfire, and windthrow. A framework for prevention and planning of natural processes in place and being followed. Provincial monitoring programs are active for pests, disease, wildfire, and windthrow. Provincial results verify active response and preventative management of the natural processes. Based on evidence reviewed, this Indicator is designated as low risk for Crown licence, industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> <li>• Interview with suppliers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Pest Control Products Act</a></li> <li>• <a href="#">Pest Control Products Regulations</a></li> <li>• <a href="#">Plant Protection Act</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">2022 Wildfire Statistics</a></li> <li>• <a href="#">Department of Natural Resources and Renewables Forest Insects and Diseases webpage</a></li> <li>• <a href="#">Department of Natural Resources and Renewables, Forest Protection</a></li> <li>• <a href="#">Forest Fire Protection Regulation</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Identification of Hurrican Juan Blow-Down Using Aerial Photography</a></li> </ul>

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	<ul style="list-style-type: none"> <li>• <a href="#">Nova Scotia 2016 State of the Forest Report</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners and Operators Association, BMPs</a></li> </ul>
<i>Risk rating</i>	<p>Crown Licence            <b>Low risk</b></p> <p>Industrial Private Land   <b>Low risk</b></p> <p>Private Woodlots         <b>Low risk</b></p>
<b>2.2.12</b>	<b>Genetically modified trees shall not be used.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Diaz and Fridovich-Keil (2020) define a genetically modified organism (GMO) as an organism whose genome has been engineered in the laboratory to favour the expression of desired physiological traits or the generation of desired biological products. In conventional livestock production, crop farming, and even pet breeding, it has long been the practice to breed select individuals of a species to produce offspring that have desirable traits. Genetic modification, however, involves the use of recombinant genetic technologies to produce organisms whose genomes have been precisely altered at the molecular level, usually by the inclusion of genes from unrelated species of organisms that code for traits not easily obtained through conventional selective breeding.</p> <p>GMOs have the potential to mix with the native gene pool leading to the creation and establishment of trees in forests and other natural landscapes that include modified genes in genotypes. This would potentially disrupt the native gene pool.</p> <p>The relevant federal and provincial legislation concerning the use of GMOs in forestry includes the following Acts and associated regulations.</p> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Plant Protection Act</li> <li>• Seeds Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Forests Act</li> <li>• Crown Lands Act</li> </ul> <p><b>Enforcement and monitoring</b> The Canadian Food Inspection Agency regulates the environmental release of a plant with a novel trait. This mandate is provided by the federal Plant Protection Act and associated regulations and the Seeds Act and associated regulations. The Seeds Act Directive 94-08—Assessment Criteria for Determining the Environmental Safety of Plants with Novel Traits requires a stewardship plan be submitted as part of the application plan for plants with novel traits in unconfined locations. The Canadian Food Inspection Agency initiates enforcement measures when an unauthorized release occurs. Federally, there is strict scientific protocol set out in Directive 94-08 that needs to be followed before a permit for commercialisation can be issued. This protocol requires confined field trials to demonstrate safety. Nova Scotia’s (NS), Crown Lands Act (CLA) and the Forests Act determine public policy for forest operations and forest regeneration and do not reference the use of genetically modified seedlings in forest regeneration. The</p>

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	<p>Forests Act (Sec.7,8,9) places the focus on natural regeneration in selection systems with planting “undertaken where sites are not expected to regenerate adequately on their own.” This requirement pertains to Crown land and is recommended for use on industrial private land and private woodlots. This requirement does not prohibit or encourage the use of GMOs. NS has a history of tree improvement. NS Tree Improvement Working Group (1978) is a member of Atlantic Tree Improvement Council, and a contributor to Genome Atlantic. NS operates eight seed orchards producing genetically improved seed for reforestation of Crown and private land. The tree-breeding programs run by the provincial and federal governments do not involve any genetic engineering, gene insertion, gene splicing or biotechnology that results in genetically modified organisms.</p> <p>There is no forest tree seed registry or guidelines related to the use and movement of tree seed in NS. The Canadian Food Inspection Agency’s oversight of plants with a novel traits covers both the unconfined environmental release and enforcement of unauthorised release.</p> <p>The Canadian Food Inspection Agency will conduct a risk assessment of the use of the novel plant and if the novel traits include resistance to pests, herbicides or diseases, a stewardship plan is required. On Crown land, the Department of Natural Resources and Renewables (DNRR) provide oversight through reviews and approval of all Forest Management Plans (FMPs), which include planned silviculture. The planting of genetically modified plants needs to be assessed as part of the FMP review. Industrial private land and private woodlots are guided by the Forest Sustainability Regulation under the Forests Act—there are no restrictions on the use of GMOs other than federal regulations. Woodlot associations provide guidelines for forest planning.</p> <p>As of 2022, genetically modified tree research trials are only being conducted in Alberta, New Brunswick, Ontario and Quebec; these are typically small (i.e. approximately 2 ha). Spruce (<i>Picea</i> sp.) is the only species that has been identified as a candidate for genetic modification (Genome Canada). There are currently no trials in NS. There is no GMO tree seed used in NS. All commercial reforestation seed is produced in seed orchards developed through a traditional tree breeding program which began with tree selection from natural forests several decades ago. NS has an extensive seed inventory and contribute to the National Tree Seed Registry. NS does not have seed usage regulations governing how and where seed is deployed within the province. NS’s breeding program uses two seed zones for the entire province: one seed zone for genetically improved seed for lowland planting and the other for the Cape Breton Highlands. Commercially available GMO forest tree stock is not grown or available in NS. There are no reports of any use of GMO’s seedlings in reforestation operations.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a comprehensive federal and provincial regulatory framework, protocol requirements for implementation and government monitor programs controlling production and subsequent use of GMO. Results verified there is no production capacity for GMO seedlings and no commercial use of genetically modified tree species in NS. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• GMO protocols &amp; trial data</li> </ul>

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	<ul style="list-style-type: none"> <li>• Regeneration assessments, applicable to the supply base area</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> </ul>
<i>Evidence reviewed</i>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Natural Resources Canada, Research Projects – Research on the potential environmental impact of genetically modified trees</a></li> <li>• <a href="#">Canadian Food Inspection Agency – FIA - Division 28 Novel Foods section of the Food and Drug Regulations C.R.C., c. 870</a></li> <li>• <a href="#">Genome Canada</a></li> <li>• <a href="#">Plant Protection Act</a></li> <li>• <a href="#">Questions and Answers: Revisions to Directive 94-08 – Assessment Criteria for Determining Environmental Safety of Plants with Novel Traits</a></li> <li>• <a href="#">Seed Act</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act Bill 9</a></li> <li>• <a href="#">Forests Act Bill 155</a></li> <li>• <a href="#">Nova Scotia woodlot Owners and Operators Association</a></li> </ul> <p><u>Other</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Diaz, Julia M and Judith L. Fridovich-Keil. 2020. Genetically modified organism.</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>

**Principle 3 – Feedstock is only sourced from Supply Bases where the forest carbon stock is stable or increasing in the long term**

**Criterion 3.1 – Feedstock sourcing is consistent with international requirements for land use, land-use change and forestry (LULUCF) emissions**

<p><b>3.1.1</b></p>	<p><b>LULUCF emissions shall be accounted for through one of the following routes:</b></p> <p><b>Route A</b></p> <p>Feedstock may be sourced from a country of origin which is party to the Paris Agreement, and which has submitted a Nationally Determined Contribution to the United Nations Framework Convention on Climate Change (UNFCCC) covering carbon emissions and removals from agriculture, forestry and land use which ensure the changes in carbon stock associated with biomass harvest are counted towards the country’s commitment to reduce or limit greenhouse gas emissions, or</p> <p><b>Route B</b></p> <p>Feedstock may be sourced from a country of origin which is party to the Paris Agreement and has national or sub-national laws in place (developed in accordance with Article 5 of the Paris Agreement and applicable in the area of harvest), to conserve and enhance carbon stocks and sinks, and provided there is evidence that reported LULUCF-sector emissions do not exceed removals, or</p> <p><b>Route C</b></p> <p>Feedstock may be sourced from a Supply Base where an assessment demonstrates that both the carbon stock is stable, and the forests’ capacity to act as a carbon sink is stable or increasing over the long term.</p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b></p> <p>Provincial</p> <p><b>Analysis</b></p> <p>Land Use, Land Use Change, and Forestry (LULUCF) is one of the sectors countries are required to report on in annual national greenhouse gas (GHG) accounts to the United Nations Intergovernmental Panel on Climate Change (IPCC). Land use change driven by deforestation is a key source of global GHG emissions. Afforestation and restoration projects are being undertaken in many countries at scale, which will increase carbon stocks in the LULUCF sector. There are treaties and agreements at the international, national, regional and local levels, designed to reduce GHG emissions. The European Union’s Renewable Energy Directive 2018/2001 (REDII) of 11 December 2018 is applicable to biomass entering the European Union (EU) and requires tracking GHG emissions impacts associated with renewable energy. LULUCF is part of the REDII calculation. This Indicator is intended to ensure feedstock sourcing complies with REDII requirements for LULUCF emissions. In REDII, the overall EU target for renewable energy sources consumption by 2030 is 32%. REDII also includes a set of sustainability criteria that apply to biofuels, which include provisions with respect to land use change.</p> <p>Countries that do not track the GHG balance associated with the LULUCF sector do not know how much the sector is contributing to climate change, nor do these countries have the information required to determine an appropriate course of action to reduce emissions.</p>

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	<p>Presently, the principal international treaty is the Paris Agreement, which is legally-binding. The agreement came into force in November 2016 and by 2020, signatories were required to provide Nationally Determined Contributions (NDCs) to reducing GHG emissions. NDCs include the GHG reduction levels the signatory intends to meet by 2030 and communicates the actions planned to meet the commitment.</p> <p><b>Enforcement and monitoring</b></p> <p>Countries have the choice of determining how to meet targets under the Paris Agreement and REDII. Countries have set targets in the NDC for 2030 and are required to report progress towards targets every two years. The NDCs are legally binding. Canada has outlined a variety of approaches as to how it will achieve its goal in its NDC. Canada's NDC specifies the expected impacts of actions taken in the LULUCF sector, plus the proposed contributions from nature-based solutions and reductions in emissions. Countries meet regularly and report on progress against each country's NDC. The biofuel sourcing criteria are enforced by customs agencies. This Indicator provides three routes for compliance. Route A is applicable to Canada and, by extension, to Nova Scotia. Canada is a signatory to the Paris Agreement and provided its NDC in July 2021. The NDC sets out Canada's GHG emission reduction goals, which incorporate the contribution of the LULUCF sector in national accounting systems and estimates future carbon stocks and emissions.</p> <p>Canada's NDC sets a goal of reducing its 2030 emissions to 40-45% below the 2005 emissions level and reaching net zero by 2050. Because the NDC includes the impacts of changes in the LULUCF sector, Canada (and Nova Scotia) meets the requirements of Route A in this Indicator.</p> <p><b>Risk conclusion and justification</b></p> <p>LULUCF emissions are accounted for through Route A and have been met at the national level by Canada. Based on evidence reviewed, this Indicator is designated as low risk for Nova Scotia.</p>
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Paris Agreement signatory</li> <li>• Nationally Determined Contributions for reduced GHG emissions targets and progress reports</li> </ul>
<i>Evidence reviewed</i>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">European Union's Renewable Energy Directive 2018/2001 REDII</a></li> <li>• <a href="#">The Paris Agreement</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canada's Nationally Determined Contribution</a></li> </ul>
<i>Risk rating</i>	<p>Provincial <b>Low risk</b></p>

**Criterion 3.2 – Carbon stocks in the forest area of the Supply Base are stable or increasing in the long term**

<p><b>3.2.1</b></p>	<p><b>All feedstock sourcing shall be consistent with either of these two options:</b></p> <p><b>Option A</b> Feedstock may be sourced from Supply Bases where an assessment of the Supply Base shows that the forest carbon stocks are stable or increasing, or</p> <p><b>Option B</b> Feedstock may be sourced, if the assessment shows that the forest carbon stocks are declining in the Supply Base, provided that the decline is due to natural processes (fire, pests etc.), and sourcing of feedstock has the aim to recover feedstock that would otherwise be lost or to assist regeneration.</p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> This Indicator requires an assessment of the trend in total forest carbon in the supply base. Forests store and sequester significant quantities of carbon above and below ground. Forest carbon is present in live forest biomass, dead biomass (dead twigs, branches, logs, and trees), leaf litter, and forest soil. These carbon pools are included in the assessment of carbon stock quantities. Models are able to simulate carbon stocks and flows between the various pools, as well as emissions into the atmosphere and sequestration of carbon. When losses of biomass exceed growth, there will be a decline in forest carbon stocks. Large scale and/or long-term natural disturbances such as wildfire and/or insect outbreaks may cause significant losses of forest carbon stocks. Forests experiencing declining forest carbon stocks are net emitters of greenhouse gases (GHG) and are contributing to climate change. In Nova Scotia (NS), there are no specific regulatory requirements that forests must be managed to maintain or increase carbon stocks.</p> <p><b>Enforcement and monitoring</b> The federal Environment and Climate Change Canada is required to prepare an annual GHG inventory report, National Inventory Report: Greenhouse Gas Sources and Sinks in Canada, to meet its international obligations under the United Nations Framework Convention on Climate Change. Natural Resources Canada (NRCAN) uses the Carbon Budget Model to prepare the forest-related components of the National Inventory Report providing estimates of carbon emissions, removals, and other fluxes for the Canadian forest sector. NRCAN’s Carbon Budget Model simulates changes in forest carbon stocks in Canadian forests. The Carbon Budget Model uses provincial forest inventory data and provincial growth and yield data. Data for disturbances such as wildfire, major insect infestations, harvest, and deforestation are sourced from both federal (e.g., wildfire) and provincial (e.g., insect) mapping initiatives. The Carbon Budget Model provides data on the carbon stocks in live and dead biomass (above and below ground), litter layer, and soil, collectively termed total ecosystem carbon. Total forest ecosystem carbon is the result of growth, natural disturbances, harvesting, deforestation, and afforestation, as well as impacts due to changes within the carbon pools (e.g., emissions from decay of the dead wood). The Carbon Budget Model also simulates the annual change in carbon stock that is reported out as Net Ecosystem Productivity. NRCAN’s methodology is supported by more than 100 peer reviewed scientific papers that describe aspects of the methodology, data used, parameterization, and use of model outputs. The NS Department of Natural Resources and Renewables (DNRR) also completes an assessment of forest carbon stocks by examining changes in biomass recorded</p>

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	<p>from a network of permanent sample plots.  NRCAN, in partnership with DNRR, provides oversight and monitors forest carbon stocks, GHG emissions, and other fluxes.  Specific to NS, the Net Ecosystem Productivity metric in the Carbon Budget Model is the sum of all carbon increments in a year less losses due to litterfall, biomass turnover, disturbances, harvesting, and decomposition. Between 2017 and 2021, the annual values of Net Ecosystem Productivity were positive indicating the forest accumulated carbon. DNRR's network of permanent sample plots results show a 10% increase in forest carbon between 2012 and 2016, and 2017 and 2021. Both carbon analyses show the forest carbon stock has been stable to increasing from 2012 to 2021. The National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada 2023 produced by Environment and Climate Change Canada includes the results evaluated above. As of March 2024, carbon stock change associated with 2022 and 2023 disturbances has not been published in the National Inventory Report.</p> <p><b>Risk conclusion and justification</b>  Both the NRCAN and DNRR data showed the combined impacts of timber harvesting and disturbances have been equal to or below the level of growth, resulting in stable to increasing forest carbon stocks. Based on evidence reviewed, Nova Scotia meets the criterion for Option A in the Indicator and is designated as low risk at the provincial level.</p>
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>● Carbon stock analysis, accounting for natural disturbance, applicable to the supply base</li> <li>● Permanent sample plot data, applicable to the supply base</li> <li>● Chain of custody procedures, including fibre tracking</li> <li>● Fibre procurement policy &amp; procedures</li> <li>● Supplier verification program</li> <li>● Supplier transportation documentation (origin &amp; species)</li> <li>● Interview with suppliers</li> </ul>
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>● <a href="#">Environmental Goals and Climate Change Reduction Act</a></li> <li>● <a href="#">Forest carbon data provided by the Nova Scotia government</a></li> <li>● <a href="#">Nova Scotia State of the Forest Report 2016</a></li> <li>● Provincial permanent sample plot data</li> <li>● <a href="#">Registry of Buyers of Primary Forest Products, 2022 Calendar Year</a></li> <li>● Results from the Carbon Budget Model CBM-CFS3 from Natural Resources Canada</li> <li>● <a href="#">State of the Forest Report 1995-2008</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>

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3.2.2	<p><b>Primary feedstock shall not be sourced from forest areas where site productivity is low and, according to local definitions or norms, the areas are classified as low-productive or difficult to regenerate.</b></p>
Findings	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  Primary feedstock is fibre delivered directly from the forest to a wood pellet facility. Typically, this includes low-grade roundwood, logging slash, and ground or chipped material. This Indicator only pertains to the sourcing of primary feedstock. Processing residue feedstock (mill residuals) and post-consumer feedstock are excluded from the requirements of this Indicator. The Indicator is intended to ensure primary feedstock is not sourced from the least productive forest sites, which usually support slow-growing forests. In Nova Scotia (NS), such sites could include rocky maritime coasts, forests with thin, wet or poor soils or with other limiting site characteristics that inhibit tree growth. Many such forests would be considered inoperable and would not be part of the forest that contributes to the long-term sustainable harvest levels. See Indicator 2.2.9 – Long-Term Production Capacity, for more details on long-term production capacity. The Indicator also stipulates that primary feedstock will not be sourced from sites that are difficult to regenerate. See Indicator 2.2.10 – Regen After Harvest, for more details on regeneration.  Harvesting from slow-growing forests result in an extended time before the renewed stand accumulates sufficient carbon stocks to replace those removed. Similarly, harvesting from forests that are difficult to regenerate results in uncertain renewal prospects and therefore uncertain future carbon stocks.</p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act (CLA)</li> <li>• Forests Act</li> </ul> <p><u>Industrial Private Land</u>  There is no regulatory framework to prevent harvesting sites with low productivity or difficult to regenerate on industrial private land.</p> <p><u>Private Woodlots</u>  There is no regulatory framework to prevent harvesting sites with low productivity or difficult to regenerate on private woodlots.</p> <p><b>Enforcement and monitoring</b></p> <p><u>Crown Licence</u>  The Nova Scotia (NS) Department of Natural Resources and Renewables (DNRR) has authority to administer the Crown Lands Act (CLA) and the Forests Act. The CLA provides the regulatory framework for long-term sustainable harvest levels, which includes identification of low productive sites and requirements for post-harvest regeneration on Crown Licence. The Nova Scotia Silvicultural Guide to the Ecological Matrix (SGEM), prepared by DNRR, provides direction on acceptable management prescriptions for each forest type on Crown land. Crown licensees’ management prescriptions, including those with a Forest Management Plan (FMP) (i.e., Forest Utilization Licence Agreement areas) must conform to the SGEM. DNRR’s allowable prescriptions are set based on the ecosite type. Several ecosites of low productivity/difficult to renew are not allowed to</p>

## Annex 1 Detailed findings for Supply Base Evaluation

be harvested, as enforced by DNRR. Sites of low productivity are correlated with sites that have renewal challenges. Nova Scotia's Code of Forest Practice and SGEM provide guidelines for reforestation planning and implementation. Licensees prepare FMPs and site plans accounting for sites of low productivity and difficult to regenerate.

### Industrial Private Land

As of March 2024, there is no publicly available information describing implementation mechanisms that restricts timber harvesting from low productivity or difficult to regenerate sites on industrial private land.

### Private Woodlots

As of March 2024, there is no publicly available information describing implementation mechanisms that restricts timber harvesting from low productivity or difficult to regenerate sites on private woodlots.

### Crown Licence

DNRR is responsible for reviewing and approving every proposed harvest plan as part of the Integrated Resource Management process and determines if the plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various forest management values during the Integrated Resource Management process, including considerations consistent with the SGEM. DNRR monitors regeneration through its Forest Operations Monitoring Program (FOMP).

### Industrial Private Land

Owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework that restricts timber harvesting from low productivity or difficult to regenerate sites on industrial private land.

### Private Woodlots

Owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework that restricts timber harvesting from low productivity or difficult to regenerate sites on private woodlots.

### Crown Licence

Low-productivity sites are removed from the harvesting land base on Crown license area during DNRR approval process. Sites of low productivity are correlated with sites that have renewal challenges. DNRR FOMP data verified Crown licensees comply with regeneration requirements.

### Industrial Private Land

As of March 2024, there are no publicly available results to verify that timber harvesting avoids sites of low productivity or difficult to regenerate on industrial private land.

### Private Woodlots

As of March 2024, there are no publicly available results to verify that timber harvesting avoids sites of low productivity or difficult to regenerate on private woodlots.

## **Risk conclusion and justification**

### Crown Licence

There is a comprehensive regulatory framework governing the determination of long-term sustainable harvest levels. Government legislation and guidance demonstrates long-term sustainable harvest levels are calculated based on applicable inventory and growth data, excluding low-productivity sites. Low-productivity sites are removed from by DNRR at the approval stage. DNRR inspection of renewal verify compliance. Based on evidence reviewed, this Indicator is designated as low risk for Crown land in Nova Scotia.

### Industrial Private Land

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	<p>Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results to verify the identification and avoidance of timber harvesting from low-productive or difficult to regenerate sites, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results to verify the identification and avoidance of timber harvesting from low-productive or difficult to regenerate sites, a precautionary approach is applied. As such, this Indicator is designated as specified risk for private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Maps/data of low productive sites, applicable to the supply base</li> <li>• Records of regeneration failures, applicable to the supply base</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Supplier transportation documentation (origin &amp; species)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>3.2.3</b>	<b>Primary feedstock shall not be sourced from forest areas in the Supply Base which, according to local definitions or norms, are classified as having combined attributes of high carbon stocks and high conservation value (HCV).</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence</p>						

Industrial Private Land  
Private Woodlots

### Analysis

Primary feedstock is fibre delivered directly from the forest to a wood pellet facility. Typically, this includes low-grade roundwood, logging slash, and ground, or chipped material. This Indicator only pertains to the sourcing of primary feedstock. Processing residues feedstock (mill residuals) and post-consumer feedstock are excluded from the requirements of this Indicator. SBP's Standard 1 Guidance document indicates "high carbon stock forests as forests that have significant amounts of carbon stored in their above-ground biomass, belowground biomass, and soil. The exact threshold for what constitutes a high carbon stock forest will vary depending on the context. Forests that stand at the top 10% of the volume per ha in the region, with adjustment to reflect normal range for species or mix, would normally be considered 'high carbon' and warrant further examination and justification." The European Union (EU) indicates "high carbon stocks to be in wetlands, peatlands and forests (EU RED II, EU Glossary Item: "Land with high carbon stock"). In the context of forest ecosystems, mature and old-growth forests have the highest carbon stocks, and are also important for biodiversity, especially those with a higher degree of naturalness" (e.g. Molina-Valero et al. 2021, Kēniņa et al. 2019, Nord-Larsen et al. 2019, Seedre et al. 2015, Luysaert et al. 2008). SBP's Standard 1 Guidance document indicates "high conservation value forests are forests that are considered to be of exceptional ecological, social, or cultural value. These forests may contain rare or threatened species, provide critical ecosystem services, or support the livelihoods and cultural practices of indigenous or local communities. The definition of high conservation value forests is often context-specific and may vary depending on the location and the stakeholders involved." High conservation value forests were evaluated thoroughly in Indicators 2,1,1 Key Eco/HCV Identified, 2.1.2 Key Eco/HCV Threats ID and Eval, and 2.1.3 Key Eco/HCV Maintained or Enhanced. For those Indicators, the HCV proxies used were:

- Landscape-level: wide ranging species-at-risk, large landscape, and Intact Forest Landscapes.
- Stand-level: small home range species-at-risk, rare, threatened and endangered ecosystems, and key habitat attributes, including old forests.

Indicator 3.2.1 Forest Carbon Stocks Stable or Increasing assessed carbon stock a trend of the total forest carbon in the supply base, but did not delineate and/or classify or identify specific high carbon stocks. A proxy for high carbon stocks in the forests of Canada are forests at the maximum of carbon sequestration in standing fibre (e.g top 10% of inventoried volume per hectare). In the absence of inventoried volume per hectare these would in most cases be the oldest and densest forests (top 10% as a target). In addition, these forests typically have a high concentration of biodiversity values. This Indicator is intended to ensure primary feedstock is not sourced from forests that have combined attributes of high levels of carbon stocks and high conservation values. The areas where these proxies (high carbon and HCV) overlap are focus of Indicator 3.2.3 No Primary Feedstock from HCS & HCV.

Sourcing primary feedstock from forests with the combined attributes of high carbon stocks and high conservation values (as defined above) will reduce the carbon stocks and conservation values present. As well, the forest that regrows is unlikely to reach the same levels of carbon stocks, leading to a net emission of carbon into the atmosphere when these stands are harvested.

#### Crown Licence, Industrial Private Land & Private Woodlots

There is no regulatory framework, provincial policy or planning direction specific to high carbon stock forests. The regulatory framework regarding high conservation values was described in the assessment of Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced. There is no regulatory framework to prevent harvesting forests with the combined attributes of high carbon stocks and high conservation values on Crown licence, industrial private land and private woodlots.

### Enforcement and monitoring

Crown Licence, Industrial Private Land & Private Woodlots

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>As there is no regulatory framework, provincial policy or planning direction specific to high carbon stock forests, there is no publicly available information describing the implementation mechanisms for the management of high carbon stocks on Crown licence, industrial private land and private woodlots. The implementation mechanisms for high conservation values were described in the assessment of Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced. for Crown licence, industrial private land and private woodlots. As of March 2024, there is no publicly available information describing an oversight and/or monitoring framework to prevent harvesting forests with the combined attributes of high carbon stocks and high conservation values on Crown licence, industrial private land and private woodlots. <u>Crown Licence, Industrial Private Land &amp; Private Woodlots</u></p> <p>As there is no regulatory framework, provincial policy or planning direction specific to high carbon stock forests, there is no publicly available information describing the implementation mechanisms for the management of high carbon stocks on Crown licence, industrial private land and private woodlots. The implementation mechanisms for high conservation values were described in the assessment of Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced for Crown licence, industrial private land and private woodlots. As of March 2024, there is no publicly available information describing an oversight and/or monitoring framework to prevent harvesting forests with the combined attributes of high carbon stocks and high conservation values on Crown licence, industrial private land and private woodlots. <u>Crown Licence, Industrial Private Land &amp; Private Woodlots</u></p> <p>As of March 2024, there is no publicly available results to verify that harvesting of primary feedstock is not sourced from forests that have combined attributes of high levels of carbon stocks and high conservation values on Crown licence, industrial private land and private woodlots. The assessment of Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced concluded that for biodiversity values specific to high conservation value forests (i.e., key habitat attributes and species at risk, including old forests) are a focal point and that uncertainty as to the maintenance of some biodiversity values was determined, resulting in specified risk for that Indicator on Crown licence, industrial private land and private woodlots.</p> <p><b>Risk conclusion and justification</b>  <u>Crown Licence, Industrial Private Land &amp; Private Woodlots</u>  The federal and provincial regulatory framework governing the management and maintenance of biodiversity values is extensive (Details provided in Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced). There is no regulatory framework specific to the management of high carbon stocks. A specified risk designation was applied to Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced for Crown licence, industrial private land and private woodlots. Additionally, there is a lack of evidence to support implementation mechanisms, an oversight/monitoring framework, and/or results to verify the identification and the subsequent avoidance of harvesting of primary feedstock from forests that have combined attributes of high carbon stocks and high conservation values on Crown licence, industrial private land and private woodlots. Given the lack of evidence, a precautionary approach is applied. As such, this Indicator is designated as specified risk for Crown licence, industrial private land and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Carbon stock analysis, applicable to the supply base and specific to high carbon stocks</li> <li>• High carbon stocks and high conservation values intersect analysis</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> </ul>

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	<ul style="list-style-type: none"> <li>• Maps/data of high carbon stocks, applicable to the supply base</li> <li>• Maps/data of high conservation value, applicable to the supply base</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with experts</li> </ul>						
<i>Evidence reviewed</i>	See Indicator: <ul style="list-style-type: none"> <li>• Indicator 2.1.3 Key Eco/HCV Maintained or Enhanced</li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Specified risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Specified risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

### Criterion 3.3 – Feedstock sourcing shall not compete with wood sourcing for long-lived wood products

<b>3.3.1</b>	<b>Feedstock sourcing shall be in compliance with the principles of cascading use, high quality stem wood shall not be used as feedstock if it is in substantial demand for long-lived products in the Supply Base.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Under the European Union Renewable Energy Directive 2018/2001 (REDII), considers long-term to be at least 30 years (Navigant Netherlands et al 2021). The Intergovernmental Panel on Climate Change (IPCC) Good Practice Guidance for Land Use Land Use Change and Forests (2003) provides default half-lives for forest products: sawnwood (i.e., lumber) is 35 years, and for veneer, plywood and structural panels it is 30 years. Non-structural panels have a half- life of 20 years. Using these data as a basis for describing how to assess this Indicator suggests that long-lived forest products include veneer, lumber, plywood, and other structural panels. Long-lived forest products store carbon and can keep it out of the atmosphere for extended periods of time. In this context, high-quality stem wood includes sawlogs, veneer bolts, and logs that are suitable for oriented strand board production. When processing natural resources, the highest quality raw material is typically used to produce the highest quality products, which are usually a higher value. High-quality raw material could also be used to produce lower-valued products whereas a low-valued raw material cannot produce a high-valued product. The principle of cascading use is that the highest quality raw material is used to produce the highest valued products it is capable of being made into. As the raw material descends the quality scale, the quality of the products it can be made into diminishes. The circular bioeconomy publication of the World Business Council of Sustainable Development defines the principle of cascading use as maximising "resource effectiveness by using biomass in products that create the most economic value over multiple lifetimes." This Indicator is intended to ensure feedstock procurement is not contributing to greenhouse gas (GHG) emissions by diverting high-quality stem wood away from the production of long-lived forest products.</p>

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	<p>If feedstock procurement is diverting high-quality stem wood away from the production of long-lived forest products, it will be contributing to GHG emissions. It may also negatively affect the viability of the mills that produce long-lived forest products.</p> <p>In Nova Scotia, there are no specific regulatory requirements that stem wood, or timber in general, must go to its highest and best end-use, or preferentially towards the production of long-lived forest products.</p> <p><b>Enforcement and monitoring</b></p> <p>Nova Scotia's forest products industry is highly integrated. Under all licence types, the licence holders have rights to harvest timber. Primary licensee will typically use part of the timber allocation for its mills and then sell or trade the remaining components of the harvest to other forest products companies. Producers of long-lived forest products, mainly sawlogs, are codependent on pulp mills, and pellet mills. Many pulp mills and all pellet mills depend on chips and other by-products from sawmills for a substantial part of the feedstock supply. These arrangements are underpinned by the nature and importance of the codependency relationship as well as by pricing for different timber products. In practice, this means that other than the allocations of timber rights in provincial licences, timber flows are governed by business-to-business agreements and market pricing. Integrated forest products companies are highly incentivised by the profit motive to use sawlogs (i.e., high-quality stem wood) for lumber/stud production. Similarly, harvest contractors have incentive to maximise the revenue received for the timber harvested and are highly motivated to ensure that sawlogs go to sawmills, which pay the highest price for wood and have quality specifications that preclude the use of pulpwood and other low-grade stem wood.</p> <p>There is no oversight framework in place specific to the principles of cascading as there are no relevant requirements or policies.</p> <p>The Registry of Buyers reports provide harvest data. Between 2002 and 2015, the softwood harvest declined from 5.2 million m<sup>3</sup> to 3.0 million m<sup>3</sup> (approximately 75% of the potential provincial softwood harvest), and the hardwood harvest declined from 887,228 m<sup>3</sup> to 552,013 m<sup>3</sup> (one-third of the potential provincial hardwood harvest). The declines in the softwood harvest occurred primarily with the amount of logs and bolts, which fell by roughly 2.2 million m<sup>3</sup>, compared with a 0.25 million m<sup>3</sup> decline in the pulpwood harvest. Stumpage data from 2017/18 analysed by Deloitte for the Nova Scotia government. The average stumpage price paid for a spruce-pine-fir (SPF) sawlog was \$29.48/m<sup>3</sup>, the average price for grade 1 pulpwood was \$10.79/m<sup>3</sup> and for grade 2 pulpwood was \$5.13/m<sup>3</sup>. Fuelwood/biomass had an average stumpage price of \$3.29/m<sup>3</sup>.</p> <p><b>Risk conclusion and justification</b></p> <p>Stumpage price data indicate high-value stem wood is worth much more than low-value stem wood, and this price differential drives forest product cascading. The evidence indicates that market drivers are in place to induce high-quality stem wood to be sent to its highest valued use, which is associated with long-lived forest products. The pellet facilities in Nova Scotia are largely dependent on residues produced by sawmills. This sourcing pattern, as well as the harvest data presented above, is consistent with the principles of product cascading. Based on the evidence reviewed, this Indicator is designated as low risk at the provincial level for Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Chain of custody procedures, including fibre tracking</li> <li>• Fibre procurement policy &amp; procedures</li> <li>• Supplier transportation documentation (origin &amp; species)</li> <li>• SBP supply base reports &amp; SBP audit reports</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Intergovernmental Panel on Climate Change IPCC. 2003. Good Practice guidance for Land Use Land Use Change and Forests. Appendix 3a.1. Harvested wood products: basis for future methodological development.</a></li> </ul>

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	<ul style="list-style-type: none"> <li>• <a href="#">Navigant Netherlands B.V., The European Forest Institute, The Institute for European Environmental Policy, and Oeko-Institut. 2021. Technical Assistance for the Preparation of Guidance for the Implementation of the New Bioenergy Sustainability Criteria Set Out in the Revised Renewable Energy Directive. REDIIBIO final report, February 2021.</a></li> <li>• <a href="#">World Business Council on Sustainable Development (WBCSD). 2020. Circular bioeconomy: The Business Opportunity Contributing to a Sustainable World.</a></li> </ul> <p>Provincial</p> <ul style="list-style-type: none"> <li>• <a href="#">Registry of Buyers of Primary Forest Products. 2022 Calendar Year. Report FOR 2023-1. produced annually</a></li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• <a href="#">Deloitte, Report on Prices of Standing Timber April 1, 2017 – March 31, 2018</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>

### Principle 4 – Feedstock sourcing benefits people and communities

#### Criterion 4.1 – Decent working conditions are provided, and labour rights are safeguarded

<b>4.1.1</b>	<b>Freedom of association and the right to collective bargaining shall be respected in the workplace.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Freedom of association refers to the right to join others for a legal common cause without interference. It is an individual’s right to join with other individuals and collectively express, promote, pursue, and defend common interests. The International Labour Organization (ILO) places freedom of association “at the core of the organization ILO’s values” and considers it to be a fundamental human right. The ILO continues by saying that “the right of workers and employers to form and join organizations of their own choosing is an integral part of a free and open society. Independent employers’ and workers’ organizations provide clear partners for collective bargaining and social dialogue and in many cases, they have played a significant role in their countries’ democratic transformation.” The ILO defines the term collective bargaining as “all negotiations which take place between an employer, a group of employers or one or more employers’ organisations, on the one hand, and one or more workers’ organisations, on the other, for: (a) determining working conditions and terms of employment; and/or (b) regulating relations between employers and workers; and/or (c) regulating relations between employers or their organisations and a workers’ organisation or workers’ organisations.” Issues of dispute resolution related to freedom of association and the right to collective bargaining are discussed in Indicator 4.1.9 Grievance &amp; Dispute Mechanisms – Workplace.</p> <p>Where freedom of association and the right to collective bargaining are restricted or absent, the potential exists for employers to force workers to work in unfair or unsafe situations. A restricted or absent freedom of association and/or right to collective bargaining results in a power imbalance between employees and employers, which reduces the likelihood of a fair wage, reasonable working conditions, and fair treatment. For companies, there is also an increased potential for work stoppages.</p>

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The United Nations Universal Declaration on Human Rights, of which Canada is a signatory, recognises the right to freedom of association in Article 20. Canada is signatory to the two ILO conventions that concern freedom of association and collective bargaining. Convention C087—Freedom of Association and Protection of the Right to Organize Convention (1948, ratified 1972) is in force. Convention C098—Right to Organize and Collective Bargaining Convention (1949), was ratified by Canada on 14 June 2017, and came in force one year later.

The Canadian Charter of Rights and Freedoms explicitly states that everyone has the freedom of association. The Charter applies throughout Canada and overrides any inconsistent provincial legislation. The Charter's Freedom of association protects three classes of activities:

- (1) The constitutive right to join with others and form associations;
- (2) The derivative right to join with others in the pursuit of other constitutional rights; and
- (3) The purposive right to join with others to meet on more equal terms the power and strength of other groups or entities.

The Supreme Court of Canada has recognised the right to collective bargaining as a component of freedom of association. Freedom of association is protected provincially in Nova Scotia (NS) under the NS Trade Union Act. The Act governs rights, duties, and unfair labour practices; collective bargaining; and strikes, lockouts, and picketing. The NS Labour Board Act describes the NS Labour Board, its members and powers to conduct what the Board deems necessary to fully investigate any matter within its jurisdiction.

### Enforcement and monitoring

The United Nations (UN) Universal Declaration of Human Rights, Article 20 on Freedom of Association is implemented by the Human Rights Council. The UN provides technical advice, tools, and guidance to all stakeholders on measures needed to facilitate and protect freedom of association. Additionally, the UN's work involves advising on the enabling environment and legal framework needed for the operation of associations. The ILO regularly promotes freedom of association and the right to collective bargaining—from advising governments on labour legislation to providing education and training for trade unions and employer groups. The ILO Committee on Freedom of Association hears complaints regarding freedom of association. Freedom of association is protected under the Canadian Charter of Rights and Freedoms but is implemented at the provincial level. The NS Trade Union Act is implemented by the Department of Labour, Skills and Immigration, Labour Standards Division. The Conciliation and Mediation Services Office is an independent office within the Department of Labour, Skills and Immigration that addresses conflicts between unionised workers and employers. The NS Labour Board is an independent adjudicative body which decides upon disputes under the Trade Union Act. The Board is available to support all parties (trade unions, employers and employees) in resolving disputes which were not settled through conciliation and mediation processes of the Conciliation and Mediation Services Office. Trade unions are active in pursuing collective agreements within the province.

The UN has appointed a Special Rapporteur on the rights to freedom of peaceful assembly and of association and monitors discrimination globally through the Special Procedures of the Human Rights Council. The United Nations conducts investigations regarding alleged violations of human rights, including the freedom of association and the right to collective bargaining. The ILO has a procedure that allows a complaint to be filed against a member state for not complying with a ratified convention. Complaints are investigated with the action dependent upon the particulars of the case. Several international organisations, including the ILO, track labour statistics and conditions, and publish country assessments and rankings. These could be used as a basis for the ILO to sanction Canada for non-conformance with ILO requirements.

The ILO regularly examines the application of standards in member states and points out areas where standards could be better applied. The International Trade Union Confederation (ITUC) Global Rights Index assess and report publicly on the status of the freedom of association and the right to collective bargaining in countries around the world. Statistics Canada reports the number of unionised versus non-unionised workers by industry and province. The Canadian Foundation for Labour Rights reports on legislation which restricts freedom of association. Complaints and concerns of unionised workers can be heard, free of charge, by the NS Department of Labour, Skills and Immigration, Conciliation and Mediation Services Office, which internally tracks rates of resolution. The NS Labour Board oversees all complaints involving the NS Trade Union

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	<p>Act. Complaints can be brought forward to the Board by unions, employers or employees. Contact information for the Board and a description of the process are made publicly available through the Board’s website. There are several mechanisms in place to resolve grievances and disputes. Collective agreements are publicly available on the open data website. The NS Labour Board self-reports on outcomes publicly on the Canadian Legal Information Institute website.</p> <p>As of September 2023 the UN has initiated 37 investigative inquiries globally; none were in Canada.</p> <p>ILO Commission of Inquires are taken against countries, not regions or companies. Commissions are only initiated when a country has persistent and serious violations. As of September 2023, only 14 Commissions have been convened, none of which were against Canada. Outcomes of Commissions are publicly available The ILO Committee on Freedom of Association investigates complaints regarding freedom of association. None of the cases investigated by the ILO in the decade previous to September 2023 are related to either NS or forestry. The ITUC Global Rights Index ranks countries against 97 internationally recognised indicators to assess where workers’ rights are best protected, in law and in practice. The 2023 ITUC Global Rights Index assigned Canada a rating of three, where a score of one is exemplary and a score of five indicates poor conditions for labour. The report specifically notes “In Canada, trade unions registered significant numbers of cases of employers engaging in bad faith collective bargaining.” Statistics Canada reports, as of September 2023, that NS has a rate of unionisation within the natural resource sector (forestry, fishing, mining, quarrying, oil &amp; gas) of 26.1% of workers unionised. A review of the Canadian Foundation for Labour Rights’ website indicates that there have not been any concerns raised with legislation restricting freedom of association in NS in the last decade (Sept 2013 - Sept 2023). No public reporting for the Nova Scotia Department of Labour, Skills and Immigration, Conciliation and Mediation Services Office was found. An internet review conducted in September 2023 indicates unionisation of facilities is ongoing in NS and does not indicate any specific concerns with regards to freedom of association and the right to collective bargaining in the forest industry in NS.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a strong regulatory framework to protect freedom of association and the right to collective bargaining; there is a culture of awareness of the freedom to associate and the right to collective bargaining; and there is no evidence of recent efforts to curtail either freedom of association or collective bargaining in the forest sector. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Company human resources policies/procedures</li> <li>● Collective bargaining agreements</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Oversight agency database records and/or reports</li> <li>● Publicly available information (reports, news &amp; websites)</li> <li>● Interviews with regulatory/oversight agency</li> <li>● Interviews with trade unions</li> <li>● Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>● International Labour Organization. <a href="#">Freedom of Association</a>.</li> <li>● International Labour Organization. <a href="#">What is collective bargaining</a>.</li> </ul>

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	<ul style="list-style-type: none"> <li>• International Labour Organization. <a href="#">Ratifications for Canada.</a></li> <li>• International Labour Organization. <a href="#">International Labour Standards on Freedom of Association.</a></li> <li>• International Labour Organization. <a href="#">International Labour Standards on Collective Bargaining.</a></li> <li>• International Labour Organization. <a href="#">How the ILO Works.</a></li> <li>• International Labour Organization. <a href="#">Complaints.</a></li> <li>• International Labour Organization. <a href="#">Committee on Freedom of Association.</a></li> <li>• United Nations. <a href="#">Universal Declaration of Human Rights.</a></li> <li>• United Nations. <a href="#">Freedom of assembly and association.</a></li> <li>• United Nations. <a href="#">Special Rapporteur on freedom of peaceful assembly.</a></li> <li>• United Nations. <a href="#">Human Rights Council-mandated Investigative Bodies.</a></li> <li>• International Labour Organization. <a href="#">Canada Freedom of association cases.</a></li> <li>• International Trade Union Confederation. <a href="#">2023 Global Rights Index.</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Government of Canada. <a href="#">Section 2(d) Freedom of Association.</a></li> <li>• Statistics Canada. <a href="#">Union coverage by industry, monthly, unadjusted for seasonality.</a></li> <li>• Canadian Foundation of Labour Rights. <a href="#">Restrictive Laws.</a></li> <li>• Canadian Legal Information Institute. <a href="#">Homepage.</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Nova Scotia Trade Union Act.</a></li> <li>• <a href="#">Labour Board Act.</a></li> <li>• Department of Labour, Skills and Immigration. <a href="#">Conciliation and Mediation Services.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Homepage.</a></li> <li>• Nova Scotia Government. <a href="#">Open Data Portal.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Annual Reports.</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>4.1.2</b>	<b>Forced or compulsory labour shall not be used.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b></p>

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Compulsory labour, also referred to as forced labour, was defined by the International Labour Organization (ILO) in the 1930 Forced Labour Convention as “all work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily.” It refers to situations in which persons are coerced to work using violence or intimidation or by more subtle means such as manipulated debt, retention of identity papers, or threats of denunciation to immigration authorities.

The ability of an individual to choose where he or she is willing to work and to decline unsafe work is an important right in a just society and is also important for the well-being of the individual. In a compulsory labour situation, salary, benefits, property, or documents may be withheld to force workers to continue working. Workers may also be forced to pay fees for employment, equipment, food and/or lodging.

The United Nations (UN) Universal Declaration on Human Rights, of which Canada is a signatory, states the “No one shall be held in slavery or servitude” in Article 4.

Canada is signatory to two relevant ILO Convention: C029–Forced Labour Convention (1930, ratified 2011) and C105–Abolition of Forced Labour Convention (1957, ratified 1959). There are six offences that address human trafficking in the Canadian Criminal Code. The Code is administered by the Attorney General of Canada. Additionally, human trafficking is an offense under section 118 of the Immigration and Refugee Protection Act, overseen by Immigration, Refugee and Citizenship Canada. The Nova Scotia (NS) Department of Labour, Skills and Immigration regulates workplace and employment conditions, including employment in the forest industry. The Labour Standards Code and its regulations set minimum standards for wages, hours, time-off including vacations and other aspects of working conditions in most workplaces (i.e., employment of children, frequency of pay, recruitment rules, and enforcement). In general, the Code applies to all employees who work for an employer, including temporary foreign workers, including temporary foreign workers. The Labour Standard Code does not mention compulsory labour explicitly however it contains provisions intended to ensure that employees are not over- worked.

### **Enforcement and monitoring**

The UN Universal Declaration of Human Rights, Article 4 on the prohibition of slavery and servitude is implemented by the Human Rights Council. The UN requests, receives and exchanges information on forced labour and recommends action and measures applicable at the nation, regional and international levels to eliminate forced labour practices. The ILO has launched a global Fair Recruitment Initiative to: (i) help prevent human trafficking; (ii) protect the rights of workers, including migrant workers, from abusive and fraudulent practices during the recruitment and placement process. The ILO also engages in education and implementation of country- based initiatives. There is a national Human Traffic Coordination Centre to support the provincial agencies in combatting human trafficking through activities such as training and establishing a national database of traffickers. The Criminal Code is nationally applicable and is implemented in NS through the Department of Justice. The Department of Justice prosecutes crimes and shares information relative to legal issues. There is a provincial Human Trafficking Unit and a provincial human trafficking hotline. The NS Department of Labour, Skills and Immigration, Labour Standards Division implements the Labour Standards Code by providing awareness sessions and presentations to employers, employees and recruiters; investigating and resolving labour standards complaints; auditing pay and recruitment records; and answering inquiries from the public by phone, email, and in person. Employers have the obligation to register employees with the Department of Labour, Skills and Immigration and with related agencies. There is contact information on the Department website should there be a concern regarding any labour issue, including forced labour. Where a collective agreement exists, trade unions would work closely with employers and employees to ensure the requirements of the Code or collective agreement is fully implemented.

The UN has appointed a Special Rapporteur on contemporary forms of slavery which monitors forced labour globally. The United Nations conducts investigations regarding alleged violations of human rights, including forced labour. The ILO has a procedure that allows a complaint to be filed against a member state for not complying with a ratified convention. Complaints are investigated with the action dependent upon the particulars of the case. Several international organisations, including the ILO, track labour statistics and conditions and publish country assessments and rankings. These could be used as a basis for the ILO to sanction Canada for non-conformance with ILO

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requirements. The ILO regularly examines the application of standards in member states and points out areas where standards could be better applied. The Criminal Code is enforced throughout Canada by police and the judicial system. The federal government has taken measures to suppress forced labour, including setting up a special team within the Royal Canadian Mounted Police (RCMP) to combat trafficking and sexual exploitation. The RCMP maintains a human trafficking hotline. No publicly available oversight of RCMP relative to forced labour was found. The NS Department of Labour, Skills and Immigration, Labour Standards Division is the first responder of complaints. Employees have access to complaint mechanisms defined in the Code. If the Labour Standards Division's decision is unsatisfactory, the matter is referred to the NS Labour Board. The Board adjudicates labour and employment matters, including those under the scope of the Labour Standards Code. The NS Labour Board self-reports publicly and publishes all decisions on Canadian Legal Information Institute website. No publicly available oversight of the NS Department of Justice relative to forced labour was found. No publicly available oversight of trade unions relative to forced labour was found.

As of September 2023 the UN has initiated 37 investigative inquiries globally; none were in Canada. ILO Commissions of Inquiry are taken against countries, not regions or companies. Commissions are initiated only when a country has persistent and serious violations. As of September 2023, only 14 Commissions have been convened, none of which were against Canada. Outcomes of Commissions are publicly available. Although forced labour is a significant global problem, it is relatively uncommon in Canada. According to the Global Slavery Index, in 2018, Canada ranked 26 out of 181 evaluated countries in the World (1 being the best) with an estimated 0.018% population in modern slavery. Canada has one of the lowest estimated prevalence of modern slavery by population proportion. The top ranked countries generally have more economic wealth, score higher on government response, have low levels of conflict, and are politically stable with a willingness to combat modern slavery. Between 2010 and 2020, police services in Canada reported nearly 3,000 instances of human trafficking. Nearly all of those instances (86%) were in metropolitan areas and not related to the forest industry. No public reporting on outcomes for the NS Department of Justice relative to workplace grievances related to forced labour were found. The NS Labour Board publishes annual reports which describe a sample of matters considered and summarises the year's activities. A review of the 2021/2022 annual report, the last available as of September 2023, found no investigations of forced labour had been recorded. An internet review conducted in September 2023 did not indicate there were any specific concerns with compulsory labour within the NS forest industry.

### **Risk conclusion and justification**

While human trafficking is a risk in all industries globally, Canada's combined legislative regime, high level of economic wealth, low level of conflict, and high level of political stability results in a lower risk of human trafficking occurring. Forestry in Canada occurs outside metropolitan areas and is not an industry with high instances of forced labour. Based on the evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.

### *Means of verification*

- Regulatory framework
- Regulatory agency websites
- Company human resources policies/procedures
- Regulatory compliance and enforcement data/reports
- Oversight agency database records and/or reports
- Publicly available information (reports, news & websites)
- Workforce/employment records
- Interviews with regulatory/oversight agency
- Interviews with trade unions
- Interviews with workers

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<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• United Nations. <a href="#">Universal Declaration of Human Rights</a>. 10 December 1948.</li> <li>• United Nations. <a href="#">Special Rapporteur on contemporary forms of slavery</a>.</li> <li>• United Nations. <a href="#">Human Rights Council-mandated Investigative Bodies</a>.</li> <li>• International Labour Organization. <a href="#">What are forced labour, modern slavery and human trafficking?</a>.</li> <li>• International Labour Organization. <a href="#">Ratifications for Canada</a></li> <li>• International Labour Organization. <a href="#">How the ILO Works</a>.</li> <li>• International Labour Organization. <a href="#">Complaints</a>.</li> <li>• International Labour Organization. <a href="#">Fair Recruitment Initiative</a>.</li> <li>• International Labour Organization. <a href="#">Q &amp; A on Business and Forced Labour</a>.</li> <li>• Walkfree. <a href="#">Global Slavery Index</a>. 2018.</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Criminal Code</a>.</li> <li>• Public Safety Canada. <a href="#">Human Trafficking</a>.</li> <li>• Criminal Justice. <a href="#">Human Trafficking</a>.</li> <li>• Public Safety Canada. <a href="#">Human Trafficking National Coordination Centre</a></li> <li>• Statistics Canada. <a href="#">Trafficking in Persons in Canada</a>. 2020.</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Labour Standards Code</a>.</li> <li>• <a href="#">Department of Labour, Skills and Immigration</a>.</li> <li>• <a href="#">Guide to the Nova Scotia Labour Standards</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Homepage</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Annual Reports</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Labour Board – Bringing Matters Before the Board</a>.</li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>
<p><b>4.1.3</b></p>	<p><b>Child labour shall not be used.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b></p>

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The International Labour Organization (ILO) does not provide a standardised definition of child labour but notes that the term child labour is often defined as work that deprives children of their childhood, their potential, and their dignity, and that is harmful to physical and mental development. It refers to work that:

- Is mentally, physically, socially, or morally dangerous and harmful to children; and
- Interferes with their schooling by:
  - Depriving them of the opportunity to attend school;
  - Obliging them to leave school prematurely; or
  - Requiring them to attempt to combine school attendance with excessively long and heavy work.

According to ILO Convention C138, employment at the age of 15 (or the age of completing compulsory schooling) is allowed if it does not jeopardise the health, safety, or morals of young persons. Light work for children between the ages of 13-15 is allowed.

Absence of child labour is an important right and where it is restricted or absent, the potential exists for employers to force children to miss school and work in unfair or unsafe situations. Children may have higher levels of workplace injury, be unable to perform some tasks properly, and may lack the judgment to make critical decisions.

The United Nations (UN) Convention on the Rights of the Child was signed by Canada in 1990 and ratified in 1991. Principle 9 of the Convention addresses child labour. Canada is signatory to the two relevant ILO Conventions: C138– Minimum Age Convention (1973, ratified 2016) and C182–Worst Forms of Child Labour Convention (1999, ratified 2000). Through provincial labour laws, the Nova Scotia (NS) Department of Labour, Skills and Immigration, Labour Standards Division, regulates employment in the province, including the forest industry. Section 68 of the NS Labour Standards Code set minimum age thresholds. The NS Labour Standards Code defines children in two categories of under 14 and of under 16. Children aged 14 and 15 may not work for more than eight hours a day, or more than three hours on a school day, and cannot be employed in work that may be harmful for the child’s health and normal development and may keep the child to attend school or make it hard to learn at school. It is against the law for a child under 16 to work in forestry. In general, the Labour Standard Code applies to all employees who work for an employer, including temporary foreign workers.

### **Enforcement and monitoring**

The UN has a Committee on the Rights of the Child. Each member state which has ratified the Convention reports on a five year period to the Committee. The ILO’s International Programme on the Elimination of Child Labour was created in 1992 with the overall goal of the progressive elimination of child labour, which was to be achieved through strengthening the capacity of countries to deal with the problem and promoting a worldwide movement to combat child labour. The NS Department of Labour, Skills and Immigration, Labour Standards Division implements the Labour Standards Code by providing awareness sessions and presentations to employers, employees and recruiters; investigating and resolving labour standards complaints; auditing pay and recruitment records; and answering inquiries from the public by phone, email, and in person. Employers have the obligation to register employees with the Department and with related agencies. There is contact information on the Department website should there be a concern regarding any labour issue, including child labour. Trade unions support the prevention and elimination of child labour through ensuring collective bargaining agreements are honoured. Typically, within the NS forestry sector, company hiring policies require an education requirement of Grade 12, which would require people meeting that standard to be older than the minimum 15 years of age.

The UN Committee on the Rights of the Child reviews the reports from states parties and provides implementation and improvement recommendations. The ILO has a procedure that allows a complaint to be filed against a member state for not complying with a ratified convention. Complaints are investigated with the action dependent upon the particulars of the case. Several international organisations, including the ILO, track labour statistics and conditions and publish country assessments and rankings.

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	<p>These could be used as a basis for the ILO to sanction Canada for non-conformance with ILO requirements. The ILO regularly examines the application of standards in member states and points out areas where standards could be better applied. International organisations such as the United Nations Children’s Fund (UNICEF) and Maplecroft conduct country-level monitoring programs that consider employment conditions, treatment of employees and other labour- related conditions. The NS Department of Labour, Skills and Immigration oversees the implementation of the Labour Standards Code and relevant regulations. Employees have access to complaint mechanisms defined in the Code. The department conducts investigations activities. If the Department of Labour, Skills and Immigration, Labour Standards Division decision is unsatisfactory, the matter can be brought to the NS Labour Board. The Board adjudicates labour and employment matters, including those under the scope of the Labour Standards Code and its Regulations, the Human Rights Act, and the Trade Union Act. There was no consistent framework found for oversight of measures implemented to prevent child labour by trade unions and companies.</p> <p>As of September 2023, the UN has initiated 37 investigative inquiries globally; none were in Canada. ILO Commissions of Inquiry are taken against countries, not regions or companies. Commissions are initiated only when a country has persistent and serious violations. As of September 2023, only 14 Commissions have been convened, none of which were against Canada. Outcomes of Commissions are publicly available. In September 2023, the ILO does not list North America as a region at risk of child labour. While child labour is a global concern and all countries have some instances of child labour, UNICEF reports a negligible amount of child labour in Canada in 2022 (the last reporting period available at the time of writing in September 2023). In 2014, (the last reporting period available at the time of writing in September 2023) the Maplecroft Child Labour Index does not list Canada as a country at-risk of child labour. The number of child workers is not reported by province in Canada. No public reporting on outcomes for the Department of Labour, Skills and Immigration relative to workplace grievances regarding child labour were found. The NS Labour Board publishes annual reports which describe a sample of matters considered and summarises the year’s activities. A review of the 2021/2022 annual report, the last available as of September 2023, found no investigations of child labour had been recorded An internet review conducted in September 2023 does not indicate that child labour is an issue of concern in Nova Scotia.</p> <p><b>Risk conclusion and justification</b></p> <p>The legal requirements for minimum age for employment align with ILO requirements and there is no indication of child labour as an issue of concern within the BC forest industry. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Company human resources policies/procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Workforce/employment records</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>

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<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• International Labour Organization. <a href="#">Child Labour</a>.</li> <li>• International Labour Organization. <a href="#">Ratifications for Canada</a>.</li> <li>• International Labour Organization. <a href="#">How the ILO Works</a>.</li> <li>• International Labour Organization. <a href="#">Complaints</a>.</li> <li>• International Labour Organization. <a href="#">Child Labour Country Dashboard</a>.</li> <li>• Maplecroft. <a href="#">Child Labour Index</a>. 2014.</li> <li>• United Nations. <a href="#">Ratifications for Canada</a>.</li> <li>• United Nations. <a href="#">Convention on the Rights of the Child</a>. 20 November 1989.</li> <li>• United Nations. <a href="#">Committee on the Rights of the Child</a>.</li> <li>• United Nations. <a href="#">Human Rights Council-mandated Investigative Bodies</a>.</li> <li>• International Labour Organization. <a href="#">About the International Programme on the Elimination of Child Labour</a>.</li> <li>• United Nations Children’s Fund. <a href="#">Implementing and monitoring the Convention on the Rights of the Child</a>.</li> <li>• United Nations Children’s Fund. <a href="#">Child Labour</a>. 2022.</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Labour Standards Code</a>.</li> <li>• <a href="#">Human Rights Act</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Homepage</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Annual Reports</a>.</li> <li>• Nova Scotia Labour Board. <a href="#">Labour Board – Bringing Matters Before the Board</a>.</li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>
<p><b>4.1.4</b></p>	<p><b>Workers shall not be discriminated in hiring, remuneration, access to training, promotion, termination or retirement.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> International Labour Organization (ILO) Convention 111 describes discrimination as: (a) Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation. (b) Such other distinction, exclusion or preference which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation</p>

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as may be determined by the member concerned after consultation with representative employers' and workers' organisations, where such exist, and with other appropriate bodies.

The Convention continues by noting that any distinction, exclusion, or preference in respect of a particular job based on the inherent requirements thereof shall not be deemed to be discrimination.

Absence of discrimination in the labour force is an important right in a just society and where it is restricted or absent, the potential exists for employers to limit workers with certain characteristics or ethnicities from fully accessing employment and related opportunities, and/or receiving an unfair level of remuneration for work. Potential threats/impacts include a dissatisfied work force, divisions within the work force due to discrimination against some, higher levels of employee turnover and absenteeism, lawsuits, and legal action against the company.

Principles of equity and non-discrimination are foundational to the United Nations (UN) Universal Declaration on Human Rights, of which Canada is a signatory.

Canada is a signatory to the two ILO Conventions relevant to this Indicator:

- C100–Equal Remuneration Convention (1951, ratified 1972); and
- C111–Discrimination in Respect of Employment and Occupation Convention (1958, ratified 1964).

The primary piece of anti-discrimination legislation in Canada is the Canadian Charter of Rights and Freedoms. Section 28 of the Charter states that the rights and freedoms in the Charter “are guaranteed equally to male and female persons.” The Nova Scotia (NS) Human Rights Act prohibits discrimination and harassment based on age, colour, religion, creed, ethnic, national or aboriginal origin, sex (including pregnancy and pay equity), sexual orientation, physical disability, mental disability, family status, marital status, source of income, harassment (and sexual harassment), irrational fear of contracting an illness or disease, association with protected groups or individuals, political belief, affiliation or activity, gender identity, gender expression, or retaliation in specified areas that fall under provincial jurisdiction, which includes employment. Under the NS Human Rights Act, employers have a duty to accommodate, which means they have to do what is reasonable to allow a person to get, or keep, a job.

### **Enforcement and monitoring**

The UN Universal Declaration of Human Rights is implemented by the Committee on the Elimination of Discrimination. Two conferences on anti-discrimination have been held and several days of observance have been declared. The UN has published several documents to support organisations in identifying and eliminating discrimination. Issues of discrimination are core throughout the ILO’s work. For instance, programmes to fight forced labour help provide greater rights to women as this is an issue that primarily affects women. As a result, the other Indicators within this Criterion provide insight to implementation of anti-discrimination programmes by the ILO. In addition, the ILO specifically provides guidelines on labour law regarding discrimination and may provide advice on legislative changes. The Canadian Human Rights Commission implements the Canadian Charter of Rights and Freedoms. It is responsible for representing the public interest and holding the Government of Canada to account on matters related to human rights. The Commission operates independently from government and acts to implement the Charter through research, raising awareness, and speaking out on any matter related to human rights in Canada.

Provincially, prevention of discrimination is led by the NS Human Rights Commission which provides a human rights dispute resolution process to resolve allegations of discrimination both on an individual and systemic level, and works to eliminate barriers and prevent discrimination through education, training, public engagement, and policy development.

The UN has appointed a Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance, and monitors discrimination globally through the Special Procedures of the Human Rights Council. The UN conducts investigations regarding alleged violations of human rights. The ILO regularly

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examines the application of standards in member states and points out areas where standards could be better applied. The ILO has a procedure that allows a complaint to be filed against a member state for not complying with a ratified convention. Complaints are investigated with the action dependent upon the particulars of the case. Several international organisations, including the ILO, track labour statistics and conditions, and publish country assessments and rankings. These could be used as a basis for the ILO to sanction Canada for non-conformance with ILO requirements. The Canadian Human Rights Commission receives discrimination complaints and works with both the complainant and respondent to resolve issues through mediation. When a complaint cannot be settled, or when the Commission determines that further examination is warranted, it may refer the complaint to the Canadian Human Rights Tribunal. Similarly, the NS Human Rights Commission, investigates and conciliates formal complaints of discrimination filed under the NS Human Rights Act. If a NS Human Rights Commission Board of Inquiry finds the Human Rights Act was violated, the Commission may order the discrimination stop (i.e., that a dismissed employee be reinstated with back pay, etc). Individuals can make complaints directly to the Commission.

As of September 2023, the United Nations has initiated 37 investigative inquiries globally; none were in Canada. ILO Commissions of Inquiry are taken against countries, not regions or companies. Commissions are initiated only when a country has persistent and serious violations. As of September 2023, only 14 Commissions have been convened. Outcomes of Commissions are publicly available. Human Rights Watch reports on human rights issues globally. A review of Human Rights Watch reports in September 2023 showed several issues are noted in Canada, none of which are directly related to employment practices. In September 2023, the World Economic Forum rates Canada 30 out of 146 countries on the Global Gender Gap Index. There is some level of discrimination in Canadian society, and some of this may occur in the forest sector. Statistics Canada report a pay gap of 11.1% between men and women in Canada in 2021. Pay gaps are also reported for most visible minorities. Statistics Canada also reports that 38.2% of all Canadians experienced discrimination at some point before or since the pandemic. The Canadian Human Rights Commission's 2022 Annual Report to Parliament (the latest as of September 2023) states that the Commission accepted 763 complaints in 2022, 3% of those were from NS. Sixty-one per cent of the complaints received were related to employment. The Canadian Human Rights Tribunal 2022 Annual Report (the latest as of September 2023) noted a 70% increase in cases since 2020. In 2022 the Tribunal conducted 139 mediations involving 143 complaints, with a success rate of 57%. The Nova Scotia Human Rights Commission 2021/2022 Annual Report (the latest as of September 2023) stated that the Commission received 2,862 inquiries and accepted 67 complaints, 41 which were related to employment. In the reporting period they closed 117 complaints, some of which were carried over from previous years, of which 21 resulted in a settlement. An internet review conducted in September 2023 did not indicate any instances of cases of discrimination being brought forward within the NS forest industry and there is no indication that there are serious issues of systemic discrimination in the forest industry in NS.

### **Risk conclusion and justification**

The legal requirements for discriminations are comprehensive and align with ILO requirements. Active measures continue to be taken against discrimination by the federal and provincial governments. There is no indication of discrimination as an issue of concern within the forest industry. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.

### *Means of verification*

- Regulatory framework
- Regulatory agency websites
- Company human resources policies/procedures
- Regulatory compliance and enforcement data/reports
- Oversight agency database records and/or reports

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	<ul style="list-style-type: none"> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Workforce/employment records</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• International Labour Organization. <a href="#">C111 - Discrimination (Employment and Occupation Convention)</a>. 1958</li> <li>• International Labour Organization. <a href="#">Ratifications for Canada</a>.</li> <li>• International Labour Organization. <a href="#">C100 - Equal Remuneration Convention</a>. 1951.</li> <li>• International Labour Organization. <a href="#">How the ILO Works</a>.</li> <li>• International Labour Organization. <a href="#">Complaints</a>.</li> <li>• United Nations. <a href="#">Universal Declaration of Human Rights</a>.</li> <li>• United Nations. <a href="#">Committee on the Elimination of Racial Discrimination</a>.</li> <li>• United Nations. <a href="#">Human Rights Council-mandated Investigative Bodies</a>.</li> <li>• Human Rights Watch. <a href="#">Canada: Events of 2019</a>.</li> <li>• World Economic Forum. <a href="#">Global Gender Gap Report 2021: Insight Report</a>.</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Canadian Justice Laws. <a href="#">The Constitution Acts, 1867 – 1982</a>.</li> <li>• Statistics Canada. <a href="#">Pay Gap 1998-2021</a>.</li> <li>• Statistics Canada. <a href="#">Discrimination before and since the start of the pandemic</a>. 2022.</li> <li>• Canadian Human Rights Commission. <a href="#">Homepage</a>.</li> <li>• Canadian Human Rights Commission. <a href="#">2022 Annual Report to Parliament</a>.</li> <li>• Canadian Human Rights Tribunal. <a href="#">Homepage</a>.</li> <li>• Canadian Human Rights Tribunal. <a href="#">2022 Annual Report</a>.</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Human Rights Act</a>.</li> <li>• Nova Scotia Human Rights Commission. <a href="#">Homepage</a>.</li> <li>• Nova Scotia Human Rights Commission. <a href="#">2021-2022 Annual Report</a>.</li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>

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<p><b>4.1.5</b></p>	<p><b>Wages paid to workers shall meet or exceed the legal minimum wage or where there is no statutory minimum wage industry norms shall be met or exceeded.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> The International Monetary Fund defines minimum wage as “the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract.” Minimum wages are typically expressed in dollars per hour, are often regionally based, and tied to a consumer price index. Paying less than minimum wage can often be an issue when employees are paid informally or under the table. Some aspects of pay and employment conditions have been addressed in the following Indicators:</p> <ul style="list-style-type: none"> <li>• 4.1.1 Freedom of Association</li> <li>• 4.1.2 No Forced or Compulsory Labour</li> <li>• 4.1.3 No Child Labour</li> <li>• 4.1.4 No Workers Discrimination</li> </ul> <p>As legal minimum wages are regionally based and tied to consumer price indices, minimum wages establish a level of payment for a base standard of living. When minimum wages are not paid, the level of poverty increases, people are not incentivised to join the workforce, and income inequality increases. Poor working conditions also lead to high rates of employee turnover and absenteeism, job dissatisfaction, and poor health of workers and their families.</p> <p>Under the Constitution of Canada, the responsibility for setting minimum wages for labour rests with the provinces. The Nova Scotia (NS) Labour Standards Code and Regulations sets out standards for minimum wage levels, hours of work, holidays and vacation, leaves of absence, and notice periods for termination. There is a specific Minimum Wage Order for logging and forest operations. The Labour Standards Code also authorises the setting of a minimum wage and requires the Ministry to review the Minimum Wage Review Committee recommendations annually.</p> <p><b>Enforcement and monitoring</b> The NS Department of Labour, Skills and Immigration, Labour Standards Division implements the Labour Standards Code by providing awareness sessions and presentations to employers, employees and recruiters; investigating and resolving labour standards complaints; auditing pay and recruitment records; and answering inquiries from the public by phone, email, and in person. Employers have the obligation to register employees with the Department and with related agencies. There is contact information on the Department website should there be a concern regarding any labour issue, including pay rates. The Minister of Labour, Skills and Immigration reviews the recommendations of the Minimum Wage Review Committee annually. Trade unions negotiate wages collectively on behalf of employees. Collective agreements are made public. The union can monitor salaries to ensure salaries are as agreed, and workers can report to the unions if they believe they are not being paid according to the agreement. Wage structure is usually led by a company’s human resources department, and many companies have remuneration policies and systems set up so employees are paid a legal wage.</p> <p>The NS Department of Labour, Skills and Immigration oversees the implementation of the Labour Standards Code and relevant regulations. Employees have access to complaint mechanisms defined in the Code. The Department conducts investigations. If the Department of Labour, Skills and Immigration, Labour Standards Division decision</p>

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	<p>is unsatisfactory, the matter can be brought to the NS Labour Board. The Board adjudicates labour and employment matters, including those under the scope of the Labour Standards Code and its Regulations, the Human Rights Act, and the Trade Union Act. There was no consistent framework found for oversight of measures implemented to ensure payment of wages above minimum wages by trade unions and companies.</p> <p>As of September 2023, the minimum wage in NS is \$14.50/hour. The Canadian government reports, as of September 2023, the lowest wage of the lowest paid class of forestry workers (logging and forestry labourers) in NS is \$14.50/hr. No public reporting on outcomes for the NS Department of Labour, Skills and Immigration relative to workplace grievances regarding payments below minimum wage were found. The NS Labour Board publishes annual reports which describe a sample of matters considered and summarises the year's activities. A review of the 2021/2022 annual report, the last available as of September 2023, found no investigations of payment below minimum wage had been recorded. Provincial level reporting of wages for NS was not found, however, a review of forestry postings in September 2023 on Indeed show the wages offered to be well above the minimum wage for NS.</p> <p><b>Risk conclusion and justification</b></p> <p>The legal requirements for workers' wages are comprehensive and align with ILO requirements. Receiving and paying a legal minimum wage is a cultural norm in Canada. There is no indication minimum wage is not being paid for employment. There is a competitive job market within the forest industry. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Company human resources policies/procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Workforce/employment records</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Canadian Justice Laws. <a href="#">The Constitution Acts, 1867 – 1982.</a></li> <li>• Government of Canada. <a href="#">Prevailing Wages In Canada: Labourer, Logging and Forestry: Nova Scotia.</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Labour Standards Code.</a></li> <li>• Nova Scotia Department of Labour, Skills and Immigration. <a href="#">Logging and Forestry.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Homepage.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Annual Reports.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Labour Board – Bringing Matters Before the Board.</a></li> </ul>

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	<p><u>Other</u></p> <ul style="list-style-type: none"> <li>• Indeed. <a href="#">Homepage</a>.</li> <li>• CBC News. <a href="#">Low wages driving tree planters out of province, say contractors</a>. 29 August 2017.</li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>4.1.6</b>	<b>Working hours shall comply with legal requirements.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Legal working hours refer to the maximum number of hours an employee can be required to work by law. The specific definition of legal working hours can vary depending on the country and jurisdiction, but it typically includes provisions related to daily and weekly limits on working time, mandatory breaks and rest periods and restrictions on overtime and night work. Legal working hours is related to Indicator 4.1.2 No Forced or Compulsory Labour. Excessive working hours increase the probability of developing health issues and being involved in accidents. The forest sector has a number of jobs that are physically and mentally demanding, thus compounding the risk of occupational-related illness and injury. Canada is a signatory to the International Labour Organization (ILO) Convention C1 on Working Hours (1919, ratified 1935). The Nova Scotia (NS) Labour Standards Code and Regulations sets standards for working hours. The Code and Regulations set out standards for breaks, rest periods, holidays, and vacations in Sections 61-66B. It does not set limits for daily, weekly or monthly working hours. Employers must grant employees a rest period of at least 24 consecutive hours every seven days.</p> <p><b>Enforcement and monitoring</b> The ILO implements the working hours convention by bringing together governments, employers, and workers to set labour standards, develop policies, and devise programs. If there are any problems in the application of standards, the ILO seeks to assist countries through social dialogue and technical assistance. The NS Department of Labour, Skills and Immigration, Labour Standards Division implements the Labour Standards Code by providing awareness sessions and presentations to employers, employees and recruiters; investigating and resolving labour standards complaints; auditing pay and recruitment records; and answering inquiries from the public by phone, email, and in person. Employers have the obligation to register employees with the Department and with related agencies. There is contact information on the Department website should there be a concern regarding any labour issue, including working hours. Trade unions negotiate working hours collectively on behalf of employees. Collective agreements are made public. The union can monitor working hours to ensure hours are as agreed, and workers can report to unions if they believe they are being asked or required to work hours that are outside the agreed- upon parameters. The establishment of working hour parameters is usually led by a company's human resources department, and many companies have working hour policies and systems set up so work hours are within the legal requirements. The ILO has a procedure that allows a complaint to be filed against a member state for not complying with a ratified Convention. Complaints are investigated with the action dependent upon the particulars of the case. Several international organisations, including the ILO, track labour statistics and conditions and publish country assessments and rankings. These could be used as a basis for the ILO to sanction Canada for non-conformance with ILO requirements. The ILO regularly examines the application of standards</p>

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	<p>in member states and points out areas where standards could be better applied. The NS Department of Labour, Skills and Immigration oversees the implementation of the Labour Standards Code and relevant regulations. Employees have access to complaint mechanisms defined in the Code. The department conducts investigations activities. If the Department of Labour, Skills and Immigration, Labour Standards Division decision is unsatisfactory, the matter can be brought to the NS Labour Board. The Board adjudicates labour and employment matters, including those under the scope of the Labour Standards Code and its Regulations, the Human Rights Act, and the Trade Union Act. As of September 2023, there was publicly available information on a consistent framework for oversight of measures implemented to ensure payment of wages above minimum wages by trade unions and companies.</p> <p>ILO Commissions of Inquiry are taken against countries, not regions or companies. Commissions are initiated only when a country has persistent and serious violations. As of September 2023, only 14 Commissions have been convened. Outcomes of Commissions are publicly available. No public reporting on outcomes for the NS Department of Labour, Skills and Immigration relative to workplace grievances regarding working hours were found. The Department does not publish statistics in relation to dispute resolution activities. The NS Labour Board publishes annual reports which describe a sample of matters considered and summarises the year's activities. A review of the 2021/2022 annual report, the last available as of September 2023, found no investigations of payment below minimum wage had been recorded. An internet review, conducted in September 2023, does not indicate that working outside of the requirements of the NS Labour Standards Code and Regulations is an issue of concern in NS within the forest industry.</p> <p><b>Risk conclusion and justification</b></p> <p>The legal requirements for working hours are comprehensive and align with ILO requirements. There is no indication the legal requirements for working hours are not being met. There is a competitive job market within the forest industry. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Company human resources policies/procedures</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Oversight agency database records and/or reports</li> <li>● Publicly available information (reports, news &amp; websites)</li> <li>● Salary Benchmarks by industry and region</li> <li>● Workforce/employment records</li> <li>● Interviews with regulatory/oversight agency</li> <li>● Interviews with trade unions</li> <li>● Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>● International Labour Organization. <a href="#">C001 - Hours of Work (Industry) Convention</a>. 1919.</li> <li>● International Labour Organization. <a href="#">Ratifications for Canada</a>.</li> <li>● International Labour Organization. <a href="#">Complaints</a>.</li> <li>● International Labour Organization. <a href="#">How the ILO Works</a>.</li> </ul>

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	<p>Provincial</p> <ul style="list-style-type: none"> <li>• <a href="#">Labour Standards Code</a>.</li> <li>• Department of Labour, Skills and Immigration. <a href="#">Breaks and Periods of Rest</a>.</li> <li>• Department of Labour, Skills and Immigration. <a href="#">Complaint Process</a>.</li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>4.1.7</b>	<b>Workers shall have access to health care provisions, sickness benefits, retirement benefits, invalidity benefits, death benefits, and workers' compensation.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> The International Labour Organization (ILO) has been concerned with worker security and compensation since its founding in 1919. The six components of this Indicator collectively are basic social protections:</p> <ul style="list-style-type: none"> <li>• Health care provisions;</li> <li>• Sickness benefits;</li> <li>• Retirement benefits;</li> <li>• Invalidity benefits;</li> <li>• Death benefits; and</li> <li>• Worker's compensation.</li> </ul> <p>Social protections are one of the four strategic objectives of the ILO's "Decent Work" agenda. Collective agreements between employees and employers often contain provisions for social protections. See Indicator 4.1.1 Freedom of Association for information on trade unions broadly.</p> <p>Social protections are essential for employers and employees. It ensures good working conditions, attracts workers, and provides security for employees. Social protections support workers and workers' family members in case of injury, accidents, health issues, job loss, and retirement, and ensure workers are able to maintain a decent standard of living for themselves and their families even when unable to work or when they face an unexpected circumstance such as illness, injury, or death. Potential threats/impacts include a dissatisfied workforce, higher levels of employee turnover and absenteeism, and lawsuits and legal action against the company.</p> <p><u>Health Care Provisions</u> Canada has a national public health care system established by the Canadian Health Care Act. It is funded by the federal government and administered by the provincial government. Under this system, all Canadian residents have reasonable access to medically necessary hospital and physician services without paying out-of-pocket. The Nova Scotia (NS) Health Protection Act provides the legal framework for the provision of health services in NS.</p> <p><u>Sickness Benefits</u></p>

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The Canadian Employment Insurance Act provides benefits in case of illness, injury or quarantine, pregnancy, and parental leave. It is available to all workers throughout Canada. Self-employed workers are able to register for benefits.

### Retirement Benefits

Retirement is provided to workers and their families federally through the Canada Pension Plan. Income provided under the Plan is dependent on lifetime registered earnings and, for retirement income, the age of retirement. The Old Age Security Act provides a base level of retirement income for all Canadians, regardless of registered earning under the Old Age Security Program.

### Invalidity Benefits

Disability income is provided to workers and their families federally through the Canada Pension Plan. See Retirement Benefits above for more information on the Canada Pension Plan.

### Death Benefits

A death benefit is provided to workers' spouses federally through the Canada Pension Plan. See Retirement Benefits above for more information on the Canada Pension Plan. In some instances there is an allowance for the survivor benefit under the Canadian Old Age Security Act. See Retirement Benefits above for more information on the Old Age Security Act.

### Workers' Compensation

In NS, the Workers' Compensation Act provides the legal framework for the administration of workplace injury and illness prevention; and the return to work, assessment, and compensation program. The legislation requires that all employees are registered for workers' compensation. Self-employed workers and business owners are eligible to apply for coverage.

## **Enforcement and monitoring**

### Health Care Provisions

The Canadian Health Care Act is administered by Health Canada. Health Canada provides a number of services such as drug testing and approval; food and nutrition guidance; product safety etc. In NS, front line provision of health services is provided by the NS Department of Health and Wellness. The Department is responsible for providing health services such as family doctors, hospitals, addiction services, and other related services. Trade unions negotiate benefits in addition to those provided by the government collectively on behalf of employees. Collective agreements are made public. The union can monitor the implementation of the provision of benefits to ensure the benefits are as agreed, and workers can report to unions if they believe they are not being provided benefits according to the agreement. The establishment of benefits in addition to those provided by the government is usually led by a company's human resources department, and many companies have policies and systems set up to ensure the provision of additional benefits are equitable.

### Sickness Benefits

The Canadian Employment Insurance Act is administered by Employment and Social Development Canada (ESDC). ESDC maintains the informational website; runs promotional/educational campaigns; collects premiums from employers; accepts applications from employees needing employment, disability, or retirement support; and liaises with workers throughout the process of receiving benefits. See Health Care Provisions above for implementation mechanisms by trade unions and companies.

### Retirement Benefits

The Canada Pension Plan and Canadian Old Age Security Act are administered by ESDC. See Sickness Benefits for implementation measures by ESDC above. See Health Care Provisions above for implementation mechanisms by trade unions and companies.

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### Invalidity Benefits

The Canada Pension Plan is administered by ESDC. See Sickness Benefits for implementation measures by ESDC above. See Health Care Provisions above for implementation mechanisms by trade unions and companies.

### Death Benefits

The Canada Pension Plan and Canadian Old Age Security Act are administered by ESDC. See Sickness Benefits for implementation measures by ESDC above. See Health Care Provisions above for implementation mechanisms by trade unions and companies.

### Workers' Compensation

In NS, the Workers' Compensation Act is administered by the Workers' Compensation Board of Nova Scotia (WCB Nova Scotia). WCB Nova Scotia maintains the informational website; collects premiums from employers; accepts applications from employees who are made ill or injured on the job; and liaises with workers throughout the process of recovery and return to work. Additionally, the NS Worker's Compensation Act creates the Workers' Compensation Appeal Tribunal, which is an independent tribunal that hears appeals of decisions made by the WCB Nova Scotia and makes binding decisions. See Health Care Provisions above for implementation mechanisms by trade unions and companies.

### Health Care Provisions

The NS Department of Health and Wellness reports annual on public health performance measures.

There are several national and international, government and non-government, health care watchdog organisations including, but not limited to, the World Health Organization, Commonwealth Fund, the Canadian Institute for Health Information, and the Conference Board of Canada.

There was no consistent framework found for oversight of measures implemented to ensure payment of health care provisions wages by trade unions and companies.

### Sickness Benefits

Decisions made by ESDC can be appealed with ESDC and ultimately to the Social Security Tribunal for independent review. The Employment Insurance program is additionally overseen by the Canada Employment Insurance Commission, which publishes an annual monitoring and assessment report on the impact and effectiveness of the program. See Health Provisions above for oversight of trade unions and companies.

### Retirement Benefits

See Sickness Benefits above on appealing decisions of ESDC. While there is oversight on how the Canadian Pension Plan investments are managed, no oversight mechanism for the Canada Pension Plan and Old Age Security Act, in terms of delivery to workers, was found. See Health Provisions above for oversight of trade unions and companies.

### Invalidity Benefits

See Sickness Benefits above on appealing decisions of ESDC and oversight by the Canada Employment Insurance Commission. See Retirement Benefits above for oversight of the Canadian Pension Plan and Old Age Security Act. See Health Provisions above for oversight of trade unions and companies.

### Death Benefits

See Sickness Benefits above on appealing decisions of ESDC. See Retirement Benefits above for oversight of the Canadian Pension Plan and Old Age Security Act. See Health Provisions above for oversight of trade unions and companies.

### Workers' Compensation

There is a process by which WCB Nova Scotia decisions can be reviewed. The Board reports annually on performance measures. The Board's decisions can be

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appealed to the Workers' Compensation Appeal Tribunal. The Tribunal publishes annual reports on the Tribunal's website and publishes all decisions on the Canadian Legal Information Institute website. See Health Provisions above for oversight of trade unions and companies.

### Health Care Provisions

As of 2018, the Commonwealth Fund Report ranks provision of health care in Canada ninth out of 11 high-income countries evaluated, while the World Health Organization and the Healthcare Access and Quality Index from the Global Burden of Disease Study place Canada in the top 10% of countries. As of September 2023, the Canadian Institute for Health Information reports on 19 criteria of "appropriateness and effectiveness" and "Health Status" for NS. Of those 19 criteria, three are above average; four are the same; and 12 are below average performance when compared to the Canadian average performance.

In 2015, the Conference Board of Canada assigns health performance in New Brunswick at a "D" (on an A-D scale with A being best), rating it 22 out of 29 evaluated jurisdictions. The NS Department of Health and Wellness reported in 2020/21 (the latest report available as of September 2023) on multiple health performance measures with nearly all showing improvement year over year.

### Sickness Benefits

In fiscal year 2021 (the last reporting period available as of September 2023), the Canadian Employment Insurance Commission reports that 90.7% of people needing employment insurance were granted support, up from 73.6% the year before. This period during the pandemic saw almost double the number of claims over the preceding fiscal year and payments increased from \$11.1 billion dollars to \$24.9 billion dollars. An internet search, conducted in September 2023, found there is an ongoing discussion about the long-term viability of Canada's government benefits programs, but there was no immediate concern identified.

### Retirement Benefits

No result for the Canada Pension Plan and Old Age Security Act in terms of delivery to workers was found. An internet search, conducted in September 2023, found there is an ongoing discussion about the long-term viability of Canada's government pension programs, but there was no immediate concern identified.

### Invalidity Benefits

In fiscal year 2021 (the last reporting period available as of September 2023), the Canadian Employment Insurance Commission reports that eight out of ten claims for a sickness benefit were paid out, with attribution of non-paying claims being the result of special conditions created by the COVID pandemic. Special measures were implemented by ESDC in the second half of the period to better meet the needs of individuals during the pandemic. An internet search, conducted in September 2023, found there is an ongoing discussion about the long-term viability of Canada's government pension programs, but there was no immediate concern identified.

### Death Benefits

No result for the Canada Pension Plan and Old Age Security Act in terms of delivery of death benefits to workers' families was found. An internet search, conducted in September 2023, found there is an ongoing discussion about the long-term viability of Canada's government pension programs, which would include the death benefits, but there was no immediate concern identified.

### Workers' Compensation

The WCB Nova Scotia publicly reports on multiple performance measures annually in the Board's annual report. In the 2022 report (the most recent available as of September 2023), nearly all measures show improvement over 2021 with targets for further improvement for 2023 and 2024. In the Workers' Compensation Appeal Tribunal 31 March 2023 Annual Report (the last report available as of September 2023), the Tribunal made decisions on 351 cases. Of the appeals brought to the tribunal in the reporting period, 56% of the NS WCB were overturned.

### **Risk conclusion and justification**

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	<p>The legal requirements for providing benefits are comprehensive and align with ILO requirements. In Canada, there is a cultural norm that workers are provided these benefits. There is a competitive job market within the forest industry. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Company human resources policies/procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Workforce/employment records</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• International Labour Organization. <a href="#">Mission and Impact of the ILO</a>.</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canada Health Act</a>.</li> <li>• <a href="#">Employment Insurance Act</a>.</li> <li>• <a href="#">Canada Pension Plan</a>.</li> <li>• <a href="#">Old Age Security Act</a>.</li> <li>• <a href="#">Canada health care system</a>.</li> <li>• <a href="#">Employment and Social Development Canada</a>.</li> <li>• Employment and Social Development Canada. <a href="#">Request for reconsideration of an Employment Insurance decision</a>.</li> <li>• Social Security Tribunal of Canada. <a href="#">Homepage</a>.</li> <li>• <a href="#">Canada Employment Insurance Commission</a>.</li> <li>• Canada Employment Insurance Commission. <a href="#">2020/2021 Employment Insurance Monitoring and Assessment Report</a>.</li> <li>• Canadian Institute for Health Information. <a href="#">Homepage</a>.</li> <li>• Conference Board of Canada. <a href="#">Health Report Card</a>. February 2015.</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Health Protection Act</a>.</li> <li>• <a href="#">Workers' Compensation Act</a>.</li> <li>• Nova Scotia Department of Health and Wellness. <a href="#">Homepage</a>.</li> </ul>

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	<ul style="list-style-type: none"> <li>Workers' Compensation Board of Nova Scotia. <a href="#">Homepage</a>.</li> <li>Workers' Compensation Board of Nova Scotia. <a href="#">Appealing a Claim Decision</a>.</li> <li>Nova Scotia Workers' Compensation Appeals Tribunal. <a href="#">Homepage</a>.</li> <li>Department of Health and Wellness. <a href="#">Public Health Care System Performance Update</a>. 2022.</li> <li>Workers' Compensation Board of Nova Scotia. <a href="#">WCB Nova Scotia Annual Report</a>. 2022.</li> <li>Nova Scotia Workers' Compensation Appeals Tribunal. <a href="#">Homepage</a>.</li> <li>NS Workers' Compensation Appeals Tribunal. <a href="#">2023 Annual Report</a>.</li> </ul> <p><u>Other</u></p> <ul style="list-style-type: none"> <li>Finlay A. McAlister, Peter Cram and Chaim Bell. <a href="#">Comparing Canadian health care to that in other countries: looking beyond the headlines</a>. 2018.</li> </ul>
<i>Risk rating</i>	Provincial <b>Low risk</b>
<b>4.1.8</b>	<b>Training shall be provided for all workers to allow them to implement the conditions set out in all elements of the SBP Standards relevant to their responsibilities.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> Workers, which includes employees and contractors who work in the forest, need to be trained to make appropriate decisions and to implement best management practices related to specific job functions. The intent of this Indicator is to ensure workers are provided the knowledge, skills, and abilities required to perform jobs effectively and safely through proper training and certificates. Proper training can improve worker productivity, reduce errors and accidents, increase job satisfaction, and ultimately contribute to the success of the business.</p> <p>Elements related to this Indicator are also discussed and assessed in the following Indicators:</p> <ul style="list-style-type: none"> <li>Health and safety requirements and safeguarding are described in 4.1.10 Worker H&amp;S Safeguards;</li> <li>Waste disposal training is described in Indicator 2.2.8 Waste Disposal.</li> </ul> <p>The focus of this Indicator is to ensure that forest workers are trained in the forest planning and operations processes. Inadequate or infrequent training increases risk of forest worker errors and mistakes and the risk of environmental damage. Potential application of incorrect management practices can result in site damage, reduction of timber harvest quality, and non-compliance issues with Regulations and operational plans.</p> <p>Provincial</p> <ul style="list-style-type: none"> <li>Foresters Association Act</li> <li>Scalers Act</li> </ul> <p><b>Enforcement and monitoring</b></p>

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The Foresters Association Act is the legislation which ensures competence, accountability, and the public of the proficiency of Registered Professional Foresters (RPFs) in Nova Scotia (NS). The Registered Professional Foresters Association of Nova Scotia (RPFANS) is the non-profit association for professional foresters. Membership to RPFANS does not require a Bachelor of Science in Forestry but all members must demonstrate equivalent qualifications. Only members who have demonstrated competence in the profession, agree to be bound by the code of ethics, and participate in the continuing forestry education program are allowed to use the title, Registered Professional Forester (RPF). RPFANS members are required to submit continuing forestry education hours on an annual basis, under the Foresters Association Act. The continuing forestry education program is administered by the continuing forestry education Registrar who reports to the RPFANS Council. All members who require documented continuing forestry education must accumulate 150 total credits over a rolling three-year period. Under the Scalers Act, certain activities, such as timber scaling, require a permit and certification under legislation including a training component. The Scalers Act requires scalers be licenced authorised by the Department of Natural Resources and Renewables (DNRR) if scaling primary wood products in quantities exceeding 1,000 m<sup>3</sup>/year in NS. Scaling licences are issued by DNRR once successful completion of a practical and written exam conducted by a DNRR Board of Examiners. Scaling examinations require a specific pass rate. A licenced scaler may be authorised for five years and can be re-authorised by taking a refresher course. Forest companies are responsible for ensuring forest workers have the proper training and certificates to effectively implement roles and responsibilities. Training completion and documentation is a component of a forest company's health and safety program. Forest companies implement training policies through various meetings with contractors, which includes operations-specific information. Contractors provide proof of training to forest companies if requested. Like forest companies, contract companies are responsible for ensuring employees have training and obtain certificates which demonstrate qualifications. The Private Lands, Stewardship and Outreach Division of DNRR has a woodland management education program, with a series of modules for private woodlot owners to self-pace study. Completion certificates are available to registered participants who have 70% or better on the quizzes or completed workbooks. These modules are not a mandatory requirement for private woodlot owners. As of March 2024, there is no publicly available information describing systematic and consistent training to forest workers across the forest industry in NS.

RPFANS has oversight of the Foresters Association Act. A minimum of 10% of the eligible membership will be randomly selected each year for a detailed continuing forestry education audit. RPFANS members who fail to meet requirements may be deemed non-compliant and subject to discipline as per RPFANS policy. If through review or audit a member is found to have a continuing forestry education credit shortfall, the member's name will be forwarded to the RPFANS Discipline Committee for further action. The continuing forestry education Registrar is responsible for providing an annual continuing forestry education program report to the RPFANS Council, which includes details of audit results and members found to be non-compliant. DNRR is required to maintain monitoring, inspecting, and auditing through check scaling and data monitoring. Check scaling is periodically carried out by DNRR to ensure scaling is conducted correctly. DNRR is authorised to suspend or cancel a scaling licence if there are contraventions of scaling requirements of the Scalers Act. Company oversight/tracking is completed through internal company-specific processes. As of March 2024, there is no publicly available information describing an oversight framework or reporting of forest worker training.

The annual continuing forestry education program report from RPFANS is not publicly available. Company-specific forest worker health and safety training requirements are mandated to be on file with the company; however, records of other training requirements are not mandatory. As of March 2024, there is no publicly available results to verify training specific to forest workers.

### **Risk conclusion and justification**

At the professional level, mandatory requirements are set for standards of conduct, continuing forestry education development, and annual competence assessments. RPFAN's regulatory framework ensures the ongoing training and competence of forest professionals registered to practice in NS. At the forest worker level, due to a lack of a legislative

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	framework, evidence to support implementation mechanisms, a monitoring framework and/or results to verify training for forest workers related to roles and responsibilities, a precautionary approach is applied. As such, this Indicator is designated as specified risk at the provincial level Nova Scotia.
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Company human resources policies/procedures</li> <li>● Company training records</li> <li>● Workforce/employment records</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Oversight agency database records and/or reports</li> <li>● Publicly available information (reports, news &amp; websites)</li> <li>● Interviews with workers</li> </ul>
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>● <a href="#">Convictions under the OH&amp;S Act &amp; Regulation</a></li> <li>● <a href="#">Foresters Association Act</a></li> <li>● <a href="#">Nova Scotia Scaling Manual (2nd Edition)</a></li> <li>● <a href="#">Registered Professional Foresters Association of Nova Scotia Bylaws</a></li> <li>● <a href="#">Registered Professional Foresters Association of Nova Scotia Continuing Forestry Education Program Policy</a></li> <li>● <a href="#">Scalers Act</a></li> </ul>
<i>Risk rating</i>	Provincial <b>Specifiedrisk</b>
<b>4.1.9</b>	<b>Mechanisms shall be in place for resolving grievances and disputes in the workplace.</b>
<i>Findings</i>	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> This Indicator ensures workers have access to an effective system to raise and remedy grievances and disputes related to work conditions. Work conditions are governed by provincial legislation and the measures discussed below. Under labour law (Canadian Labour Congress), a grievance is a violation of the employee's rights on the job—whether under a collective agreement or under legislation. Individual grievances may concern discipline, demotion, remuneration, denied benefits, and harassment. Provision of effective mechanisms for resolving grievances provides an opportunity for issues to be dealt with effectively and limits the escalation of issues. Additionally, it enables learning for all parties, thus reducing the risk of future disputes and grievances. Some issues that may lead to grievances and disputes, as well as the mechanisms for resolving the grievance or dispute have been assessed under each of the other indicators of Principle 4.</p>

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Where there is no mechanism to resolve grievances and disputes, there is an increased risk of employee dissatisfaction. This may result in low productivity, high turnover, and poor organizational culture.

The Nova Scotia (NS) Human Rights Act addresses situations where grievances and disputes with an employer are related to human rights issues. Part III of the Act relates to the filing and resolution of complaints. The NS Labour Standards Code sets standards for employment. Sections 21 - 27 of the Code outlines the mechanisms for investigating and determining complaints. The NS Trade Union Act specifies the rights and responsibilities of trade unions in NS. The Act specifies mechanisms for resolution of disputes in multiples sections of the Act.

### **Enforcement and monitoring**

The NS Human Rights Commission implements the grievance and dispute mechanisms of the NS Human Rights Act. The Commission investigates and conciliates formal complaints of discrimination filed under the Act. These complaints may be about work conditions. The NS Department of Labour, Skills and Immigration, Labour Standards Division regulates employment in the province, including the forest industry, under the NS Labour Standards Code. The Department provides information on the website about submitting a complaint, filing an anonymous tip and appealing a decision; and implements a complaint resolution process. The Trade Union Act is overseen by the Department of Labour, Skills and Immigration. The Conciliation and Mediation Services Office in an independent office that addresses conflicts between unionised workers and employers. The NS Labour Board acts as an independent and impartial tribunal on issues related to labour in the province. The Board is established to, amongst other tasks, hear grievances that cannot be resolved between unions and employers and to hear appeals of decision of the Department of Labour, Skills and Immigration. Trade unions, where they exist, would generally be the first recourse for resolving grievances and disputes in the workplace. Collective agreements include clauses for dispute resolution. A company's human resources department would likely have additional mechanisms for resolving grievances and disputes.

The NS Human Rights Commission reports on outcomes publicly in an annual report and publishes all decisions on both the Commission's website and the Canadian Legal Information Institute website. No public reporting on outcomes for the Department relative to workplace grievances were found. The Department does not publish statistics in relation to dispute resolution activities. The NS Labour Board reports on outcomes publicly in an annual report available on the Board's website and publishes all decisions on the Canadian Legal Information Institute website. No mechanism for oversight of resolving grievances and disputes was found at the trade union level. No consistent mechanism for oversight of resolving grievances and disputes was found at the company level.

The Nova Scotia Human Rights Commission 2021-2022 Annual Report (the latest as of September 2023) stated that the Commission received 2,862 inquiries and accepted 67 complaints, 41 which were related to employment. In the reporting period they closed 117 complaints, some of which were carried over from previous years, of which 21 resulted in a settlement. The NS Department of Labour, Skills and Immigration, Conciliation and Mediation Services Office reports an 87-95% resolution rate in resolving conflicts through internal tracking matrices. The NS Labour Board receives and resolves over a hundred grievances annually. In the 2021/2022 annual report (the last available as of September 2023), the Board reports having 39 open cases at the beginning of the annual period, receiving 152 and resolving 122. Trade unions do not publicly report on the effectiveness at resolving grievances and disputes. Companies do not publicly report on the effectiveness of internal processes for resolving grievances and disputes. An internet review completed in September 2023 and an interview with Government of Nova Scotia staff does not indicate that there is a systemic issue in NS with the mechanisms for resolving grievances and disputes.

### **Risk conclusion and justification**

There is a comprehensive regulatory framework of mechanisms for the resolution of grievances and disputes. The mechanisms for resolving grievances and disputes are being implemented and there is no evidence of the mechanisms being ineffective at resolving grievances or disputes in the forest sector. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.

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<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Company human resources policies/procedures</li> <li>• Company grievance/dispute procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Company records of grievance/dispute outcomes</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Canadian Labour Congress. <a href="#">Chapters.</a></li> <li>• Canadian Legal Information Institute. <a href="#">Homepage.</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Human Rights Act.</a></li> <li>• <a href="#">Labour Standards Code.</a></li> <li>• <a href="#">Trade Union Act.</a></li> <li>• Nova Scotia Human Rights Commission. <a href="#">Homepage.</a></li> <li>• Department of Labour, Skills and Immigration. <a href="#">Employment Rights.</a></li> <li>• Department of Labour, Skills and Immigration. <a href="#">Conciliation and Mediation Services.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Homepage.</a></li> <li>• Nova Scotia Human Rights Commission. <a href="#">Publications.</a></li> <li>• Nova Scotia Human Rights Commission. <a href="#">Boards of Inquiry.</a></li> <li>• Nova Scotia Labour Board. <a href="#">Reports.</a></li> <li>• Nova Scotia Human Rights Commission. <a href="#">Annual Report.</a> 2021/22.</li> <li>• Nova Scotia Labour Board. <a href="#">Annual Report.</a> 2021/22.</li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>

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<p><b>4.1.10</b></p>	<p><b>Safeguards shall be put in place to protect the health and safety of workers by developing, communicating and implementing policies and procedures.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b>            Crown Licence            Industrial Private Land            Private Woodlots</p> <p><b>Analysis</b>            Systems of training, monitoring, and mandatory use of protective equipment are some of the measures taken to improve occupational health and safety. In Canada, federal legislation covers federally regulated workers, while the provinces develop and manage health and safety infrastructure for other workers, which includes forest workers. Worker training related to occupational health and safety will be described in this Indicator. See Indicator 4.1.8 Training to Workers for all other forest worker training. Health and safety is important for ensuring the well-being of workers. Workers in an unsafe and unhealthy environment will increase lost time. An effective health and safety program reduces costs and liabilities that firms would incur associated with accidents and the result of following unsafe practices.</p> <p><u>International</u>            The International Labour Organization (ILO) has over 40 different occupational health and safety instruments. There are three primary conventions to note:</p> <ul style="list-style-type: none"> <li>• (ILO) Convention C187 – Promotional Framework for Occupational Safety and Health Convention (2006, ratified 2011). Canada is a signatory.</li> <li>• Convention C148: Working Environment (Air Pollution, Noise, Vibration) from 1977. As of 2021, Canada has not ratified.</li> <li>• Convention C155: Occupational Health and Safety Convention from 1981. As of 2021, Canada has not ratified.</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Canadian Labour Code Part II and Regulations</li> <li>• Hazardous Products Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Labour Standards Code</li> <li>• Workers’ Compensation Act</li> <li>• Occupational Health and Safety Act and relevant Regulations</li> <li>• Workplace Health and Safety Regulations</li> <li>• Workplace Hazardous Materials Information System Regulations</li> <li>• First Aid Regulations</li> <li>• Occupational Safety General Regulations</li> <li>• Violence in the Workplace Regulations</li> </ul> <p><b>Enforcement and monitoring</b>  <u>International</u></p>

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The ILO website states, “The ILO develops international labour standards in the field of safety and health at work to guide governments in setting national laws and regulations and enforcing their application at the workplace. Employers and workers and their organizations also have the framework to improve working conditions and occupational safety and health.”

### Provincial

The Safety Branch of the Nova Scotia (NS) Department of Labour, Skills and Immigration is responsible for the governance of the Occupational Health and Safety Act and relevant Regulations, which are the primary pieces of legislation that define industrial health and safety requirements. The Department is responsible for delivering effective and efficient regulatory management for protection of health and safety in NS. All NS employers must comply with this legislation. Workers’ Compensation Board of Nova Scotia (WCB Nova Scotia) is a Crown corporation responsible for the implementation and application of the Occupational Health and Safety Act and Workers’ Compensation Act. WCB Nova Scotia promotes workplace safety, provides health and safety information to employers, workers and the public, establishes standards and guidelines for occupational health and safety, and conducts workplace inspections to help employers meet health and safety requirements. WCB Nova Scotia also assists injured or disabled workers, and assesses employers. Under the Occupational Health and Safety Act, employers with over 20 employees must have a system for workplace occupational health and safety monitoring and maintenance of records and statistics. Every employer in NS with three or more workers during the year must register for mandatory coverage with WCB Nova Scotia. These workers may be full-time, part-time, casual workers or non-registered contractors, subcontractors or brokers. The Forest Professional – Guidelines for the Stewards of Tomorrow’s Forests is a document produced by the NS Department of Labour, Skills and Immigration. The document is specific to forestry health and safety requirements in NS and is publicly available.

The Forestry Safety Society of Nova Scotia supports the forest industry by delivering cost effective, quality training programs and safe work practices that can be implemented by forestry companies. Training is available regardless of being WCB Nova Scotia registered or not. Examples include:

- Chainsaw training
- All-terrain vehicles
- Defensive driving
- Mechanized forest operator
- Pesticides

Employers must become WCB Safety Certified prior to conducting work for forestry companies who request it. WCB Safety Certified ensures a minimum standard of safety in all forestry workplaces. Qualified companies are required to maintain safety programs that are audited annually to verify compliance. This program is available to any WCB Nova Scotia registered company. Companies manage the WCB Safety Certified program and conduct annual maintenance or recertification audits (first-party or third party). Audits are reviewed by WCB Nova Scotia for approval. Training is also available through the Canadian Centre for Occupational Health and Safety. Nova Scotians can take up to five courses each year for free. The Nova Scotia Woodlot Owners and Operators Association (NSWOOA) provides Hiring A Contractor recommendations, which details items to be included in a contract between a private woodlot owner and contractor hired to conduct forestry work on a private woodlot. The NSWOOA recommendations includes items such as proof of liability insurance and compliance to relevant legislation.

The Department of Labour, Skills and Immigration oversees the Occupational Health and Safety Act and relevant Regulations. The Department’s safety officers conduct inspections of the workplace. WCB Nova Scotia also conducts inspections of the workplace of registered companies. WCB Nova Scotia has the legislative authority to write prevention orders, or use enforcement measures such as penalties if serious violations are encountered. WCB Nova Scotia rates are set based on performance, with fewer claims resulting in a lower rate for a company. WCB Nova Scotia registered companies monitor occupational health and safety programs through internal tracking systems, internal audits, audits of suppliers, and contractors and voluntary third-party audits. A third-party auditor is hired by the WCB Safety Certified employer to audit the employer’s

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	<p>safety program, followed by annual audits to maintain certified status. Through the Department of Natural Resources and Renewables (DNRR) Crown Lands Forest Operations Monitoring Program (FOMP), worker health and safety during harvesting, road building, and silviculture operations is monitored through audits conducted by the DNRR Regional Audit Committee.</p> <p>Clearance letters provide the status of any company registered with WCB Nova Scotia. An account is required to search for companies. WCB Nova Scotia publish annual reports detailing industry statistics and trends. One conviction was identified related to forestry practices between 2018 and 2023 in the NS Listing of Convictions under the Occupational Health and Safety Act. WCB Nova Scotia distinguishes the forest sector separately from other sectors. Between 2019 and 2022, logging and forestry had the lowest annual compensation claims, with number of claims ranging from 41 to 91, and lost time claims ranging from 14 to 26, amounting to 0.03% of the total number of claims received by WCB Nova Scotia for all industries. In 2018, the Auditor General of NS conducted an audit focused on WCB Nova Scotia’s governance and sustainability. The Auditor General found WCB Nova Scotia is well governed, on a path to financial sustainability, and that overall the Board is effectively managing claims for workplace injury and return to work. Companies who do work on Crown licence must be WCB Nova Scotia registered. DNRR FOMP data from 2017 to 2023 indicated Crown licensees were in conformance with health and safety requirements audited by the DNRR Regional Audit Committee. As employers with three or more workers, the majority of industrial private land owners are WCB Nova Scotia registered. There are 30,000 private woodlots in NS owned by individuals or small businesses. As of March 2024, it is unknown how many of these private woodlot owners have fewer than three workers, which means there is not a requirement to be WCB Nova Scotia registered. As of March 2024, there is no publicly available results to verify health and safety outcomes for non-WCB Nova Scotia registered companies who undertake harvesting or other forest operations.</p> <p><b>Risk conclusion and justification</b></p> <p><u>Provincial</u> NS has closely regulated, controlled, and enforced occupational health and safety laws and regulations. It is concluded that appropriate health and safety safeguards are in place for WCB Nova Scotia registered companies.</p> <p><u>Crown Licence and Industrial Private Land</u> The majority of companies who harvest on Crown licence and industrial private land are WCB Nova Scotia registered. As such, are required to follow WCB Nova Scotia rules. Department of Labour, Skills and Immigration and WCB Nova Scotia conduct audits and site visits to ensure these companies are compliant. For Crown licence, DNRR Regional Audit Committee conducts audits and site visits to ensure companies are in conformance. Based on evidence reviewed, this Indicator is designated as low risk for Crown licence and industrial private land in Nova Scotia.</p> <p><u>Private Woodlots</u> As private woodlots in NS are owned by individuals or small businesses, there is no requirement to be WorkSafeBC registered. Due to a lack of evidence to support implementation mechanisms, a monitoring framework and/or results to verify safeguards are in place to protect the health and safety of workers, this Indicator is designated as specified risk for other private land in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Company human resources policies/procedures</li> <li>• Company Health &amp; Safety programs/procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> </ul>

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	<ul style="list-style-type: none"> <li>• WorkSafe Records/Statistics</li> <li>• Company health &amp; safety records</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interviews with trade unions</li> <li>• Interviews with workers</li> </ul>						
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">ILO Occupation Health</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canadian Labour Code Part II and regulations</a></li> <li>• <a href="#">Hazardous Products Act</a></li> <li>• <a href="#">Workplace Hazardous Materials Information System 2015</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Convictions under the Occupational Health and Safety Act and Regulations 2018 - 2023</a></li> <li>• DNRR FOMP data 2017-2023</li> <li>• <a href="#">Follow-up of 2018, 2019 and 2020 Performance Audit Recommendations.</a></li> <li>• <a href="#">Labour Standards Code</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners and Operators Association – Hiring a Contractor</a></li> <li>• <a href="#">Occupational Health and Safety Act</a></li> <li>• <a href="#">Occupational Safety General Regulations</a></li> <li>• <a href="#">Online Occupational Health and Safety Courses for Nova Scotians - Canadian Centre for Occupational Health &amp; Safety</a></li> <li>• <a href="#">The Forest Professional - Guidelines for Stewards of tomorrow's forests (fifth edition)</a></li> <li>• <a href="#">Violence in the Workplace Regulations</a></li> <li>• <a href="#">WCB Nova Scotia Annual Reports (2018 – 2023)</a></li> <li>• <a href="#">WCB Safety Certified</a></li> <li>• <a href="#">Workers Compensation Act</a></li> </ul>						
<p><i>Risk rating</i></p>	<table border="0"> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Low risk</b>						
Private Woodlots	<b>Specified risk</b>						

**Criterion 4.2 – Feedstock sourcing benefits communities**

<p><b>4.2.1</b></p>	<p><b>Negative social and community impacts shall be identified and avoided.</b></p>
<p><i>Findings</i></p>	<p><b>Scale of assessment</b>                  Crown Licence                  Industrial Private Land                  Private Woodlots</p> <p><b>Analysis</b>                  The intent of this Indicator is to promote sustainable and responsible practices that benefit individuals and communities. Sustainable forestry practices must take into account the needs and rights of local communities, protect ecosystems and biodiversity, and support local livelihoods and economies. Elements of this Indicator are discussed and assessed in the following Indicators:</p> <ul style="list-style-type: none"> <li>• Biodiversity, ecosystem productivity and function are described across Criterion 2.1 and 2.2;</li> <li>• Labour rights are described across Criterion 4.1;</li> <li>• Contributions to the local economy are described in Indicator 4.2.2 Positive Contribution to Local Community;</li> <li>• Indigenous, rights, consultation and cultural heritage are described in Indicators 4.2.4 Legal, Customary &amp; Traditional Tenure &amp; Use Rights, 4.2.6 Consultation/Accommodation, and 4.2.7 Designated Cultural Heritage Sites Preserved, respectively; and</li> <li>• Forestry grievances and disputes are described in Indicator 4.2.5 Grievance &amp; Dispute Mechanisms - Forestry.</li> </ul> <p>Consultation and requirements and processes specific to Indigenous peoples are discussed in Indicators 4.2.4 Legal, Customary &amp; Traditional Tenure &amp; Use Rights, 4.2.6 Consultation/Accommodation, and 4.2.7 Designated Cultural Heritage Sites Preserved. Grievances and dispute mechanisms related to tenure and use rights and forest management practices are discussed in Indicator 4.2.5 Grievance &amp; Dispute Mechanisms – Forestry. The focus of this Indicator is to ensure that the identification and avoidance of negative social and community impacts are incorporated into forest management planning through a consultation process with stakeholders who may be impacted.</p> <p>Negative impacts to communities may occur if sustainable and responsible forestry management are not conducted, including loss of tenure and use rights, loss of access to areas with cultural, social, heritage, and economic values used by communities, loss of employment and economic opportunities, health and welfare impacts on communities, and loss of adequate access for recreation.</p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> <li>• Forests Act</li> </ul> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>On industrial private forest land and private woodlots, there is no regulatory framework that requires the identification and avoidance of negative social and community impacts.</p>

### **Enforcement and monitoring**

#### Crown Licence

The Nova Scotia Department of Natural Resources and Renewables (DNRR) is responsible for ensuring consultation processes occur. Crown licensees are responsible for managing crown licence areas for non- timber forest uses and values, which are captured in the Integrated Resource Management planning process for Crown licensees. Each non-timber forest use identified has guidelines in Nova Scotia's Code of Forest Practice.

Every proposed harvest area for Crown licences is posted on the Harvest Plan Map Viewer, that allows the public to view and comment on harvest plans or request additional information for specific harvest areas. Each harvest plan is available for public comment for 40 days. Throughout Forest Management Plan (FMP) implementation, Crown licensees maintain efforts to conduct meaningful public and stakeholder involvement through public advisory boards.

#### Industrial Private Land

As of March 2024, there is no publicly available information describing implementation mechanisms related to the identification and avoidance of negative social and community impacts on industrial private land.

#### Private Woodlots

As of March 2024, there is no publicly available information describing implementation mechanisms related to the identification and avoidance of negative social and community impacts on private woodlots.

#### Crown Licence

DNRR is responsible for reviewing and approving FMPs, Annual Operating Plans (AOPs), and harvest plans. Public comments from the Harvest Plan Map Viewer are provided to the Crown licensee and DNRR. Consultation information from the FMP, AOP, harvest plan and Harvest Plan Map Viewer is provided to DNRR to ensure adequate consultation. DNRR either approves or makes recommendations to the Crown licensee prior to approval.

#### Industrial Private Land

As of March 2024, there is no publicly available information describing an oversight framework related to the identification and avoidance of negative social and community impacts on industrial private lands.

#### Private Woodlots

As of March 2024, there is no publicly available information describing an oversight framework related to the identification and avoidance of negative social and community impacts on private woodlots.

#### Crown Licence

All comments or complaints from the Harvest Plan Map Viewer are reviewed by DNRR and provided to Crown licensee to revise accordingly. Crown licensees cannot operate without the approval from DNRR on FMPs, AOPs and harvest plans.

#### Private Industrial Land

Industrial private land is managed at the landowners discretion. As of March 2024, there are no publicly available results to verify the current condition related to the identification and avoidance of negative social and community impacts on industrial private land.

#### Private Woodlots

Private woodlots are managed at the landowners discretion. As of March 2024, there are no publicly available results to verify the current condition related to the identification and avoidance of negative social and community impacts on private woodlots.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p><b>Risk conclusion and justification</b></p> <p><u>Crown Licence</u> There is a comprehensive legal framework with appropriate controls governing consultation requirement during forest management planning for Crown licences. Consultation to identify and avoid negative social and community impacts is required prior to plan approval. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licences in Nova Scotia.</p> <p><u>Industrial Private Land</u> Due to a lack of a legislative framework, evidence to support implementation mechanisms, a monitoring framework and/or results to verify the identification and avoidance of negative social and community impacts, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land in Nova Scotia.</p> <p><u>Private Woodlots</u> Due to a lack of a legislative framework, evidence to support implementation mechanisms, a monitoring framework and/or results to verify the identification and avoidance of negative social and community impacts, a precautionary approach is applied. As such, this Indicator is designated as specified risk for private woodlots in Nova Scotia.</p>						
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Forest management plans</li> <li>● Best management practices and/or operational procedures</li> <li>● Consultation/engagement process</li> <li>● Grievance/dispute resolution mechanisms</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Publicly available information (reports, news &amp; websites)</li> <li>● Consultation/engagement notices, opportunities, meeting minutes, records, and applicable outcomes</li> <li>● Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>● Interviews with regulatory/oversight agency</li> <li>● Interview with local government, community members, special interest groups/organisation</li> </ul>						
<p><i>Evidence reviewed</i></p>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>● <a href="#">Crown Lands Act</a></li> <li>● <a href="#">Forests Act</a></li> <li>● <a href="#">Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a></li> </ul>						
<p><i>Risk rating</i></p>	<table border="0"> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						

## Annex 1 Detailed findings for Supply Base Evaluation

4.2.2	<p><b>Feedstock sourcing shall positively contribute to the local economy, including employment.</b></p>
Findings	<p><b>Scale of assessment</b> Provincial</p> <p><b>Analysis</b> The forest industry in Nova Scotia (NS) is highly integrated, with softwood lumber being the predominant product manufactured. The wood pellet industry utilises the by-product (sawmill and harvest residuals) of the rest of the forest sector. There are two wood pellet mills in NS. Both are in the central region of NS. The forest sector is defined using Statistics Canada’s Input-Output Industry Classification. The Classification does not distinguish wood pellet operations from other forest section operations, rather they are included in the overall numbers. For this Indicator, there are three subsectors:</p> <ul style="list-style-type: none"> <li>• Forestry, logging and support subsector are activities in the forests. This includes the Input-Output Industry Classification forestry and logging (BC113000) subsector and the support activities for the forestry (BS115300) subsector.</li> <li>• Wood products manufacturing subsector is activities in the solid wood products mills (which includes pellet mills). This includes the Input-Output Industry Classification subsectors sawmills and wood preservation (BS321100), veneer, plywood and engineered wood product manufacturing (BS321200), and other wood product manufacturing (BS321900).</li> <li>• Pulp and paper manufacturing subsector are activities in pulp and paper manufacturing. This includes the subsectors pulp, paper, and paperboard mills (BS322100) and converted paper product manufacturing (BS322200).</li> </ul> <p>See Section 4.8 for an Overview of the Biomass Sector. This Indicator is also tied to Indicators 1.1.4 Payments – Harvest Rights, Royalties and 2.2.9 Long- Term Production Capacity. See Indicator 3.3.1 Principles of Cascading Use for the integration of the forest products industry.</p> <p>The primary threats from inadequate contributions to the local economy include:</p> <ul style="list-style-type: none"> <li>• Poor wages and inadequate benefits for workers and contractors;</li> <li>• Reduced employment;</li> <li>• Unfair return for timber values;</li> <li>• Lower purchasing power resulting in reduced strength of local businesses.</li> </ul> <p>In Nova Scotia (NS) there are no specific legislative requirements that directs economic contributions from the forest industry to local communities.</p> <p><b>Enforcement and monitoring</b> There is no implementing mechanism that directs economic contributions from the forest industry to local communities. There is no oversight framework that directs economic contributions from the forest industry to local communities.</p> <p>The Forestry Economic Task Force, commissioned Gardner Pinfold to conduct a study Economic Impacts of the Forestry Sector in Nova Scotia. The report was published in 2023 with data from 2022. In 2022, there were approximately 6,414 full-time equivalent jobs across NS (2,694 direct, 2,672 indirect, 1,048 induced). In 2022, 880 jobs were in the forestry and logging and support subsectors (direct, 736 indirect, 144 induced). 3,874 full-time equivalent jobs were in the wood product manufacturing subsector, which includes wood pellet mills (1,886 direct, 1,355 indirect, 633 induced). 1,660 jobs were in the paper manufacturing subsector (808 direct, 581 indirect, 271 induced). Total labour income in NS was \$380 million in 2022 (\$180 million direct, \$160 million indirect, \$40 million induced). Forest sector earnings are above the average earnings in</p>

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>Nova Scotia. Direct roles have an average income of \$66,500, 54% above the provincial average of \$43,120 (2020 Census). Indirect roles including forestry and support services has an average income of \$58,200, 35% above the provincial average. There was \$1.78 billion in output (\$1.05 billion direct, \$564 million indirect, \$172 million induced). Gross value of output is the cumulative sum of sales and purchases of intermediate and final goods and services. \$156 million was from forestry and logging and support subsectors (\$0 direct, \$141 million indirect, \$15 million induced). \$629 million was from wood product manufacturing subsector (\$404 million direct, \$164 million indirect, \$61 million induced). \$994 million was from the pulp and paper subsector (\$639 million direct, \$259 million indirect, \$96 million induced). There was \$674 million in gross domestic product (GDP) (\$279 million direct, \$284 million indirect, \$111 million induced). \$109 million from the forestry and logging and support subsectors (\$0 direct, \$91 million indirect, \$18 million induced). \$322 million was from the wood product manufacturing subsector (\$159 million direct, \$110 million indirect, \$53 million induced). \$243 million was from the pulp and paper subsector (\$120 million direct, \$83 million indirect, \$40 million induced). In 2022, the forest industry had \$85.9 million in capital expenditures. \$15.5 million from forestry and logging, \$61.7 million from wood products manufacturing, and \$8.7 million from paper manufacturing. The forest sector contributed \$84 million in provincial tax and \$62 million in federal tax in 2022. The forestry and logging and support subsectors contributed \$7 million in provincial tax and \$7 million in federal tax. The wood product manufacturing subsector contributed \$30 million in provincial tax and \$31 million in federal tax. The pulp and paper subsector contributed \$47 million in provincial tax and \$49 million federal tax. In the central region of NS, where both wood pellet mills are located, there was \$785 million in output, \$286 million in GDP and \$163 million in labour income. There are 2,731 forest product jobs in this region. The central region forest sector contributed \$36 million in provincial taxes and \$27 million in federal taxes.</p> <p><b>Risk conclusion and justification</b></p> <p>There is a highly integrated forest products industry in Nova Scotia. Biomass- related activities contribute to the local economies for outputs, GDP, employment, and capital investment. Based on evidence reviewed, this Indicator is designated as low risk at the provincial level in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>● Company policies/procedures for employment, procurement and contributions within the local economy</li> <li>● Regional and/or sectoral analysis reports and economic studies</li> <li>● Company records of economic contributions to local economy</li> <li>● Workforce/employment records</li> <li>● Publicly available information (reports, news &amp; websites)</li> <li>● Interviews with local government, business, workers, community members, special interest groups/organisation</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Other</u></p> <ul style="list-style-type: none"> <li>● <a href="#">Economic Impacts of the Forest Sector in Nova Scotia</a>, Gardner Pinfold, 2023</li> <li>● <a href="#">Wood Pellet Location Map</a>, Wood Pellet Association of Canada</li> </ul>
<p><i>Risk rating</i></p>	<p>Provincial <b>Low risk</b></p>

## Annex 1 Detailed findings for Supply Base Evaluation

4.2.3	<p><b>Food, water supply or high conservation values (HCV) that are essential for the fulfilment of basic needs of communities shall be maintained or enhanced.</b></p>
Findings	<p><b>Scale of assessment</b>            Crown Licence            Industrial Private Land            Private Woodlots</p> <p><b>Analysis</b>            This Indicator assesses the impacts on the ability of rural communities, both Indigenous and non-Indigenous, to meet basic needs. Sustainable Biomass Program's (SBP) glossary defines basic necessities as "Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples. A site or resource is fundamental for satisfying basic necessities if the services it provides are irreplaceable (i.e., if alternatives are not readily accessible or affordable), and if its loss or damage would cause serious suffering or prejudice to affected stakeholders. Basic necessities in the context of HCV 5 may cover any or all of the provisioning services of the environment including tangible materials that can be consumed, exchanged or used directly in manufacture, and which form the basis of daily life." Forests, on a daily basis provide both food and drinking water. Food from forests typically falls into two categories: hunting/fishing (ungulates, freshwater, and anadromous fish) and foraging (mushroom, berry, and herbaceous plant collection). Drinking water supply is from surface water (lakes and rivers), as well as sub-surface ground water. Impacts on the rights of Indigenous communities, including hunting, fishing, and gathering are considered in Indicator 4.2.4 Legal, Customary, and Traditional Tenure &amp; Use Rights and Indicator 4.2.6 Consultation/Accommodation. Negative impacts on non-Indigenous communities are considered under Indicator 4.2.1 Negative Social &amp; Community Impacts ID &amp; Avoided. Maintaining ecosystem functions and services of water resources is considered under Indicator 2.2.5 Water Quality/Quantity Maintained or Enhanced. The protection of drinking water via protected water areas is the focus of this Indicator.            Forestry operations and related activities can potentially have a negative impact on the quality or quantity of the local or community water supply, negatively affecting the health and quality of life of water users.</p> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Environment Act</li> <li>• Forests Act</li> <li>• Wildlife Habitat and Watercourses Protection Regulations</li> </ul> <p><b>Enforcement and monitoring</b>  <u>Provincial</u>            Under the Environment Act, the Department of Environment and Climate Change (DECC) has authority to designate a Protected Water Area to safeguard human drinking water source areas. Designating the area supporting a community drinking water source as a Protected Water Area can limit activities that have the potential to negatively impact water quality, including the restriction of forestry and road-building activities. The Wildlife Habitat and Watercourses Protection Regulations (WHWPR) under the Forests Act, administered by the Department of Natural Resources and Renewables (DNRR), restricts harvesting activities near all watercourses in Nova Scotia (NS). A Special</p>

## Annex 1 Detailed findings for Supply Base Evaluation

Management Zone is established along boundaries of the watercourse. The Regulations define a watercourse to include lakes and wetlands, rivers, streams, creeks, and ponds. The Environment Act, and the Wildlife Habitat and Watercourses Protection Regulations are applicable to Crown licences, industrial private land and private woodlots.

### Crown Licence

The Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code provides landscape level practice guidelines for air, water, and soil values and are implemented in Forest Management Plans. The Code stipulates that designated watersheds will have no more than 25% of the area in a state of recent forest timber harvest. The Code is mandatory for Crown licences in NS.

### Industrial Private Land and Private Woodlots

Industrial private land and private woodlots owners are to follow the provincial requirements of the Environment Act and Forests Act. As of March 2024, there is no publicly available information describing implementation mechanisms for the protection of human drinking water on industrial private land or private woodlots.

### Provincial

DECC is responsible for the compliance and enforcement of the Environment Act, including oversight of Protected Water Areas. An inspection will be conducted for multiple reasons, including application review, complaints-based, risk-based compliance audits, or follow-up compliance inspection/monitoring. Enforcement actions by DECC include warning tickets, summary offence tickets, or orders. DNRR monitors and enforces the WHWPR for Crown licences, industrial private land, and private woodlots. DECC responds and follows-up on water complaints related to the Environment Act. DNRR responds and follows-up on water complaints related to the Forests Act and WHWPR.

### Crown Licence

On Crown licences, DNRR is responsible for reviewing and approving proposed harvest plans as part of the Integrated Resource Management process and determines if the plan is appropriate and meets all requirements for operating on Crown licences. DNRR considers various forest management values during the Integrated Resource Management process, including harvest amounts within designated watersheds. DNRR is also responsible for the Forest Operations Monitoring Program (FOMP) which includes different levels of inspections of harvesting operations for Crown licences in NS. Water quality is an element inspected by FOMP, but is not specific to the protection of drinking water.

### Industrial Private Land and Private Woodlots

DECC and DNRR monitor industrial private land and private woodlots. Landowners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing the oversight or monitoring program for the protection of drinking water on industrial private land or private woodlots.

### Provincial

Nova Scotia has 1,600 registered public drinking water supplies and 85 municipal water supplies. Under the Environment Act, 25 Protected Water Areas have been designated in NS. As of March 2024, there are no publicly available results to verify compliance of WHPWR requirements for Crown licences, industrial private land or private woodlots.

### Crown Licence

DNRR FOMP data verifies conformance to water quality/quantity requirements but is not specific with results related to the protection of human drinking water.

### Industrial Private Land and Private Woodlots

DECC's monitoring include industrial private land and private woodlots, but the monitoring does not distinguish between Crown licence, industrial private land, and private woodlots. As of March 2024, there are no publicly available results to verify current condition of the protection of human drinking water on industrial private land or private woodlots.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p><b>Risk conclusion and justification</b></p> <p><u>Crown Licence</u> There is a regulatory framework and implementation mechanisms for the protection of drinking water on Crown licences. Harvest prescriptions for Crown licences are closely reviewed by DNRR through the Integrated Resource Management process and the reviews include an assessment of whether aquatic buffer requirements have been met. Based on evidence reviewed, this Indicator is designated as low risk for Crown licences in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u> There are provincial legislative requirements on industrial private land and private woodlots for the protection of human drinking water. There is no publicly available information on management guidance or monitoring to determine if forest operations negatively impact Protected Water Areas or designated watersheds. There is no publicly available information to indicate compliance with WHWPR, or the Environment Act. Based on the lack of information, a precautionary approach is applied, and this Indicator is designated specified risk for industrial private land and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures, including assessment of impacts and implementation of mitigation measures</li> <li>• Consultation/engagement process</li> <li>• Grievance/dispute resolution mechanisms</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Consultation/engagement notices, opportunities, meeting minutes, records, and applicable outcomes</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Supplier verification program</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with local government, community members, special interest groups/organisation</li> <li>• Interview with experts</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Environment Act</a></li> <li>• <a href="#">Wildlife Habitat and Watercourses Protection Regulations</a></li> <li>• <a href="#">Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a></li> <li>• <a href="#">DNRR Designation of a Protected Water Area Webpage</a></li> <li>• DNRR FOMP Data 2019-2023</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Specified risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Specified risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Specified risk</b>	Private Woodlots	<b>Specified risk</b>
Crown Licence	<b>Low risk</b>						
Industrial Private Land	<b>Specified risk</b>						
Private Woodlots	<b>Specified risk</b>						
<b>4.2.4</b>	<b>Legal, customary, and traditional tenure and use rights of Indigenous Peoples and local communities related to the Supply Base shall be identified, documented, and respected.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  Sustainable Biomass Program's (SBP) glossary defines customary rights as "Rights that arise from a behaviour or act that is repeated over time under the belief that it is obligatory and, due to repetition and acceptance, acquire the force of law within a geography or society (also known as customary law)." Cornell University's Faculty of Law defines customary and traditional use as a "means a long-established, consistent pattern of use, incorporating beliefs and customs which have been transmitted from generation to generation." SBP defines respected as "being mindful of and appropriately considering the rights of Indigenous Peoples." SBP's glossary does not define traditional tenure or use rights. This Indicator evaluates if Indigenous rights have been identified, documented and respected. In Nova Scotia (NS), Indigenous people identify as First Nations, Métis, Inuit or multiple Indigenous ethnicities. The collective term is Indigenous Peoples unless otherwise stated. The Mi'kmaq Nation is the only First Nation in NS. Within the Nation, there are 13 individual First Nations. Mi'kmaq has two commonly used spellings— Mi'kmaq and Mi'gmaq. Mi'kmaq has been used unless a document name expressly says Mi'gmaq. This Indicator is assessed from the perspective of Indigenous Peoples/communities. Indicator 4.2.1 Negative Social &amp; Community Impacts ID &amp; Avoided, which covers similar topics, was evaluated from the standpoint of non-Indigenous communities. Indicator 4.2.6 Consultation/Accommodation demonstrates whether there is a consultation process and, if necessary, an accommodation process. Indicator 4.2.7 Designated Cultural Heritage Sites Preserved demonstrates the protection of cultural heritage sites identified and designated. Section 4.3 provides an overview of Indigenous Peoples in NS.</p> <p>Negative impacts include the possibility that customary and traditional tenure and use rights may not be identified or only partially identified. This could lead to the unidentified rights being violated or becoming a source of contention. Another threat is that identified rights are not documented. For example, rights may be identified in court but if the documentation of these rights is insufficient to reach relevant practitioners, the rights may not be respected. Rights that the courts have not identified may not be respected. Rights that are identified and appropriately documented may not be respected. These potential scenarios could lead to violations of legal, customary, and traditional tenure and use rights.</p> <p><u>International</u></p> <ul style="list-style-type: none"> <li>• United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Constitution Act, 1982</li> <li>• United Nations Declaration on the Rights of Indigenous Peoples Act (UNDRIP Act), 2021</li> </ul>						

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### Treaties

- Peace and Friendship Treaties

These treaties were made between First Nations and the British Crown, before the province of Nova Scotia was established.

### **Enforcement and monitoring**

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and committed to its implementation was endorsed by the Government of Canada in 2016. The Constitution Act, 1982, section 35 recognises Indigenous Peoples' rights and provides legal protection to rights defined after 1982. The federal United Nations Declaration on the Rights of Indigenous Peoples Act (UNDRIP Act), which came into force in June 2021, was established to affirm UNDRIP as an international human rights instrument that can help interpret and apply Canadian law. Nova Scotia (NS) has introduced equivalent legislation—United Nations Declaration on the Rights of Indigenous Peoples Commitment Act (Bill No. 394)—but as of March 2024, it has not passed.

NS, Canada and the Mi'kmaq have established an institutional framework for consultation. Key agreements and documents include:

- 2002, the Mi'kmaq, NS government, and Canadian government signed the Mi'kmaq-Nova Scotia-Canada Umbrella Agreement intended to lead to the development of a "made-in-Nova Scotia" negotiation process;
- 2007 the Mi'kmaq-Nova Scotia-Canada Framework Agreement, which set out a consultation framework for the three parties, known as the "Made-in-Nova Scotia Process";
- 2007: Province of Nova Scotia Consultation with the Mi'kmaq Interim Consultation Policy signed by the Mi'kmaq, Nova Scotia and Canada;
- 2010: Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process;
- 2012: Canada-Nova Scotia Memorandum of Understanding (MOU) on Cooperation Regarding Duty to Consult;
- 2015 Government of Nova Scotia Policy and Guidelines: Consultation with the Mi'kmaq of Nova Scotia: Consultation with the Mi'kmaq of Nova Scotia. Provides direction to all government departments regarding consultation with the Mi'kmaq.

A tri-partite table consisting of the Canadian government, NS government, and the Mi'kmaq are negotiating how Mi'kmaq rights will be recognised and implemented. This is commonly referred to as the "Made-in-Nova Scotia Process." In 2019, the government of Canada and a group of Mi'kmaq chiefs reaffirmed the commitment to advancing reconciliation. The NS Office of L'nu Affairs leads negotiations on Aboriginal and treaty rights with the Mi'kmaq, provincial and federal governments. In 2010, the 13 Mi'kmaq First Nations, Canada, and NS signed the Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process that sets out how Canada and NS should consult with the Mi'kmaq. The Mi'kmaw Forestry Initiative works for and with Mi'kmaw communities to implement Mi'kmaw-led forest stewardship in their traditional and unceded territory. The Initiative was developed through partnership with Kwilmu'kw Maw-klusuaqn Negotiation Office, the Confederacy of Mainland Mi'kmaq, and Unama'ki Institute of Natural Resources working for and with Mi'kmaw communities to implement Mi'kmaw-led forest stewardship in their traditional and unceded territory. This was done under the direction of the Assembly of Nova Scotia Mi'kmaw Chiefs. In 2019, NS granted the Mi'kmaw Forestry Initiative 20,000 ha of Crown land through a Pilot Forest Project. In 2022, the area was enlarged to 30,000 ha and negotiations are on-going to extend the term of the agreement. Under this project, the Mi'kmaq manage the forest, including harvesting. The NS government has provided high-level guidance for project proponents through the Proponent's Guide: The Role of Proponents in Consultation with the Mi'kmaq of Nova Scotia. See Indicator 4.2.6 Consultation Process in Place for further information on consultation. The Mi'kmaq have asserted rights over all lands in NS.

The tri-partite negotiations (the "Made-in-Nova Scotia Process") between the Canada, NS, and the Mi'kmaq, which delineate rights and implementation as outlined in the framework agreements, provide oversight. As of March 2024, there is no publicly available information regarding oversight with respect to Indigenous Peoples' tenure and use rights on industrial private land and private woodlots in NS.

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>Indigenous rights have been affirmed through the federal Constitution Act and UNDRIP Act. These rights are in the process of being defined through the court system and tri-partite negotiations. The Mi'kmaq have asserted rights over all lands in NS, including Crown land, industrial private land, and private woodlots. As of March 2024, there are no lawsuits before the courts. As of March 2024, there is no publicly available information on the progress made in "Made-in-Nova Scotia Process" negotiations. DNRR has consulted with the Mi'kmaq on An Old Growth Forest Policy for Nova Scotia, released in 2022. The government consulted with the Mi'kmaq during the developmental stage of the policy and again regarding the draft policy that was released for wider consultation.</p> <p><b>Risk conclusion and justification</b></p> <p>Canada and NS have recognised the Mi'kmaq Nation has rights in the province. The three parties are in negotiations to determine the scope of those rights and how these rights will be implemented. While the Mi'kmaq have asserted rights over all lands in NS, there are currently no lawsuits. As such, this Indicator is designated as low risk for Crown licences, industrial private land, and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures</li> <li>• Consultation agreements</li> <li>• Grievance/dispute resolution mechanisms</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Legal, customary &amp; traditional tenure &amp; use rights identified and documented</li> <li>• Consultation notices, opportunities, meeting minutes, records, and applicable outcomes</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with Indigenous People</li> <li>• Interview with experts</li> </ul>
<p><i>Evidence reviewed</i></p>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">UN Declaration on the Rights of Indigenous Peoples</a></li> </ul> <p><u>Bi-lateral</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canada and Mi'kmaq. 2019. Re-affirmation Statement.</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Constitution Act of 1867</a></li> <li>• <a href="#">UN Declaration on the Rights of Indigenous Peoples Act</a></li> </ul> <p><u>Tri-Partite</u></p>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• <a href="#">Office of L’Nu Affairs. Negotiations Webpage</a></li> <li>• <a href="#">Mi’kmaq - Nova Scotia – Canada Framework Agreement. 2007.</a></li> <li>• <a href="#">Mi’kmaq - Nova Scotia – Canada Umbrella Agreement, 2002</a></li> <li>• <a href="#">Terms of Reference for a Mi’kmaq - Nova Scotia - Canada Consultation Process. 2010.</a></li> </ul> <p>Provincial</p> <ul style="list-style-type: none"> <li>• <a href="#">An Old-Growth Forest Policy for Nova Scotia</a></li> <li>• <a href="#">Current Status of Tri-Partite Negotiations</a></li> <li>• <a href="#">Government of Nova Scotia Policy and Guidelines: Consultation with the Mi’kmaq of Nova Scotia. 2015</a></li> <li>• <a href="#">Proponent’s Guide: The Role of Proponents in Consultation with the Mi’kmaq of Nova Scotia. 2012.</a></li> <li>• <a href="#">Public and Stakeholder Consultations on Old Growth Policy. 2022.</a></li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• <a href="#">Borrows, John. 2015. Aboriginal title and private property. The Supreme Court Law Review: Osgoode’s Annual Constitutional Cases Conference. Vol 71, Article 5.</a></li> </ul>						
<i>Risk rating</i>	<table> <tr> <td>Crown Licence</td> <td><b>Low risk</b></td> </tr> <tr> <td>Industrial Private Land</td> <td><b>Low risk</b></td> </tr> <tr> <td>Private Woodlots</td> <td><b>Low risk</b></td> </tr> </table>	Crown Licence	<b>Low risk</b>	Industrial Private Land	<b>Low risk</b>	Private Woodlots	<b>Low risk</b>
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<b>4.2.5</b>	<b>Mechanisms shall be in place for resolving grievances and disputes relating to tenure and use rights of the forest and other land management practices.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence Industrial Private Land Private Woodlots</p> <p><b>Analysis</b></p> <p>Grievances and disputes considered under this Indicator are specific to tenure and use rights and forest management practices, each of which is governed by different legislation and measures. This Indicator ensures stakeholders have access to an effective system to raise and remedy grievances and disputes related to tenure and use rights. Consultation processes with stakeholders during forest management planning is discussed in Indicator 4.2.1 Negative Social &amp; Community Impact ID &amp; Avoided. Dispute-related Indicators include Indicator 1.1.2 Legal Ownership &amp; Land Use, Indicator 1.1.4 Payments – Harvest Rights, Royalties and Indicator 4.2.4 Legal, Customary &amp; Traditional Tenure &amp; Use Rights.</p> <p>It is important to have a system to resolve grievances and disputes relating to tenure and use rights of the forest and other land management practices. Potential impacts include: mechanisms for resolving grievances and disputes may not be mutually agreed upon by all parties involved and are not being documented; the system fails to resolve disputes in an effective, timely, and appropriate manner; and the system does not ensure the anonymity of complainants, community</p>						

## Annex 1 Detailed findings for Supply Base Evaluation

spokespersons and whistle-blowers.

Crown Licence, Industrial Private Land, and Private Woodlots

- Primary Forest Products Marketing Act

Crown Licence

- Crown Lands Act
- Forests Act

Industrial Private Land and Private Woodlots

The Nova Scotia (NS) judicial system regulates grievances and disputes regarding industrial private land and private woodlots.

### **Enforcement and monitoring**

Crown Licence

The NS Department of Natural Resources and Renewables (DNRR) regulates compliance with the Crown Lands Act, Forests Act and Primary Forest Products Marketing Act. Violations of Acts can be reported to DNRR. Disputes regarding forest management practices may be addressed through the five-year performance review of each Forest Utilization Licence Agreement (FULA)-holder to determine whether the FULA should be extended for five years. For planned practices, disputes are resolved during the development of Forest Management Plans and Annual Operating Plans, which DNRR approves.

Industrial Private Land

On industrial private land, management is at the discretion of the landowner. The landowner may enter into an agreement with another party to use the timber or land, which is enforceable through contract law within the provincial legal system. Disputes that arise on industrial private land are addressed through the provincial legal system.

Private Woodlots

On private woodlots, management is at the discretion of the landowner. The landowner may enter into an agreement with another party to use the timber or land, which is enforceable through contract law within the provincial legal system. Grievances and disputes that arise on private woodlots are conducted through the provincial judicial system.

Crown Licence, Industrial Private Land, and Private Woodlots

The Nova Scotia Primary Forest Products Marketing Board is authorised under the Primary Forest Products Marketing Act to provide oversight of the harvest and marketing of primary forest products from Crown licences, industrial private land, and private land. This includes ensuring producers and buyers comply with regulatory obligations and that governance and business practices are sound. A complaint can be made in writing to the Board. The Board is responsible to address the complaint.

Crown Licence

DNRR is responsible resolving disputes over tenure and use rights, and appropriately implementing forest management practices. The Enforcement Division of DNRR delivers compliance and enforcement services.

Industrial Private Land and Private Woodlots

The provincial judicial system provides oversight for grievances and disputes on industrial private land and private woodlots.

Crown Licence, Industrial Private Land, and Private Woodlots

As of March 2024, there are no publicly available records of complaints from the Nova Scotia Primary Forest Products Marketing Board.

Crown Licence

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>As of March 2024, there are no publicly available records of complaints for grievances or disputes regarding tenure and use rights for Crown licences.  <a href="#">Industrial Private Land and Private Woodlots</a>  As of March 2024, there are no publicly available records of complaints for grievances or disputes regarding tenure and use rights on industrial private land and private woodlots. The judicial system is the mechanism to resolve grievances and disputes resolution on industrial private land and private woodlots.</p> <p><b>Risk conclusion and justification</b>  <a href="#">Crown Licence</a>  Systems and mechanisms are in place to resolve grievances or disputes regarding tenure or use rights for Crown licences. There is no indication of widespread or systemic grievances or disputes relating to tenure and use rights of the forest and other land management practices. Based on evidence reviewed, this Indicator is designated as low risk for Crown licences in Nova Scotia.  <a href="#">Industrial Private Land and Private Woodlots</a>  The judicial system is the mechanism to resolve grievances and disputes resolution. There is no indication of widespread or systemic grievances or disputes relating to tenure and use rights of the forest and other land management practices. Based on evidence reviewed, this Indicator is designated as low risk for industrial private land and private woodlots in Nova Scotia.</p>						
<i>Means of verification</i>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Forest management plans</li> <li>• Consultation/engagement process</li> <li>• Grievance/dispute resolution mechanisms</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Grievance/dispute resolution opportunities, meeting minutes, records, and applicable outcomes</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with individual/organisation that initiated the grievance/dispute</li> <li>• Interviews with experts</li> </ul>						
<i>Evidence reviewed</i>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Primary Forest Products Marketing Act</a></li> <li>• <a href="#">Nova Scotia Primary Forest Products Marketing Board</a></li> </ul>						
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## Annex 1 Detailed findings for Supply Base Evaluation

4.2.6	<p><b>Where Indigenous Peoples’ rights are identified in the Supply Base, and Free Prior and Informed Consent (FPIC) has not been achieved for the proposed and planned activities, a consultation and, if required, accommodation process shall be put in place.</b></p>
Findings	<p><b>Scale of assessment</b>  Crown Licence  Industrial Private Land  Private Woodlots</p> <p><b>Analysis</b>  The Sustainable Biomass Program (SBP) defines free, prior and informed consent (FPIC) as “a collective human right of indigenous peoples and local communities to give and withhold their consent prior to the commencement of any activity that may affect their rights, land, resources, territories, livelihoods, and food security. It is a right exercised through representatives of their own choosing and in a manner consistent with their own customs, values, and norms.” This Indicator demonstrates whether there is a consultation process and, if necessary, an accommodation process before proposed and planned activities. Under this Indicator, using lawsuits to protect and recognise rights is not considered a consultation process. In Nova Scotia (NS), Indigenous people identify as First Nations, Métis, Inuit or multiple Indigenous ethnicities. The collective term is Indigenous Peoples unless otherwise stated. The Mi’kmaq Nation is the only First Nation in the province. Within the Nation, there are 13 individual First Nations. Mi’kmaq has two commonly used spellings— Mi’kmaq and Mi’gmaq. Mi’kmaq has been used unless a document name expressly says Mi’gmaq. Refer to Indicator 4.2.4 Legal, Customary &amp; Traditional Tenure &amp; Use Rights regarding the respect, identification, and documentation of legal, customary, and traditional tenure and use rights, Indicator 4.2.7 Designated Cultural Heritage Sites Preserved regarding the protection of cultural heritage sites which have been identified and designated and Section 4.3 for an overview of Indigenous Peoples in NS.  In the absence of FPIC or a consultation process, existing Indigenous rights may not be respected, potentially leading to violations of tenure and use rights.</p> <p><u>International</u></p> <ul style="list-style-type: none"> <li>• UN Declaration on the Rights of Indigenous Peoples (UNDRIP)</li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• UN Declaration on the Rights of Indigenous Peoples Act (UNDRIP Act)</li> <li>• Constitution Act, 1982</li> </ul> <p><u>Treaties</u></p> <ul style="list-style-type: none"> <li>• Peace and Friendship Treaties</li> </ul> <p>These treaties were made between First Nations and the British Crown, before Nova Scotia was established.</p> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Environment Act</li> <li>• Environmental Assessment Regulations</li> </ul> <p><b>Enforcement and monitoring</b></p>

## Annex 1 Detailed findings for Supply Base Evaluation

	<p>Section 35 of the Constitution Act, 1982 recognises and affirms the existing Aboriginal and treaty rights of the Indigenous Peoples of Canada. The federal government is responsible for the well-being of Indigenous Peoples. The Constitutional Act, 1867 gave the provinces ownership and authority over natural resources. Indigenous Peoples' rights continue to be defined and delineated via the courts in Nova Scotia (NS). The NS Department of Environment and Climate Change oversees the Environment Act and its Regulations. The Environmental Assessment Regulation requires proponent consultation with Mi'kmaq to assess impacts of a proposed project. In 2012, NS Office of L'nu Affairs developed a Proponent's Guide: The Role of Proponents in Consultation with the Mi'kmaq of Nova Scotia. The NS Office of L'nu Affairs document The Government of Nova Scotia Policy and Guidelines: Consultation with the Mi'kmaq of Nova Scotia states that the Department of Natural Resources and Renewables (DNRR) decisions related to forestry may trigger the consultation requirement. On Crown licences, DNRR consult with Mi'kmaq on planned blocks during the public review and comment period prior to approval. Port Hawkesbury Pulp is required to consult with the Mi'kmaq under the terms of the Forest Utilization License Agreement (FULA).</p> <p>As of March 2024, there is no publicly available information regarding engagement or consultation processes between Indigenous Peoples and industrial private land or private woodlots.</p> <p>The NS Office of L'nu Affairs is the government oversight body who coordinates and facilitates consultation between the provincial government and the Mi'kmaq. The Office provides advice to government and works to ensure that Nova Scotia meets its consultation requirements. As of March 2024, there is no publicly available information regarding consultation oversight between the Mi'kmaq and owners of industrial private land or private woodlots.</p> <p>As of March 2024, there is no publicly available information on free, prior and informed consent (FPIC) agreements in place with the Mi'kmaq in NS. The Main Table of the Tri-partite Negotiations has placed an early priority on the management of moose. DNRR provides for consultation on harvest plans for Crown licences. DNRR supports the Mi'kmaq Forest Initiative on Crown land. As of March 2024, there is no publicly available information regarding consultation requirements on industrial private land or private woodlots.</p> <p><b>Risk conclusion and justification</b></p> <p>Tri-partite negotiations between Canada, NS and the Mi'kmaq are ongoing. There is a comprehensive legislative framework governing proponent consultation requirement with the Mi'kmaq. The Office of L'Nu Affairs coordinates and facilitates between the provincial government and the Mi'kmaq. There is funding to support the Mi'kmaq in consultation, and there are published accounts of consultation in policy development. The Office of L'Nu Affairs monitors sufficiency of consultation which is required prior to forest operations approval. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licences in Nova Scotia. Due to a lack of a legislative framework, evidence to support implementation mechanisms, a monitoring framework and/or results of current condition verifying consultation/accommodation with the Mi'kmaq are in place, a precautionary approach is applied. As such, this Indicator is designated as specified risk for industrial private land and private woodlots in Nova Scotia.</p>
<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>● Regulatory framework</li> <li>● Regulatory agency websites</li> <li>● Forest management plans</li> <li>● Best management practices and/or operational procedures</li> <li>● Consultation agreements</li> <li>● Grievance/dispute resolution mechanisms</li> <li>● Regulatory compliance and enforcement data/reports</li> <li>● Oversight agency database records and/or reports</li> <li>● Legal, customary &amp; traditional tenure &amp; use rights identified</li> </ul>

## Annex 1 Detailed findings for Supply Base Evaluation

	<ul style="list-style-type: none"> <li>• Consultation notices, opportunities, meeting minutes, records, and outcomes, including accommodation, if applicable</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with Indigenous People</li> <li>• Interview with experts</li> </ul>						
<i>Evidence reviewed</i>	<p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">UN Declaration on the Rights of Indigenous Peoples</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Constitution Act of 1867</a></li> <li>• <a href="#">UN Declaration on the Rights of Indigenous Peoples Act</a></li> </ul> <p><u>Tri-Partite</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Mi'kmaq - Nova Scotia – Canada Framework Agreement. 2007.</a></li> <li>• <a href="#">Mi'kmaq - Nova Scotia – Canada Umbrella Agreement, 2002</a></li> <li>• <a href="#">Terms of Reference for a Mi'kmaq - Nova Scotia - Canada Consultation Process. 2010.</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Accountability Report: 2021/22. Office of L'Nu Affairs. 2022.</a></li> <li>• <a href="#">Accountability Report: 2022/23. Office of L'Nu Affairs. 2023.</a></li> <li>• <a href="#">Business Plan 2023/24. Office of L'Nu Affairs. 2023.</a></li> <li>• <a href="#">Government of Nova Scotia Policy and Guidelines: Consultation with the Mi'kmaq of Nova Scotia. April 2015.</a></li> <li>• <a href="#">Nova Scotia government – Current Status of Tri-Partite Negotiations</a></li> <li>• <a href="#">Proponent's Guide: The Role of Proponents in Consultation with the Mi'kmaq of Nova Scotia. 2012.</a></li> </ul>						
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Private Woodlots	<b>Specified risk</b>						
<b>4.2.7</b>	<b>Designated cultural heritage sites shall be preserved.</b>						
<i>Findings</i>	<p><b>Scale of assessment</b></p> <p>Crown Licence Industrial Private Land Private Woodlots</p>						

### Analysis

Sustainable Biomass Program's (SBP's) glossary defines cultural values as "sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples." This Indicator assesses if identified and designated cultural heritage sites are protected. Designation implies that a site has met specified criteria for it to be recognised as a cultural heritage site.

Cultural heritage sites that are not identified and protected are at risk of being damaged or destroyed, resulting in the loss of cultural heritage and history and causing cultural and environmental harm.

#### Provincial

- Special Places Protection Act

### Enforcement and monitoring

#### Provincial

The Special Places Protection Act is administered by the Culture and Heritage Development Division of the Nova Scotia (NS) Department of Communities, Culture, Tourism and Heritage. Archaeological sites are protected under the Act whether known or unrecorded. The Special Places Protection Act enables the Department of Communities, Culture, Tourism and Heritage to designate heritage sites as protected sites. Under the Act, the Department of Communities, Culture, Tourism and Heritage is responsible for maintaining the Provincial Registry of Heritage Property. The Special Places Protection Act is applicable to Crown licences, industrial private land and private woodlots.

#### Crown Licence

Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management provides guidance for the sustainable forest management of a range of forest uses and values in NS. The Code provides forest management landscape practice guidelines related to the protection of culturally important sites under Principle 4.2.11, which states "in cooperation with cultural stakeholders and Indigenous communities, forest managers and operators will identify culturally important sites and design and implement forest management practices to protect them." The Code is mandatory on Crown licence in NS. NS's Department of Natural Resources and Renewables (DNRR) is responsible for reviewing and approving every proposed harvest plan as part of the Integrated Resource Management process and determines if the plan is appropriate and meets all requirements for operating on Crown licences. DNRR considers various forest management values during the Integrated Resource Management process, including archaeological site boundaries and associated buffer zones.

#### Industrial Private Land and Private Woodlots

Industrial private land and private woodlots are to follow the provincial requirements of the Special Places Protection Act. Owners or operators are required to self-report cultural heritage resources to the Department of Communities, Culture, Tourism and Heritage if encountered. As of March 2024, there is no publicly available information describing implementation mechanisms related to the protection of designated cultural heritage sites on industrial private land or private woodlots.

#### Provincial

Under the Special Places Protection Act, the Department of Communities, Culture, Tourism and Heritage is responsible for maintaining archaeological information and approval of special sites in NS. Under the Special Places Protection Act, when cultural heritage sites are encountered during operations, the Department of Communities, Culture, Tourism and Heritage must be notified, and an assessment of appropriate next steps be made. Permit applications are developed by archaeologists and submitted through the Heritage Research Permit system. The permitting approval process is comprehensive to ensure that there is consistent,

## Annex 1 Detailed findings for Supply Base Evaluation

accurate information, and that proposed actions are authorised under the SPPA. The Special Places Protection Division of Department of Communities, Culture, Tourism and Heritage conduct field visits and site inspections on major construction projects (e.g., permanent bridges), registered archaeological sites, and isolated findings reported by the public. Stop orders or fines can be enforced if cultural heritage sites are threatened by development by the Special Places Protection Division. The Special Places Protection Division inspect reported threats, damage or vandalism to heritage materials, or structures. Registered areas are regularly visited by Special Places Protection staff and the Nova Scotia Museum to ensure compliance and/or to investigate suspected violations of the Special Places Protection Act. Reporting of all potential heritage object discoveries to the Department of Communities, Culture, Tourism and Heritage is mandatory. Unauthorised alteration of any cultural heritage site in NS is prohibited under the Special Places Protection Act. This is applicable to Crown licences, industrial private land and private woodlots.

### Crown Licence

During the DNRR Integrated Resource Management process, if an overlap of a proposed harvest boundary and archaeological sites or associated buffer zones is found, the Special Places Protection section of Department of Communities, Culture, Tourism and Heritage provides recommendations to the Crown licensee. Recommendations may include alterations to the boundary of the planned operation to avoid the site, using different operational practices, or conducting a further archaeological assessment of the area.

### Industrial Private Land and Private Woodlots

Special Places Protection inspections happen on industrial private land and private woodlots. As of March 2024, there is no publicly available information describing the oversight or monitoring framework for the protection of designated cultural heritage sites on industrial private land or private woodlots.

### Provincial

There are designated cultural heritage sites identified in Nova Scotia. Some cultural heritage resources sites may be confidential and not publicly available.

### Crown Licence

DNRR's Integrated Resource Management process verifies the protection of designated cultural heritage sites. Crown licensees cannot operate without the approval from DNRR on every proposed harvest plan. DNRR signs off on every block.

### Industrial Private Land and Private Woodlots

As of March 2024, there is no publicly available information verifying the current condition pertaining to the protection of designated cultural heritage sites on industrial private land and private woodlots in Nova Scotia.

## **Risk conclusion and justification**

### Provincial

Protection and conservation of designated cultural heritage sites is a legislated requirement, with responsibilities placed on Crown licensees, industrial private landowners, private woodlot owners, professional archaeologists, and the Department of Communities, Culture, Tourism and Heritage.

There is legislation, implementation mechanisms, and a monitoring framework for the protection of cultural heritage resources at the provincial level. Provincial and local governments verifies conformance in the protection of designated cultural heritage sites. Based on evidence reviewed, this Indicator is designated as low risk in Nova Scotia.

## Annex 1 Detailed findings for Supply Base Evaluation

<p><i>Means of verification</i></p>	<ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Regulatory agency websites</li> <li>• Forest management plans</li> <li>• Best management practices and/or operational procedures</li> <li>• Regulatory compliance and enforcement data/reports</li> <li>• Oversight agency database records and/or reports</li> <li>• Designated cultural heritage sites identified</li> <li>• Consultation notices, opportunities, meeting minutes, records, and applicable outcomes</li> <li>• Site plans and/or post-activity inspections demonstrate negative impacts mitigated</li> <li>• Publicly available information (reports, news &amp; websites)</li> <li>• Interviews with regulatory/oversight agency</li> <li>• Interview with Indigenous People</li> <li>• Interview with experts</li> </ul>						
<p><i>Evidence reviewed</i></p>	<p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Special Places Protection Act</a></li> <li>• <a href="#">Nova Scotia Code of Forest Practice</a></li> <li>• <a href="#">Department of Communities, Culture and Heritage Special Places Webpage</a></li> </ul>						
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## Annex 2 List of experts consulted and contacts of Working Body

Expert	Affiliation & role
Andrew Boyne	DNRR, Director of wildlife
Andrew Kekacs	Nova Scotia Woodlot Owners and Operators Association
Chris Bailey	DNRR, Director of Forestry
Christie Verstraten	Nova Scotia Woodlot Owners and Operators Association
Dan Lavigne	DNRR, fleet and forest protection services, Reseach and Monitoring specialist
Derek Gilby	DNRR, fleet and forest protection services, GIS specialist
Emily Woudstra	DNRR, fleet and forest protection services, Project Manager
Francois van Deventer	Atlantic Tree Improvement Council, Executive Director
Jackie Saturno	Nova Scotia Woodlot Owners and Operators Association
James Steenberg	DNRR, Forest Management Planner
Jeff Overmars	Human Rights Commission
John Cormier	NS Dept of Communities, Culture, Tourism and Heritage, Coordinator, Special Places
Kevin Keys	Nova Scotia Woodlot Owners and Operators Association
Lynn Hartley	NS Department of Labour, Skills and Immigration, Labour Standards Division, Director
Matthew White	NS DNRR, Director of Forest Stewardship
Peter Bush	DNRR, Manager, forest research and planning
Peter Lloyd	NS Department of Labour Skills and Immigration, Labour Standards Division, Cheif Conciliation & Mediation Officer

## Annex 2 List of experts consulted and contacts of Working Body

Peter Neily	Nova Scotia Woodlot Owners and Operators Association
Robert O'Keefe	DNRR, Supervisor, Resource Analysis
Ryan Dickie	Nova Scotia Woodlot Owners and Operators Association
Sean Power	DNRR, Private Lands and Scaling Manager
Simon Bockstette	NS Department of Natural Resources and Renewables, Tree Improvement Forester
Tom Soehl	NSRR, Director of Aboriginal Policy

### Working Body for Draft RRA (September 2024)

The team listed below acted as the Working Body responsible for drafting the earlier version of the Draft Regional Risk Assessment (RRA) that was released for public consultation in November 2024. The responsibility for the further iterations of the Draft RRA was then transitioned to SBP. As such, the team listed below was not responsible for completing or finalising the RRA.

#### Brenda Hopkin (B.Sc. (For), RPF)

Brenda Hopkin is an independent consultant specialising in forestry certification. Her extensive experience with sustainable forest management initiatives, auditing, monitoring programs and public consultation has contributed to developing her broad perspective and comprehensive skill set. Clients include provincial and national level governments, industry and not-for-profit organisations.

Brenda has been an auditor since 2000, specialising in auditing environmental national and international standards, focusing on sustainability and legality requirements, as well as greenhouse gas (GHG). She has extensive technical and operational knowledge of requirements for forest management, chain of custody and risk-based systems along the supply chain (Canadian Standards Association (CSA®), Forest Stewardship Council (FSC®), Program for the Endorsement of Forest Certification (PEFC®), Sustainable Forestry Initiative (SFI®), and the Sustainable Biomass Program (SBP)). Brenda has completed or participated in over 160 internal/external audits, including developing the audit plan, developing/implementing audit protocol, and writing articulate findings. Brenda has supported the roll-out of sustainable forest management legislation, policy, certification, and operational procedures in a consulting role. Brenda is the Coordinator responsible for collating the Draft Regional Risk Assessments for Alberta, British Columbia, New Brunswick and Nova Scotia. In addition she is a registered member of the Economic Chamber of FSC International and is a past member of a 12-person Standards Development Group for FSC Canada. Brenda participated for six years on the SBP Technical Committee. Brenda is a Registered Professional Forester in British Columbia.

#### Glen Dunsworth (B.Sc. (For), M.Sc. (For. Genetics), R.P. Bio. (retired))

Glen is an Ecological Consultant providing services in forest ecology, wildlife resource management, conservation biology and strategic planning. He has over 25 years of experience in the BC coastal forest industry with Macmillan Bloedel and Weyerhaeuser. He directed regeneration and biodiversity research and developed effective new strategic approaches to ecosystem-based management. He has facilitation, organizational, and project management experience in landscape and strategic planning.

## Annex 2 List of experts consulted and contacts of Working Body

Glen specialises in biodiversity, genetics, landscape ecology, and ecosystem-based management. He has strong technical writing skills with over 50 journal publications, including editing and co-authoring a recently published UBC Press textbook. As a consultant, Glen has provided conservation and ecological strategic planning advice to a number of BC forest companies and conservation organisations. In addition to the 25 years of industrial experience, during the latter 10 years of his career, he was a forest ecology consultant and worked with the Rain Forest Alliance as a wildlife and forest ecology auditor on 25 FSC audits in BC, Alberta and Ontario. He served as SelectSeed Company Director, President, and Board Chair for 19 years.

His most recent experience in large project management was developing and implementing an adaptive management and monitoring program supporting Weyerhaeuser's Coast Forest Strategy (1999-2004), a major shift in forest management from a clear-cut to a variable retention approach. This experience was published as a case study textbook for UBC Press in 2009. Glen has contributed to the Draft RRAs for Alberta, British Columbia, New Brunswick and Nova Scotia.

### Marie-Ange Fournier, (B.A. Geography and Environmental Sci., Adv. Dip. GIS)

Marie is a GIS Analyst currently working with biologists, forestry professionals and land managers on research, forest, and land management projects. She has worked in Canada and the US and is conversant with provincial, national, and international datasets. Recently she has worked on fuel management planning and fire risk reduction projects in southeastern BC as well as wildlife connectivity and biodiversity projects in the East and West Kootenays. Marie's project management and GIS experience were invaluable to completing the Draft RRAs for Alberta, British Columbia, New Brunswick and Nova Scotia.

Before becoming a GIS consultant, Marie worked for 10 years with BC regional and municipal governments as a GIS Analyst and Planning Assistant. She has worked closely with the public, developers and their consultants, elected officials, and First Nations. Marie has routinely liaised with and is familiar with various government agencies and staff, including BC Design Review Panels, Heritage Commissions, the Agricultural Land Commission, and all operating areas of municipal and regional districts in BC.

### Jessica Hochins (B. Sc. (For), RPF)

Jessica is a Registered Professional Forester with the Forest Professionals of British Columbia. Since 2013, she has worked in the forestry industry in British Columbia, Alberta and Ontario, specialising in planning, harvesting and road construction supervision, and program coordination maintaining SAFE companies (BC Forest Safety Council), SFI, PEFC and SBP forest certifications. Jessica has contributed to the Draft Regional Risk Assessments for Alberta, British Columbia, New Brunswick and Nova Scotia.

### Alexa Matthes (B.Sc., A.Ag.)

Alexa Matthes is a Professional Agrologist and Environmental Scientist. She is a Project Scientist for the Trail Area Health and Environment Program. Alexa has worked in various environmental roles since 2014. Her experience includes soil remediation, site planning and management, industrial sampling methods and invasive plant removal. She has been involved in research and data collection for a variety of forestry- related projects. Her contribution to the Draft RRAs for Alberta, British Columbia, New Brunswick and Nova Scotia has included updating documents and obtaining relevant stakeholder information.

### Jennifer Raworth

Jennifer is a versatile market communications specialist with over 23 years of developing, leading and implementing multi-faceted domestic and international campaigns for the forest products industry, government, and associations. She has provided communications expertise to the Wood Pellet Association of Canada, Forestry Innovation Investment and Interfor. Jennifer has reviewed and edited the Draft RRAs for Alberta, British Columbia, New Brunswick and Nova Scotia.

## Annex 2 List of experts consulted and contacts of Working Body

### Krista West (BSF, MPA)

With a background in social auditing in a natural resource management context, Krista specialises in the establishment and delivery of certification services for environmental, social and governance standards systems. She has worked with several certification schemes, primarily in forestry and mining, to establish performance and chain of custody standards, develop assessment procedures and contribute to monitoring and evaluation programs and governance.

In addition to leading committees on human and labour rights, greenhouse gases, environment, and chain of custody, she has facilitated standards revision discussions at a global level. A speaker at certification and mining conferences globally, she has also participated in several advisory roles, including participating in a United Nations Advisory Group on the use of certification schemes to combat modern slavery. She has developed several auditor training programs and trained auditors globally. Previous to her work with certification schemes she oversaw a certification program that included over 40 million hectares of FSC-certified forests and 400 FSC Chain of Custody certificates. Krista has contributed to the Draft RRAs for Alberta, British Columbia, New Brunswick and Nova Scotia.

### Jeremy Williams (B.Sc. (For), Ph.D. (For. Econ.), RPF)

Dr. Williams has worked with many certification systems, including standards regarding forest management (certification and compliance), forest carbon offsets, aggregate pits and quarries, and biomass, Jeremy is an experienced forest auditor, and he has contributed to the Draft RRA for Alberta, British Columbia, New Brunswick and Nova Scotia. He has also led the production of assessments of the impact of pellet feedstock procurement on the forests in the catchment area of four Drax facilities in British Columbia. Jeremy has completed numerous business cases, economic evaluations, and reviews. He is knowledgeable and experienced in forest carbon pricing and accounting and has extensive experience working with and advising Indigenous People.

In addition, Jeremy has extensive forest economics experience, including reviews of timber markets and timber pricing, stumpage rates, and timber production costs. In 2017, he was a member of the Nova Scotia premier's Forest Sector Review team. In the Review, Jeremy was the lead assessor of the state of timber markets, particularly in southwest Nova Scotia, and he undertook a thorough analysis of harvest rates and costs, silvicultural costs, and reimbursement rates.

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## Annex 4 List of Stakeholders

The table below summarises the stakeholders notified during the public consultation period

Type of Organisation	Count of Type of Organisation
Certification Body	3
Certification scheme	3
Economic Interest	144
Environmental Interest	70
National and state forest agencies	31
Research institution	5
Social Interest	33
<b>Grand Total</b>	<b>289</b>

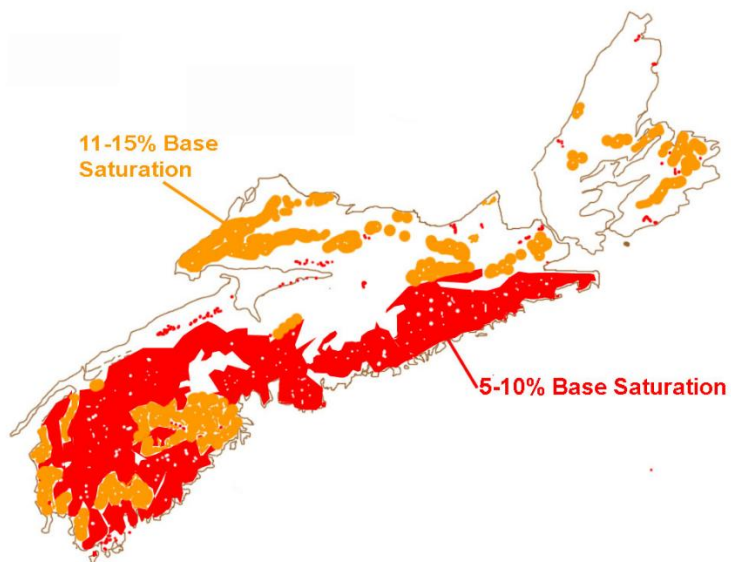
Stakeholder	Comment	Response
Environmental Interest	<p>Indicator 2.1.1</p> <p>In regard to “areas of high conservation value (HCV) pertaining to biodiversity in the supply base shall be identified” – there is widespread dissatisfaction with the way the NS Gov. is proceeding to assign Crown lands to each of the 3 zones of the Forest TRIAD. In particular there is concern that harvesting is ongoing on some lands currently assigned to the Ecological Matrix when a larger area has been advanced by a citizen group as a candidate for Protection, based on fairly rigorous citizen science (not simply wishful thinking, NIMBY etc); and there is frustration that the government is proceeding very slowly to identify new Crown lands for protection via a vis its now legislated commitment to “20% protection by 2030”* but at the same time has proceeded much more quickly to identify candidate ares for the HPF (High Production Forestry) zone. As well, overall, there, is a severe lack of any published landscape level planning for biodiversity conservation in NS, e.g. equivalent to the Halifax Green Network Plan.</p> <p>*Environmental Goals and Climate Change Reduction Act CHAPTER 20 OF THE ACTS OF 2021: “Land protection goals 10 The Government’s goals with respect to the protection of land are (a) to conserve at least 20% of the total land and water mass of the Province by 2030 as protected areas and other effective area-based conservation measures, including Indigenous Protected and Conserved Areas, in a manner consistent with national reporting criteria;”</p> <p>Also view these posts on nsforestmatters.ca</p> <ul style="list-style-type: none"> <li>– Plans for harvesting within the proposed Ingram River Wilderness Area (IRWA) continue 23Sep2024</li> <li>– Open letter to Nova Scotia Premier Houston requesting cessation of logging in areas that are prime candidates for protection 17Oct2024</li> <li>– Harvesting in citizen-proposed Nova Scotia Protected Area continued... 4Nov2024</li> <li>– CBC InfoAM interviews on Logging in Citizen-Proposed Protected Areas #1: the “Activists” 20Nov2024</li> </ul>	<p>Thank you for your comment. Indicator 2.1.1 requirement focuses on the HCV identification while indicator 2.1.2 focuses on the threats identification. The concern raised by the comments should be covered by the indicator 2.1.3 specified risk referring to the HCV protection and indicator 2.2.2 Ecosystems, their health, vitality, functions and services identified as specified risk.</p>

## Annex 5 Stakeholder consultation report

<p>The NS Gov has a Collaborative Protected Areas Strategy, but has not acted on it, see: Collaborative Protected Areas Strategy. An Action Plan for Achieving 20 Per cent ISBN 978-1- 77448-553-8 December 2023. Commented Ecology Action Centre’s Raymond Plourde: “There is no collaboration with citizens groups or industry or civil society at large, the public, about moving that forward [on this strategy] in any kind of concrete way.”</p>	
<p>Indicator 2.1.2 See concerns expressed above re: 2.1.1 –Key Eco/HCV ID</p>	<p>Thank you for your comment. Indicator 2.1.1 requirement focuses on the HCV identification while indicator 2.1.2 focuses on the threats identification. The concern raised by the comments should be covered by the indicator 2.1.3 specified risk referring to the HCV protection and indicator 2.2.2 Ecosystems, their health, vitality, functions and services identified as specified risk.</p>
<p>Indicator 2.1.3 See concerns expressed above re: 2.1.1 –Key Eco/HCV ID</p>	<p>Thank you for your comment. The concern raised by the comments above should be covered by the indicator 2.1.3 specified risk referring to the HCV protection and indicator 2.2.2 Ecosystems, their health, vitality, functions and services identified as specified risk.</p>
<p>The Draft RRA correctly identifies factors that result in poor tracking of net deforestation in NS. Note the Comment above under 4.1 Overview Description above: “Nova Scotia’s (NS’s) land base is 5.5 million ha. Over 81% (4.5 million ha) are dominated by trees., p18” ****....This is a very out-of-date figure, The 2016 State of the Forest Report gave forest cover as 75%, the more usually cited figure for NS”. The fact that several plus government officers/researchers provided input and presumably reviewed earlier drafts of the RRA and did not correct this error illustrates, unfortunately, lack of government concern about this issue. Currently, with ongoing mine development and windmill and solar farm construction for biofuel production for export, as well as windmill construction for regional use, there are large areas of NS being deforested for industrial use, but as the RRA notes, a formal monitoring framework is lacking. In the case of one biofuel megaproject, the promoters expressed pride that they were able to keep the whole project secret for several years prior to announcing it essentially as a fait accompli. (See Guysborough Journal, Sep 18, 2024). There is also sloppy accounting by the NS Gov. of the land deforested for</p>	<p>Thank you for your comment. The figures have been updated.</p>

## Annex 5 Stakeholder consultation report

	<p>forestry roads on Crown lands in NS., some of which involve excessively wide clearcuts (e.g., 30 m width); further, wood removed in constructing the roads is not counted as wood harvested – See Shady Accounting and Vanishing Forests on Nova Scotia’s Crown Lands , post by Nina Newington on nsforestmatters.ca on July 14, 2024.</p>	
	<p>Indicator 2.2.2 See concerns related to 2.2 series indicators as identified above</p>	<p>Thank you for your comment, see our responses above,</p>
	<p>Indicator 2.2.3 The Draft RRA correctly identifies factors that result in poor monitoring of soil quality on Industrial Private Lands and Private Woodlots. However, the assumption that all is OK on Crown lands because they are monitored etc. can be questioned in two regards: Under FULA Agreements and “Outcomes Based Management” etc. we (the public) don’t (re: the current FULA with Port Hawkesbury Paper) or won’t (re: presumably soon to be announced FULA with the WestFor group) see any results of any monitoring until some years, perhaps many, after it is conducted. Even currently the reporting on PTAs etc that once occurred in response to requests submitted via the Harvest Plan Map Viewer for WestFor lands seem to be greatly reduced and they do NOT include info. on nutrient budgeting, nor is the public being informed of such or of any followup monitoring of nutrient status of harvested sites. The major venue recommend by Lahey (2018) for public review of longer term harvesting plans for FULA agreements was to be a Forest Environmental Assessment/Forest Stewardship Guide, but while that project was developed to a certain point, it seems to now have been tacitly dropped which undermines public confidence in these agreements.</p>	<p>Thank you for your comments which are relevant possible improvement measures that could be implemented on the supply base. The rationale provided does not seem to require a change to the risk rating concluded by the Working Body. Low risk designation for Crown Licenses was based on clear evidence checked by the working body.</p>



An inconvenient truth: sketch shows prominence of highly acidic, calcium-deficient/high aluminum forest soils in Nova Scotia. Sketch after Keys et al. (2016), Fig 3.

The extensive degree of acidification/base depletion of forest soils in NS over more than 50% of landscape was well documented by Kevin Keys & Co. in 2016. They came up with a scheme to adjust harvest levels in the Ecological Matrix Lands that would theoretically\* avoid further base depletion and allow some recovery; and for fertilization of more intensively harvested lands assigned to the HPF (High Production Forestry) zones. We (the public) have not been informed of any follow-up monitoring of harvested sites to confirm (or not) the theoretical expectations.

See A Nutrient-Sustainable Harvest Assessment Tool for Nova Scotia Acadian Forests Kevin Keys & Jana Bockstette. NS Natural Resources and Renewables Biodiversity Conservation and Forestry Technical Report Series. Forestry Tech Report 2023-04 | October 2023 "Nova Scotia forest soils have been severely impacted by acidic deposition and base cation depletion to the point where mean percent base saturation levels for many dominant soil series are below 10%. Given these conditions, it is critical that nutrient budget assessments be integrated into timber harvest planning to ensure

sitespecific harvest removals are nutrient sustainable. ... Given that forest ecosystems tend to naturally acidify over time, and that Ca<sup>2+</sup> concentrations in base-poor soils in Nova Scotia were probably already decreasing before the accelerated losses from acidic deposition (as suggested by Leys et al., 2016), NovaScotia forest soils will likely never return to "pre-acid rain" base cation levels without the use of remedial amendments (e.g., dolomitic lime). In addition, any natural recovery will be slow as discussed by Lawrence et al. (2015) and supported by a 20-year soil reassessment study in Kejimikujik National Park (Keys, 2018). It is therefore critical that timber harvest operations do not exacerbate the lingering impacts of acid deposition on soil base cation levels. To this end, the default %BS value for all NBM-NS calculations was set to 30%. This approach allows for some level of timber harvesting while theoretically [italics & underlining inserted] allowing soil base cation levels to gradually rebuild to more healthy levels over time."

In fact, there is good reason to suspect that on the more acidified sites, liming would be required to "kick start" a recovery process\*\*, i.e. that the theoretical rebuilding of soil base cations is not occurring withiyliming (selectively harvested or not), at least not on the more acidified soils.

\*\*See Helicopter Liming to Help Restore Acidified Forest Soil Productivity McCavour, Caitlin ; Sterling, Shannon ; Keys, Kevin ; Halfyard, Edmund Publication date 2021/4; Journal EGU General Assembly Conference Abstracts Pages EGU21-13660 Decades of acid deposition across northeastern North America has caused excess leaching of soil base cations (Ca<sup>2+</sup>, Mg<sup>2+</sup>, K<sup>+</sup>) and increases in bioavailable aluminum (Al<sup>3+</sup>) that, in combination, have resulted in widespread decreases in potential forest productivity. Despite major reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions since the 1990s, forest soils across the region have shown few signs of recovery from acid deposition impacts and it could take decades or centuries for natural recovery to occur. As a result, affected forests are stressed, less productive, and more prone to climate change-induced damage. Helicopter liming of upland forests may be an effective way to jump-start the soil recovery process. Here we report on early results (one-year) from a helicopter liming trial in Nova Scotia, Canada where 10 tonnes/ha of dolomitic limestone was applied to approximately 8 ha of mature red spruce (*Picea rubens* ...

If that is the case, i.e. liming is required to "kick start" a recovery process on many perhaps most of these highly acidified sites, then the current system

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	<p>for management of these sites within the Ecological Matrix Zone is resulting in further soil degradation.</p> <p>Currently NS NRR has delineated potential HPF sites, but few if any finalized HPF sites. On at least some of these potential sites – located currently in lands identified as Ecological Matrix – harvesting is occurring now,* without fertilization (apparently, or it’s not being declared). So what is happening in such cases in regard to the subsequent use of the land (Ecological Matrix Or HPF Or Conservation) and in regard to the nutrient status of the soils? We don’t know. *</p> <p>*See, for example Harvesting in citizen-proposed Nova Scotia Protected Area continued...4Nov2024</p> <p>For the HPF areas, we still don’t know what sort of fertilization schemes will be applied, and their risks. There has been testing of sewage processing products as fertilizers – will such materials actually be used? We don’t know. There are recurrent informal reports of poor forest recovery on some forest lands in NS, at least some of those in areas of severely acidified soils.</p> <p>In the absence of more reporting and transparency on such matters by NS NRR, it should NOT be assumed, we suggest, that there is a LOW RISK to this indicator (“Soil quality in the supply base shall be maintained or enhanced”) on Crown lands and most specifically to those lands shown to have significant base cation deficiencies.</p>	
	<p>Indicator 2.2.4</p> <p>The contention that on industrial private land and private woodlots “harvest residues are left in the forests. As such, there is no removal of harvest residues to negatively affect the ecosystem” may not be true universally for all private lands in Nova Scotia; the common understanding is that the prohibition on whole tree removal (including stumps) is limited to Crown lands. A ban on whole tree removal on private lands was anticipated in 2013 when “Whole-tree operations in Nova Scotia harvest[ed] less than 100,000 green metric tonnes. That represents less than four per cent of the total annual provincial tree harvest”, and the bans were to be made as amendments to the the Wildlife Habitat and Watercourses Protection Regulations, but it appears that never happened.</p>	<p>Thank you for your comments, risk designation has been changed to specified risk.</p>
	<p>Indicator 2.2.5</p> <p>Related to the soil acidification/base depletion discussed under Comments for 2.2.3 Soil Quality Maintained or Enhanced above, it’s pertinent to point out that potability of well waters is significantly adversely affected by this</p>	<p>Thank you for your comments which are relevant possible improvement measures that could be implemented on the supply base. The rationale provided does not seem to require a change to the risk rating concluded by the Working Body.</p>

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condition (due to high aluminum) also, the suitability of fresh waters for salmonids is severely affected. View scientific literature by Shannon Sterling & Colleagues at <http://nsforestnotes.ca/current-issues/calcium-depletion/history/#sterling>

In addition, many studies are emerging showing that declines in calcium under forests are having diverse adverse effects either through calcium deficiency directly or indirectly through reduced pH, aluminum mobilization and enhanced mercury toxicity e.g., on cold tolerance of red spruce, sugar maple decline, forest salamanders and snails, loon reproduction, zooplankton, forest herbs, invertebrates and song birds. View scientific papers listed at <http://nsforestnotes.ca/currentissues/calcium-depletion/history/#diverse>

Thus to the extent the highly acidified/low base saturation, high aluminum soil condition is worsened by harvesting without concurrent liming of the soils over the large areas of Nova Scotia with severely acidified/base depleted soils, these areas should be regarded as at elevated risk even under Crown land management.

There are also concerns about the impacts of extensive clearcutting in NS on flooding downstream, especially given the oft-increased intensity of storms in NS in recent years and associated extreme flooding/ View Is extensive clearcutting in Nova Scotia causing excessive flooding 16Mar2022? (Post on nsforestnotes.ca Mar 16, 2022). Very Pertinent: Modeling Reforestation's Role in Climate- Proofing Watersheds from Flooding and Soil Erosion by Robert L. France et al., 2019 in American Journal of Climate Change ABSTRACT The mitigation potential of reforestation for offsetting the deleterious effects of increased flooding and soil erosion projected to occur in Atlantic Canada through future climate change was investigated. Modelling determined a strong but non-linear relationship between extent of vegetative cover and runoff volume and discharge rate for a Nova Scotian watershed, suggesting that reforestation will reduce, but not completely prevent, flooding. Predicted erosion rates were found to be progressively reduced in relation to the extent of upland reforestation. Of three scenarios examined in which 60%, 65%, and 85% of the entire watershed are randomly reforested, only the latter would reduce the elevated erosion expected to occur through climate change back to present-day existing levels. Additional modelling revealed that comparable mitigation of soil erosion can ensue through implementation of 70 m streamside buffer strips, which would only take up 19% of the total surface area. Prioritizing riparian zones for reforestation will therefore subsume less of the overall productive

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	<p>land area and therefore enact a less severe socio-economic impact on agriculture and forestry. What would it take to adopt a minimum of 70 m streamside buffer strips in Nova Scotia? Amongst the recommendations of Prof Lahey (2018) that L&amp;F/NRR have evidently not even begun to address was this:</p> <p>25. The efficacy and adequacy of a 20 metre riparian zone that is only varied on the basis of slope conditions, currently required by the Wildlife Habitat and Watercourse Protection Regulations, should be independently studied with a view to determining (a) if it should be changed and (b) how it should be changed to better address the ecological rationale for riparian buffer zones.</p> <p>See also conclusions 67, 68 &amp; pp30 to 31 in the Forest Practices Review of Lahey 2018.</p>	
	<p>Indicator 2.2.7</p> <p>Factual Update re: use of herbicides on Crown lands. Herbicide use will be permitted and may even be encouraged/required in the HPF zones of the Triad on Crown lands, hence the risk should be a Specified Risk as it is for private lands.</p> <p>Herbicide use in forestry in NS is especially controversial because most of our managed forests are in moderately settled watershed (unlike in most other provinces where much of the Crown land is in very remote areas). There have been repeated complaints about poor notification of herbicide spraying, particularly in relation to berry picking, most of which occurs in the same fall period in which most herbicide spraying is conducted.</p> <p>To date, but possibly not ongoing, herbicides are NOT used on Port Hawkesbury Paper managed Crown lands under their FULA as they hold FSC certification for these lands, re the FSC pesticides policy:</p> <p>In the short-term, FSC aims to:</p> <ul style="list-style-type: none"> <li>• Eliminate the use of the most hazardous chemical pesticides;</li> <li>• Promote best practices to minimize associated risks to human health and the environment when using chemical pesticides; and</li> <li>• Reduce the overall volume and number of chemical pesticides in use.</li> </ul> <p>In the long-term, FSC aims to eliminate the use of chemical pesticides in FSC-certified forests.</p> <p>The fact that forestry operations on such a large area of Crown lands in NS are managed without herbicides, apparently successfully, supports</p>	<p>SBP glossary also clarified the agrochemical that are banned from certified operations. The objective is to eliminate use of the most harmful agrochemicals. The comments is well noted. The rationale provided does not seem to require a change to the risk rating concluded by the Working Body.</p>

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	<p>arguments for simply banning use of herbicides in forestry operation in NS. Rightly or wrongly there is concern that NS NRR may in future require PHP to use herbicides on their HPF sites – NRR needs to clarify their position in this regard.</p>	
	<p>Indicator 2.2.9</p> <p>In contrast to the rankings assigned, we suggest there is abundant reason to assign Specified Risk to all 3 land groups. The major issues: the figures for potential annual softwood and hardwood supply were produced in 2016,</p> <ul style="list-style-type: none"> <li>– before the Forest Practices Review (2018),</li> <li>– before exotic pests began to ravage Eastern Hemlock, American Ash and American Beech,</li> <li>– before the onset of extreme climate changes which have caused record-breaking fires and floods and blowdown,</li> <li>– before broad recognition globally and locally of the need to manage our forests better to sequester carbon and reverse biodiversity loss,</li> <li>– and perhaps most notably, before the government made a legal commitment to “20% Protection by 2030” (re: Environmental Goals and Climate Change Reduction Act, 2021)</li> </ul> <p>In regard to the last mentioned, as of Dec 2023, 13.45% of the area of land+water in Nova Scotia was protected/conserved, leaving 6.55% to be added, a major portion of which will of necessity have to come from Crown lands. Some rough calculations on how much that could affect the area of working forest on Crown lands:</p> <p>The total Land+Inland Water Area of NS is 5,525,014 ha. 6.55% (20%-13.45%) of that area is 361,888 ha. If 80% were to come from Crown lands (&amp; 20% by purchase of &amp;/or Conservation Easements on, Private lands) that would be 289,510 ha.</p> <p>It’s concerning that the host of reviewers of the RRA to this point did not, apparently, raise any of these concerns.</p> <p>The new NS Government of 2021 moved quickly to ‘implement Lahey’ on Crown lands in the form of the TRIAD, which is laudable except that:</p> <ul style="list-style-type: none"> <li>(i) NS is the largest experiment in TRIAD forestry yet, i.e. we are on the leading edge, not applying a tested, tried and true system of forest management; and</li> <li>(ii) the NS Government – or more specifically the NS DNRR (Nova Scotia Department of Natural resources and Renewables) – has moved quickly to implement aspects that cater to ‘Big Forestry’ interests (re assignment of</li> </ul>	<p>Thank you for the additional information provided with regards to the Lahey report. We noted your comments on the data provided (2016). The comments are well noted. However, without further data on harvesting and growth data that can be opposed to the justification, and with a rational focusing on how the conclusion of the Lahey report were implemented, it is concluded that a change to the risk rating concluded by the Working Body is not warranted.</p>

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	<p>potential HPF areas, new roads, harvesting in the Ecological Matrix) but much more slowly on the aspects – most notably identification of lands for protection to meet 20% by 2030) – that cater to a large constituency that sought a better balance between Big Forestry interests and the many non-fibre values of NS forests. That is in direct conflict with adage of Lahey:</p> <p>“In other words, I have concluded that protecting ecosystems and biodiversity should not be balanced against other objectives and values as if they were of equal weight or importance to those other objectives or values. Instead, protecting and enhancing ecosystems should be the objective (the outcome) of how we balance environmental, social, and economic objectives and values in practising forestry in Nova Scotia.” – William Lahey, Aug 2018</p> <p>The result has been an undermining of the trust and good will that was created initially by the Lahey report, and seemingly a rush to assign as much of the forested land as possible to Industrial Forestry and other industrial interests (mining, biofuel for export etc) before such actions could be reversed (e.g. view Dreams of producing biofuel from Nova Scotia forests just got very big 14Sep2024, post on nsforestmatters.ca).</p>	
	<p>Indicator .2.10</p> <p>Conifers remain the focus of replanting &amp; plantation forestry even though there is abundant evidence that some species, e.g. balsam fir, can be expected to be strongly adversely affected by warming and that may even be occurring now.* We should be looking seriously at Assisted Migration to diversify our forests and “pre- adapt” to climate warming. Some species that might be appropriate, e.g. Bur Oak, have already been introduced horticulturally. *See Investigating climate anomalies associated with the sudden mortality of balsam fir trees in eastern Canada, by Broom et al., 20234 in Frontiers in Forests and Global Climate Change. “Our study highlights this vulnerability of balsam fir with both drought and warm spring conditions predicted to increase under future warming scenarios (Albert et al., 2023). Forest stakeholders should use this information to support the diversification away from balsam fir (as part of climate-focused forest management).”</p>	<p>Thank you for your comment which is well noted. The indicator focuses on the regeneration of forest, rather than the diversification of the forest. As such, the rationale provided does not seem to require a change to the risk rating concluded by the Working Body.</p>
	<p>Indicator 2.2.11</p> <p>Some of the info cited is well out of date, e.g. “No major forest diseases requiring treatment were reported” is based on formal reporting in 2016. Since then we have had major outbreak of Hemlock Woolly Adelgid; hemlock is a keystone species in many of our forests; also Beech leafmining</p>	<p>Thank you for your comments which is well noted. The comment focuses on recommendation to the government and does not seem to contradict the rationale provided by the Working Body to conclude their risk analysis (except the possible</p>

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	<p>weevil (on American Beech) and Emerald Ash Borer (on Ash trees). The province has been slow to restrict firewood movement between areas heavily impacted by HWA and those not, and new outbreaks have occurred in campgrounds. We have had major blowdowns from hurricanes; the government and forest industry have been quick to conduct salvage harvesting when a more cautionary and more site-specific approach would be more appropriate because of the negative impacts of salvage harvesting, especially on the more nutrient depleted soils. In the spring of 2023 we had the largest fires on record, both set, but also occurring in areas where there was predominance of conifers reflecting past forestry practices, a factor that appears not to have been acknowledged or otherwise objectively investigated. There is pressure from Forest NS to allow thinning in Protected Areas on the assumption it would reduce fire hazard, but even if true (benefits of thinning for fire hazard reduction vary with forest types, stand age etc) at the same time it would increase flooding hazard, possibly a more serious threat in NS (related to our warming sea waters). The government needs to look at these issues openly and objectively both for public confidence and to ensure we manage our forests for the greatest possible benefits to all of us.</p>	<p>outdated data). As such, change to the risk rating concluded by the Working Body is not warranted.</p>
	<p>Indicator 3.1.1 – LULUCF – A, B, or C</p> <p>Whether or not Canada is properly accounting for its forestry-related carbon emissions is hotly debated. It's pretty clear that the emissions associated with forestry per se are masked to large extent by including a lot of non-harvested forest areas, e.g. protected areas, in the bucket of "managed forests". Both our federal and governments need to look at these issues openly and objectively both for public confidence and to ensure we manage our forests for the greatest possible benefits to all of us.</p>	<p>The methodology followed for reporting LULUCF data is part of the commitment to the Paris Agreement. As such, the comments cannot be taken into consideration for a justification to changing the risk rating.</p>
	<p>Indicator 3.2.1</p> <p>Re: "Both the NRCAN and DNRR data showed the combined impacts of timber harvesting and disturbances have been equal to or below the level of growth, resulting in stable to increasing forest carbon stocks." We need to be careful about concluding from such results that all is OK carbon-wise in our forests. Look at the chart below from the State of the Forest Report for 2016 – a lot of the increase in recent years is likely associated with ongoing soil recovery from excessive harvesting in earlier years; this has implications for the "sustainable harvest carbon-wise" -i t's likely well below the 5.7 million cubic meters per annum commonly cited as the Sustainable Harvest Level for Nova Scotia.</p>	<p>Thank you for your comments. The Working Body has quoted the most up-to-date source of information on the topic "Between 2017 and 2021, the annual values of Net Ecosystem Productivity were positive indicating the forest accumulated carbon." The data provided in the comment relate to New Brunswick forest and without additional evaluation of the applicability of such data to the Nova Scotia, the Working Body does not have sufficient data to be able to draw adapted conclusion.</p>

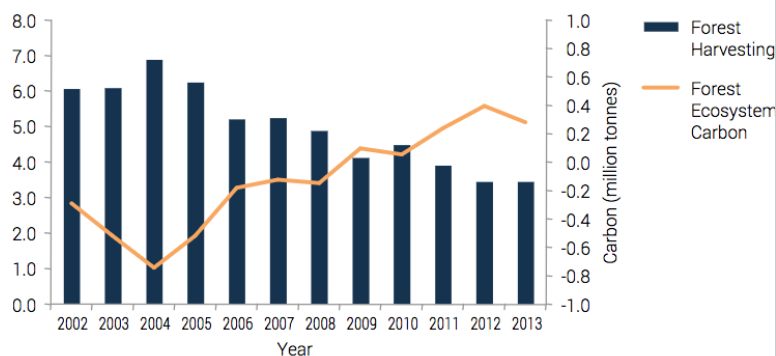


Figure 8.2.1 • Forest harvesting levels (cubic metres) and annual net change in forest ecosystem carbon (tonnes of carbon) in Nova Scotia, 2002–2013.

From the 2016 NS State of the Forest Report

Also pertinent: M.G. Betts et al., 2024. “Congruent Long-Term Declines in Carbon and Biodiversity Are a Signature of Forest Degradation”*Global Change Biology* Oct 30, 2024.

<https://doi.org/10.1111/gcb.17541> “According to our forest-inventory plot-derived model, aboveground biomass in NB forests has declined by a total 246 Tg CO<sub>2</sub>e, which is 141 Tg CO<sub>2</sub>e (4.02 Tg year<sup>-1</sup>) [over a 35 year period, 1985 to 2020] after accounting for lifecycle carbon. This is equivalent to 32% of the province’s total annual emissions (12.4 Tg in 2020), and greater than all annual oil and gas emissions combined (3.3 Tg year<sup>-1</sup>) (Government of Canada 2023)...Although our results might have been predictable given the relatively high harvest rates and short harvest rotations in NB forests (typically about 50 years) they stand in contrast to most predictions in the literature about the carbon storage role of managed forests” It seems pretty likely that the more intensively harvested lands in NS are likewise losing carbon.

To its credit, NS NRR now has a PhD level ‘Carbon modeller’ (James Steenberg) on staff, he has been very active and recently produced a “Nova Scotia Forest Carbon Calculator” (NSFCC). See Steenberg and O’Keefe, authors of Nova Scotia Forest Carbon Calculator (NSFCC): Overview, Methodology, and Application, (NS NRR, March 2024): “It is hoped that the different NSFCC features make it useful to a variety of forest managers and stakeholders with differing needs. A particular need has been

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	<p>identified among woodland owners to better understand and manage their forest carbon and ideally access carbon markets, with which NSFCC might bring some utility. A necessary starting point for mitigation action in forestry is building carbon literacy and quantitative tools like NSFCC to enable a variety of forest stakeholders to estimate and model their forest carbon.”</p> <p>For that sort of thing happen, the department/NS government need to give their scientists much more of a free hand to interact with academics and the public more broadly than they do currently.</p>	
	<p>Indicator 3.2.2 Concerns expressed in relation to 2.2.3 – Soil Quality Maintained or Enhanced (above) apply to this indicator as well.</p>	<p>Thank you for your comment.</p>
	<p>Indicator 3.2.3 We are pleased to see that the reservations cited above apply to Crown as well as to private lands, re: “As there is no regulatory framework, provincial policy or planning direction specific to high carbon stock forests, there is no publicly available information describing the implementation mechanisms for the management of high carbon stocks on Crown licence, industrial private land and private woodlots.” There is additional reason to be concerned that even on Crown lands, harvests are being taken from areas “having combined attributes of high carbon stocks and high conservation value”, via “Highgrading at the Landscape Level” on lands in the Ecological Matrix*, facilitated at this point by slow movement of the NS Government to identify forested areas on Crown lands that will ultimately be protected.**</p> <p>*See “Forest degradation in Nova Scotia: Highgrading at the Landscape Level” at <a href="http://nsforestnotes.ca/consultations/comment/on-reversing-forest-degradation-in-novascotia/#">http://nsforestnotes.ca/consultations/comment/on-reversing-forest-degradation-in-novascotia/#</a> highgrade</p> <p>**See Open letter to Nova Scotia Premier Houston requesting cessation of logging in areas that are prime candidates for protection 17Oct2024 at <a href="https://nsforestmatters.ca/open-letter-to-nova-scotiapremier-houston-requesting-cessation-of-logging-in-areas-that-are-prime-candidates-forprotection-17oct2024">https://nsforestmatters.ca/open-letter-to-nova-scotiapremier-houston-requesting-cessation-of-logging-in-areas-that-are-prime-candidates-forprotection-17oct2024</a>.</p>	<p>Thank you for your comment.</p>
	<p>Indicator 3.3.1 1. There was a case in 2018 when high quality Old Growth hardwoods managed by Port Hawkesbury Paper under a FULA were going to a biomass boiler, confirmed by subsequent gov. investigations. The alarm was raised by a forester. He commented in an interview when asked “ If this forest was managed the way you would want to manage it, how would it be different,</p>	<p>The comments is well noted. The rational provided does not seem to require a change to the risk rating concluded by the Working Body.</p> <p>The comment on Old Growth is also noted and will be reviewed as part of the relevant indicator.</p>

what would you do?”, he replied “It would be based upon achieving the highest end value of the product coming out and the harvest would be minimal. It would be cut at about 10-12 trees per acre. The trees that come out would be cut for high end products such as veneer logs saw logs and the balance for fuel wood. There would be a very low impact with about 80% of the canopy left, some light would come in which would encourage regeneration of the tolerant species. View Danny George rings the alarm bell (again) on Loon Lake Nova Scotia clearcuts of Old Growth at <http://nsforestnotes.ca/2018/02/23/dannygeorge-rings-the-alarm-bell-again-on-loon-lake-nova-scotia-clearcuts-of-old-growth/> These cuts occurred even though PHP operated under a Crown licence and was FSC certified. While steps were taken subsequently to better monitor such situations, it’s not clear that there are enough people on the ground to avoid them “ GF: I worked for lands and forest from 1977 to 1988. We had 14 technicians in the area . Now I think there are 3 to cover the same ground . What needs to be done is the premier needs to cancel the grants and put people back on the ground.” – Forester’s comment, see DNR confirms Loon Lake area cuts included Old Growth at <http://nsforestnotes.ca/2018/05/17/dnrconfirms-loon-lake-area-cuts-included-old-growth/>

2. There is ongoing controversy, somewhat ‘below the radar’, over harvesting of older Sugar Maple trees or stands on some Crown lands in NS when the same trees are sought by maple syrup producers, a use that would likely be more valuable over the long term AND retain the old forest qualities of these stands that are important for biodiversity conservation and carbon sequestration. (A contact person in the maple syrup business can be provided if requested.)

3. In Nova Scotia we have something less than 0.5% Old Growth, and overall our forest biodiversity has declined significantly because of loss of “Old Forest” including Old Growth\*, thus conservation of Old Forest (80 yrs +) in NS is seen by many in the conservation community as critical to reverse losses in biodiversity and likely also to increase carbon sequestration. In this regard, the use of smaller diameter trees (8-12” dbh) in sawmills combined with mass timber techniques to simulate or even improve upon the structural qualities of larger, older trees should or could allow us to conserve Old Forest trees with little impact on wood supply for sawmills.

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	<p>* Forest degradation drives widespread avian habitat and population declines by Matthew G. Betts et al, 2022 in Nature Ecology &amp; Evolution. <a href="https://www.nature.com/articles/s41559-022-01737-8">https://www.nature.com/articles/s41559-022-01737-8</a></p>	
	<p>Indicator 4.2.1            Re: "...The focus of this Indicator is to ensure that the identification and avoidance of negative social and community impacts are incorporated into forest management planning through a consultation process with stakeholders who may be impacted." In Nova Scotia, since 2008 we have been through two major reviews of forests and forestry that involved a lot of public consultation: the Natural Resources Strategy (NRS) of 2008-2011; and the the Forest Practices Review, aka the "Lahey Report" of 2017-2018. Significant recommendations that were made by the Steering Panel in the NRS process, notably to (i) Require management plans prior to cutting on all public and private lands and (ii) Allow clear-cutting by permit only were vigorously opposed by the forest industry, the government finally did not go forward with them, and thereafter more regulation on private lands in NS essentially became a taboo*            *Illustrated further by successful forest industry opposition in 2019 to components of a new Biodiversity Act that would apply to private as well as Crown lands. See Big Forestry versus the Nova Scotia Biodiversity Act, round II, post on nsforestnotes.ca Mar 16, 2021            Public concerns about forest harvesting including for biomass as well as concerns of some woodlot operators over the assignment of Crown land harvests to larger entities led to the second review in 2017-2018. Central to the Lahey recommendations was one to adopt a Forest Triad model for Crown lands; it would entail assigning forested Crown lands to 3 zones: 1 Conservation (Protected Areas), 2 High Production Forestry (HPF) on no more than 10% of the Crown lands, and most to 3 Ecological Matrix in which Ecological Forestry would be practiced.* A basic tenet of this system is that by intensifying forest production in the HPF zone, less forested land needs to be harvested to meet production levels previously achieved, and they might even be increased. The TRIAD was touted and, finally, widely accepted as a compromise between the interests of the Forest Industry writ large and the interests of the more ecologically oriented woodlot owners and the public at large. A controversial issue from the get-go was whether sustainable harvest levels would dip for a period while new ecological methodologies were developed, and as the results of more intensive production in the HPF zone could be realized. The review panel, which</p>	<p>Whilst the ration focuses mostly on environmental impact, it is noted that the conclusion of the Lahey report have been implemented. The lack of public participation is noted, however the rational provided does not seem to require a change to the risk rating concluded by the Working Body.</p>

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included the two authors/founders of Triad Forestry (Robert Seymour and Malcolm Hunter) predicted there would be a transition period in which there would be a reduction of Crown land wood supply of 10 to 20 per cent\*\*, however Iain Rankin (Minister of the Department of Lands & Forestry) disagreed, insisting that "We believe that we can sustainably grow this industry".\*\*\* The evidence for that assertion, if it exists, has never been shared with the public.

\*See Perspectives: Thirty years of triad forestry, a critical clarification of theory and recommendations for implementation and testing Austin Himes et al., 2022 in Forest Ecology and Management at <https://www.sciencedirect.com/science/article/pii/S0378112722000974#b0360> Section 4.4 4.4. Nova Scotia case study \*\*Lahey Report, 2018, item 64 page 29, item 85 page 36.[https://novascotia.ca/natr/forestry/Forest\\_Review/Lahey\\_FP\\_Review\\_Report\\_ExecSummary.p df](https://novascotia.ca/natr/forestry/Forest_Review/Lahey_FP_Review_Report_ExecSummary.pdf)

\*\*\*Comments by Iain Rankin quoted on CBC News dec 3, 2018 Nova Scotia vows to reduce clear cutting, move toward 'ecological forestry' by Michael Gorman at <https://www.cbc.ca/news/canada/nova-scotia/landsand-forestry-clear-cutting-lahey-iain-rankin-1.4929953>

The Liberal government of the day moved slowly to implement the Lahey Recommendations. In 2021, a new government was elected and took office under Premier Tim Houston (a PC). In its widely lauded Environmental Goals and Climate Change Reduction Act passed early on the new gov. made these major commitments related to forests and forestry:

### Land protection goals

- 10 The Government's goals with respect to the protection of land are
- (a) to conserve at least 20% of the total land and water mass of the Province by 2030 as protected areas and other effective area-based conservation measures, including Indigenous Protected and Conserved Areas, in a manner consistent with national reporting criteria;
  - (b) to support the goal in clause (a) with a collaborative protected areas strategy to be released by December 31, 2023;
  - (c) to implement by 2023 an ecological forestry approach for Crown lands, consistent with the recommendations in "An Independent Review of Forest Practices in Nova Scotia" prepared by William Lahey in 2018, through the triad model of forest management that prioritizes the sustainability of ecosystems and biodiversity in the Province; and
  - (d) to identify by 2023 the percentage allocation of Crown land dedicated to each pillar of the triad model of forest management referred to in clause (c). 2021, c. 20, s. 10.

From the text of the Environmental Goals and Climate Change Reduction Act (2021)

At the end of 2024, there has been limited progress in regard to (a), and essentially no collaboration with the public in regard to (b). In regard to (c), the government announced in early 2023 that "The Province has dedicated a high production forest zone, completing its triad model of ecological forestry", however they have yet to implement and appear to have tacitly dropped, a key component of public participation, the Forest Environmental Assessment; also the related Forest Stewardship Guide which would guide long term planning has not yet emerged. In regard to (d), the government/DNRR have identified all of the potential sites for HPF, but have done so while they have not yet identified which forested lands now in the Ecological Matrix will be added to the Conservation Zone and are already proceeding with harvests in areas of citizen-proposed Protected Areas. The general lack of public consultation, lack of response to expressed concerns and lack of transparency in decisionmaking that has characterized the NS Department of Natural Resources and Renewables in the last 2 years has created a lot of public mistrust in Crown land forest management, and a loss of much of the good will garnered initially by the Lahey Report. There is a perception that the forest industry but not the public at large has the ear of this government on forestry matters, not helped by the Premier Tim Houston's appointment on Aug 9, 2024 of Stephen Moore as Communications Director for the Premier's Office – Moore who had no background in forestry had previously been Executive Director of Forest

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	<p>Nova Scotia where he advanced poorly documented claims about the benefits of forestry practices criticized by “Environmental Activists”.</p>	
	<p>Indicator 4.2.2</p> <p>A major issue, a problem with the indicator, and with the evidence provided – mainly the Gardner Pinfold study on the Economic Impacts of the Forestry Sector in Nova Scotia – is that neither take into consideration (a) the many direct non-fibre economic benefits of forests such as fishing, hunting, tourism, food gathering etc., and (b) the “Ecological Services” of intact forests that are “free” until we have to pay replace them; and the impacts of the forest harvest level on those economic benefits and services. Looked at alone, there are definitely economic benefits from “Feedstock sourcing”, but this question needs to be addressed: Is or could the level of feedstock supply become high enough to have significant negative economic impacts in other regards? There is increasing concern amongst Nova Scotians at large that current or anticipated levels of forest harvesting are or will have such impacts. There is good evidence, although it needs to be updated, to support that concern: The Nova Scotia GPI Forest Accounts study of 2001 assigned “explicit value to natural capital assets, including the full range of forest functions and vital ecosystem services that provide multiple benefits to human society”. From that study:</p> <p>Extrapolating from one global study, Nova Scotia forests are estimated to provide a minimum of \$1.68 billion (1997\$) worth of services annually in climate regulation, soil formation, waste treatment, biological control, food production, recreation, and cultural benefits (Costanza et. al. 1997). This estimate does not include other vital forest ecosystem services such as soil erosion control, water supply and watershed protection, nutrient cycling, gas regulation, pollination, habitat, disturbance regulation, and genetic resources. Increased clearcutting and the loss of natural forest diversity are rapidly diminishing the value of these forest ecosystem services in the province.</p> <p>Nova Scotia’s forests store about 107 million tonnes of carbon, thereby avoiding an estimated \$2.2 billion in climate change damage costs. However, the accelerated rate of cutting, and the loss of old growth and mature forests in Nova Scotia since 1958, have drastically reduced the province’s carbon storage capacity by 38%, costing an estimated \$1.3 billion in lost value. In other words, based on the 1958 forest inventory, the carbon stored would be worth \$3.5 billion. Carbon loss in Nova Scotia’s forests is now contributing to global climate change.</p>	<p>The comments are well noted. They bring an important perspective related to the ecosystem services of forests and their financial impact, which goes beyond the current interpretation of the Standard. These topics are subject to extensive research and development, which are followed by SBP. Whilst the rationale provided does not seem to require a change to the risk rating concluded by the Working Body, the documented information will be of use.</p>

Direct non-timber contributions to the Nova Scotia economy include a four-fold increase in maple sugar production over the past three decades. However, valuable forest-dependent medicinal plants that are dependent on mature forests, are becoming increasingly rare in the province as forest ecosystems with old-growth characteristics disappear.

Nova Scotians spend \$250 million a year on nature and wildlife-related pursuits, a lot of it in forests, of which 70% is non-consumptive (e.g. hiking, bird-watching, canoeing) and 27% is consumptive (mostly hunting and fishing). In addition, total tourism revenues rose to a record \$1.26 billion in 1999, contributed \$430 million to the provincial GDP, and generated \$200 million in tax revenues (current dollars), with nature tourism the fastest growing sector of the industry. The tourism industry directly employs more than 12,000 Nova Scotians, with direct and indirect tourism jobs increasing by 13.3% between 1997 and 1999. A Nova Scotia government report on the nature tourism market noted that natural settings, protected areas, parks, and opportunities for hiking and wildlife viewing were critical to the development of ecotourism market potential.

Total forestry industry shipments in 1999 were \$1.4 billion, and contributed \$431 million to GDP, remarkably similar in size to the tourism industry contribution. From the perspective of sustainability, however, this forestry industry contribution must be assessed in relation to the health of the natural capital stocks on which it depends.

SOURCE: The Nova Scotia GPI Forest Accounts Volume 1: Indicators of Ecological, Economic & Social Values of Forests in Nova Scotia by Sara Wilson et al., 2001 ISBN 0-9689923-1-5 (v. 1) Executive Summary 16 pages 192K PDF Full Report 212 pages 1.6MB PDF

Also view

– The Nova Scotia GPI Forest Accounts Volume 2: A Way Forward: Case Studies in Sustainable Forestry by Linda Pannozzo & Minga O'Brien, 2001. ISBN 0-9689923-2-3 (v. 2) Full Report 255 pages 3.4MB PDF

– GPI Forest Headline Indicators for Nova Scotia by Linda Pannozzo and Ronald Colman. May 2008. PDF 3 MB

– Provisioning food and medicine from public forests in the United States by James Chamberlain et al., 2024 in *Trees, Forests and People* at <https://www.sciencedirect.com/science/article/pii/S2666719324002449> "The evidence strongly supports the assertion that large volumes of forest-dependent fauna and flora contribute to the health and well-being of a substantial portion of the country's population."

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	<p>Indicator 4.2.3          Related to the soil acidification/base depletion discussed under Comments for 2.2.3 Soil Quality Maintained or Enhanced above, it's pertinent to point out that potability of well waters is significantly adversely affected by this condition (due to high aluminum) / View scientific literature by Shannon Sterling &amp; Colleagues at <a href="http://nsforestnotes.ca/current-issues/calciumdepletion/">http://nsforestnotes.ca/current-issues/calciumdepletion/</a> history/#sterling As noted under 2.2.3, the extensive degree of acidification/base depletion of forest soils in NS over more than 50% of landscape was well documented by Kevin Keys &amp; Co. in 2016. They came up with a scheme to adjust harvest levels in the Ecological Matrix Lands that would theoretically* avoid further base depletion and allow some recovery; and for fertilization of more intensively harvested lands assigned to the HPF (High Production Forestry) zones. We (the public) have not been informed of any follow-up monitoring of harvested sites to confirm (or not) the theoretical expectations, and...In fact, there is good reason to suspect that on the more acidified sites, liming would be required to "kick start" a recovery process, i.e. that the theoretical rebuilding of soil base cations is not occurring at least on the more acidified soils.</p>	<p>Thank you for your comments. The focus of the indicator is on preserving the rights of local community in accessing water and food supply. Whilst quality of the such water is critical to achieve these objectives, the rational provided does not seem to warrant a change to the risk rating concluded by the Working Body.</p>
<p>Certification scheme</p>	<p>General comment          There is no evidence that any Indigenous Peoples were included in the engagement process.</p>	<p>SBP requests the WB to fulfil requirement 5.4 of the RRA Procedure. The requirement described the objective of the public consultation in term of reach. This includes Indigenous peoples. The WB must demonstrate to SBP how this objective is met. This is one of the control points SBP reviews before the validation of any RRA.</p> <p>SBP nor the Working Body publishes list of the organisations reached out during the public consultation for obvious confidentiality reasons.</p>
	<p>Section 1 – Introduction          PEFC Canada expresses significant concern that the regional risk assessment procedure lacks sufficient guidance to ensure the development of a consistent and credible risk assessments for the province. The duplication of evaluations disregards the long-established, internationally recognized, and widely adopted forest certifications commonly used in the forest industry nationwide. Furthermore, the rationale for conducting risk assessments at the provincial level is unclear, particularly given the substantial overlap and redundancy among assessments across provinces. This document does not demonstrate an open, transparent, or inclusive approach and appears to have been developed with limited input from key stakeholders and industry experts. Extremely concerning is that there is no evidence of involvement of</p>	<p>Thank you for your comment. SBP is committed to support the interoperability of certification systems to reduce the burden to operators in the value chain of biomass. With this objective, SBP has developed and published a Benchmarking and Recognition procedure. The results of the benchmarking of PEFC scheme is available on the SBP website. Standard 2 detail how PEFC-certified feedstock is accepted within SBP certified value chain.</p>

Indigenous Peoples in the engagement process. Given the unique relationships to the land, Aboriginal title and rights, and treaty rights, Indigenous Peoples should be recognized in all aspects of SFM.

This process duplicates existing risk assessments already conducted through other certification frameworks, such as Sustainable Forest Management (SFM) and Chain of Custody (CoC) certifications widely recognized in the forest industry in Nova Scotia and across Canada.

Furthermore, considering that fibre often crosses provincial boundaries a Canada-wide risk assessment would align better with fibre sourcing practices and meet RED II requirements more effectively than a province-specific approach.

Notably, the FSC Canada National Risk Assessment (CNRA) provides a more comprehensive analysis of fibre sourcing risks.

The SBP risk assessment could have been streamlined by recognizing fibre sourced through existing certifications as compliant with its requirements. This approach would reduce redundancy, particularly given that much of NB's forest land base is already certified under SFM standards (FSC and two PEFC-endorsed standards: CSA and SFI), and most forest companies possess CoC certification and/or fibre sourcing certification which addresses risk of sourcing fibre from unacceptable sources.

<b>Processing residues</b>	Not certified to an SBP-recognised certification scheme	Evidence to prove 'processing residues' feedstock category; AND SBE + Risk Management for specified risks OR RRA + Risk Management for specified risks
	Certified to an SBP-recognised certification scheme	Evidence to prove 'processing residues' feedstock category, and that the feedstock is certified by an SBP-recognised certification scheme

- 3.3** Depending on the source of feedstock, the Organisation shall develop and implement all, parts or none, of the elements of an SBE in accordance with the following:
- a. Supply Base Verifiers (SBVs) (see section 5 below) and/or
  - b. Risk Assessment and Risk Ratings (see section 6 below) and/or
  - c. Risk Management Plan (RMP) containing Risk Management Measures (RMM) (see section 7 below).

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	<p>Section 2 – Regional background and statement of scope</p> <p>The selection of scope and sub-scope is flawed. The scope should reflect the scope of where the fibre is sourced. For example, since most fibre is coming from sawmills as residue, the risk assessment needs to consider the source of the logs. Given that there is significant Nova Scotia-New Brunswick-Quebec cross boundary transportation of logs and other fibre as well as some sourcing from the US, it would have been more appropriate to consider the scope at a national level which would be consistent with other risk assessments. This would also eliminate redundancy in the risk assessment, ensure a consistent approach across all of Canada, and be consistent with risk assessments in other jurisdictions.</p> <p>Section 4 Regional Background (p.18)</p> <p>While at first glance, it may seem reasonable to select sub-scope based on land ownership, e.g. Crown land vs private land, this does not represent a homogeneous risk as there are different management strategies within those groups. A more appropriate stratification would be to consider SFM certification and stratify by certified and uncertified. Uncertified land represents a significantly higher risk of non-conformance with the indicators than certified land and should be assessed separately.</p>	<p>Thank you for your comment. Scoping is a key component of the development of the Risk Assessment and is described in the RRA Procedure</p> <p>4.3.2 WB shall define the scope or sub-scopes for each indicator. Sub-scopes may be used when different regional characteristics indicate a non-homogeneous risk distribution. Sub-scoping can apply to one of several Indicators. Key considerations include jurisdictional boundaries at the country, state, or regional levels, public vs private ownership, natural forests vs semi-natural or planted forests vs plantations, and certified vs uncertified areas alongside ecoregions.</p> <p>The responsibility on the sub-scope falls on the Working Body, which shall justify it.</p> <p>Further guidance on sub-scoping is given in SBP Guidance to Standard 2 indicator 3.5 (pp 9-11).</p>
	<p>Section 3 – Methodology</p> <p>Section 3.1 (p. 11)-The methodology described confuses risk assessment with a due diligence system indicating a flawed understanding of risk assessment which is a component of a broader due diligence system that also includes risk mitigation. While the text indicates that FSC processes related to national risk assessments were considered in the risk evaluation framework, there are other well developed due diligence systems such as those incorporated into the requirements for FSC, PEFC and SFI COC, and for the FSC controlled wood and SFI Fibre Sourcing standards. From review of the described methodology and the detailed risk assessment, it is not evident that the risk assessment followed the SBP guidance of the Risk Evaluation Framework described in the Guidance for SBP Standard 2: Feedstock Verification or any other DDS framework. To accurately assess the risk, the analysis needs to consider the indicator, what elements (e.g. IFLs) of the indicator may be at risk, the probability of the indicator or its elements that may be impacted (e.g. location in relation to fibre sourcing activities for specific IFLs) and whether or not some protection exists (e.g. deferrals).</p>	<p>Thank you for your comments. The Methodology followed by the WB is in line with the SBP Regional Risk Assessment Procedure and SBP Standard 2 and guidance. Conformity with the methodology was verified all along the process. Please refer to the REF as described in Guidance to Standard 2, p.24.</p> <p>The benchmarking and recognition process is used to benchmark and recognise external schemes such as FSC or PEFC. The result of these benchmarks are published on the SBP website. These documents identify for which indicator of the SBP Standard 1, certification against FSC or PEFC Forest Management certification provide adequate mitigation measures to identified specified risks, including at site level. In other word, if a forest is FSC or PEFC certified, the certification is a recognised mitigation measure should a specified risk be identified. Only a certain number of indicators not covered by FSC or PEFC would require development of dedicated mitigation measures (as certification against FSC or PEFC would not be sufficient to mitigate such risks).</p>

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Table 1 describes the type of information gathered for each of the 42 indicators in the risk assessment. While this is what is described in Guidance for SBP Standard 2: Feedstock Verification, the guidance itself applies to evaluation at the organizational level rather than more broadly at a regional level. The approach to the risk assessment should have been modified to reflect that. Further, the RRA does not include any discussion of implementation mechanisms at the organizational level although certified sustainable forest management systems could be considered to meet that at a site level.

Section 4 Regional Background (p.18) is a very lengthy section. While the scope of the risk assessment does not consider ecological differences, the report includes detailed information on the ecology of forests in Nova Scotia included in 4.2 Ecological Overview. Much of the information in this section could be deleted without impacting the report. Any information relevant to the evaluation of specific indicators should be incorporated directly into that indicator's risk assessment. Annex 1: Detailed findings for indicators (p. 41) Format of Risk Assessment: The presentation and length of the assessment and analysis makes the RRA difficult to read and interpret and certainly the consultation process is inadequate to properly provide comment on the risk assessment.

Table 1: Information Gathering Requirements

	Information Gathered – by Sub-scope
<b>Regulatory Framework</b>	Acts, Regulations, policy, and/or required best management practices specific to the threat/impact to the Indicator.
<b>Implementation Mechanisms</b>	Mechanisms by which the organisation completing the forest management activity can demonstrate implementation and compliance with the regulatory requirement &/or best management practices that address the threat/impact.
<b>Oversight Framework</b>	Enforcement and/or monitoring framework of Acts, Regulations, policy, and/or required best management practices specific to the threat/impact to the Indicator.
<b>Results</b>	Verification of a compliance/enforcement and/or monitoring framework. Quantifiable or qualifiable results of current condition, including but not limited to: <ul style="list-style-type: none"> <li>• Monitoring results</li> <li>• Inventory &amp;/or analysis</li> <li>• Compliance &amp; enforcement results</li> <li>• Assessment reports</li> <li>• External agency reports</li> <li>• Publicly available data and/or websites</li> <li>• Expert &amp;/or Stakeholder information/results</li> </ul>

Use of references:

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	<p>Most of the references under the heading “Other:” in the detailed tables in Annex 1 are outside the scope of a level A assessment and should not be included. Further, in most cases, there is no evidence that they contributed to the analysis.</p>	
	<p>Section 4 - Stakeholder consultation</p> <p>As this is a new risk assessment, and there are concerns with lack of stakeholder comments on previously completed RRAs highlights a more robust process should have been implemented to ensure the effectiveness of the engagement process. This underscores the need for substantial improvements in stakeholder consultation and outreach efforts to ensure meaningful participation and feedback. Key stakeholder e.g., SFI were not included in the current consultation process (note that the SFI series of standards, are endorsed by PEFC ). Additionally, the format provided for consultation submissions was insufficient for stakeholders to provide a detailed and comprehensive response. A 30-day timeline is inadequate for reviewing and responding to such an extensive document. For comparison, the FSC NRA process allows a 60-day period, providing a more reasonable timeframe for meaningful input.</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>
	<p>Section 5 – Conclusions</p> <p>Section 5 – Conclusions does not exist in the report. Further, the sections as outlined in this consultation template do not reflect the structure of the Regional Risk Assessment Report. This has made it difficult to provide meaningful input into the consultation process.</p>	<p>Thank you for your comment. Formatting and title of sections will be verified at the time of publication.</p>
	<p>Annex 1</p> <p>Annex 1: Detailed findings for indicators (p. 47)</p> <p>Format of Risk Assessment: The presentation and length of the assessment and analysis makes the RRA difficult to read and interpret and certainly the consultation process is inadequate to properly provide comment on the risk assessment.</p> <p>It is not clear that the risk assessment considered the guidance provided in either of the related SBP Guidance documents as there is a considerable amount of extraneous commentary provided in the tables. For example, Indicator 1.1.1 (p. 50) includes the statement:</p> <p>In politically stable countries two critical factors are a relative lack of corruption and the rule of law. In regions where there is a high degree of corruption and a lack of rule of law there is a higher degree of risk that feedstock sourcing and biomass productions do not comply with applicable</p>	<p>Thank you for your comments which have been passed on to the working body.</p> <p>The impact of mining which you indicated as being an important factor for Nova Scotia is not directly within the scope of this risk assessment which aims at identifying risks that biomass producers are able to mitigate by improved practices.</p> <p>The benchmarking and recognition process is used to benchmark and recognise external schemes such as FSC or PEFC. The result of these benchmarks are published on the SBP website. These documents identify for which indicator of the SBP Standard 1, certification against FSC or PEFC Forest Management certification provide adequate mitigation measures to identified specified risks, including at site level. In other word, if a forest is FSC or PEFC certified, the certification is a recognised mitigation measure should a specified risk be identified. Only a certain indicator not covered by FSC or PEFC would require</p>

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	<p>and existing laws and regulations. This statement is unnecessary and is but one example of this extraneous commentary.</p> <p>In most cases, the potential threats/impacts are not clearly identified or specific to the indicator and the scope of the assessment. For example, again Indicator 1.1.1 (p. 50), rather than describing the situation specific to BC, describes the threat as follows:</p> <p>In regions where there is a high risk of organisations not complying with law there is a higher potential of illegally sourced timber entering the supply chain, environmental damage, and human and labour rights violations. In the same example, the analysis includes a section, "Means of Verification", which refers to organizational level documents/controls such as chain of custody or fibre procurement procedures, supplier verification program, interviews with workers. None of this relates to assessing the risk at a provincial level. Further, there is no clear linkage between the regulatory framework, the means of verification, the evidence, the results and the conclusions.</p> <p>Following are some of our specific comments on the risk assessment. In general, the sub-scope designations need to be rethought and/or the certification status of the forest area considered in the analysis. The findings and the risk assessments need to be separated out into certified vs uncertified for both Crown land and Private Managed Land as the implementation mechanism, and therefore risk, are different between certified and uncertified. The analysis should consider the type of SFM certification, and the level of public reporting required. For example, CSA, SFI, and FSC require public reporting of thirdparty audit results which should address Indicators 2.1.3, 2.2.1, 3.2.3, 4.1.8. 4.2.7.</p> <p>Indicator 1.1.5 (p. 64)- Mining does not appear to be addressed in the risk assessment even though mining activity can have a significant impact on the forest land base in certain areas of the province.</p> <p>Indicators 2.1.1 and 2.1.2 (p. 73-85)- Implementation mechanisms and results sections do not fully address how stand level biodiversity is implemented, i.e. through planning activities at the site or block level (harvesting, roads, silviculture).</p> <p>And nowhere in the indicators does it speak to mining impacts on biodiversity. The means of verification and evidence only deal with these indicators at the landscape level, not the stand level or species level.</p> <p>The results in indicators 2.1.2 and 3.2.3 should have been more specific as to what values (ecosystems, species, etc.) in the supply area are at risk.</p>	<p>development of dedicated mitigation measures (as certification against FSC or PEFC would not be sufficient to mitigate such risks).</p>
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	<p>This needs to be done at an ecoregion level for HCVs and also SAR. Better analysis of IFLs is need and specified risk assigned specifically to those IFLs that are at risk.</p> <p>The evidence reviewed sections in the detailed analysis includes documents that are not evidence and do not support the conclusions, e.g. Sustainable Biomass Program. Guidance for SBP Standard 1: Feedstock Compliance. 28 April 2023.</p>	
	<p>Annex 2 – List of experts consulted and contacts of Working Body</p> <p>It is a matter of concern that the list of experts lacks individuals with expertise in Sustainable Forest Management (SFM) and chain of custody certification, as well as industrial foresters who possess practical, on-the-ground experience. In addition, neither the Working Body nor the technical experts included Indigenous representatives and there appears to be no consultation or outreach with Indigenous organizations.</p>	<p>Thank you for your comment. The experts have participated to the development of the Regional Risk Assessment. To ensure a broad range of views to be included in the final version of the RRA before publication a public consultation is open with announcement made by the Working Body and SBP. The Working Body is required to reach out to the parties listed in section 5.4 of the RRA Procedure. This is a control point reviewed by SBP before allowing the finalisation of the report and its publication. In addition, the RRA is reviewed by a local expert and SBP Technical Committee before approval.</p>
	<p>Annex 3 – List of publications used</p> <p>The list of publications should be formally referenced with proper titles and sources. It also lists items that are not specific publications, such as organizations.</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>
	<p>Annex 4 – List of stakeholders</p> <p>No stakeholders are specifically listed as a result, it is not possible to determine if the appropriate stakeholders have been consulted. While the list identifies the category “official representatives of forestry certification schemes”, it has come to our attention that the Sustainable Forestry Initiative was not consulted and most of the certified forests in Nova Scotia are SFI SFM certified. This seems to be an egregious oversight.</p> <p><b>5.10 The WB Co-ordinator is responsible for facilitating culturally appropriate outreach to representatives of all identified stakeholders.</b></p>	<p>SBP requests the WB to fulfil requirement 5.4 of the RRA Procedure. The requirement described the objective of the public consultation in term of reach. This includes Indigenous peoples. The WB must demonstrate to SBP how this objective is met. This is one of the control points SBP reviews before the validation of any RRA.</p> <p>SBP nor the Working Body publishes list of the organisations reached out during the public consultation for obvious confidentiality reasons.</p>
	<p>Annex 5 – Stakeholder consultation report</p> <p>This section has not been completed, as a result, it is not possible to ascertain if the stakeholder consultation process was adequate. Given that the previously completed RRAs for BC and Quebec received little to no stakeholder comments, more effort should be placed on stakeholder identification and engagement. A particular concern is for consultation and</p>	<p>SBP nor the Working Body publishes list of the organisations reached out during the public consultation for obvious confidentiality reasons.</p> <p>Annex 5 will be compiled ahead of publishing the Interim RRA.</p>

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	<p>engagement with Indigenous representatives.</p> <p><b>6.4 SBP public stakeholder consultation</b></p> <p>6.4.1 On receipt of a positive recommendation from the TC's initial review, SBP shall undertake a public stakeholder consultation. The Final Draft RRA Report will be published on the SBP website with an invitation for interested parties to submit written comments on both the Final Draft RRA Report and the RRA Procedure followed. The consultation period shall be for a minimum of thirty (30) days.</p>	
	<p>Annex 6 - REDII Level A risk assessment</p> <p>Given the weaknesses in the regional risk assessment process, we anticipate that there will be similar flaws in the RED II Level A risk assessment.</p>	Thank you for your comment. Without specific details, the comment cannot be upheld
Certification Body	<p>Indicator 2.2.4</p> <p>Residue removal minimizes neg impact to ecosystem - Private land scope - Whole tree harvesting does occur in some instances on private land which would affect debris left. As there is limited monitoring and regulations i think this should be considered for specified risk on private lands. (JH)</p>	Thank you for your comments, risk designation has been changed to specified risk.
	<p>Indicator 2.2.10</p> <p>Regen After Harvest – Private land scope - There is no legislation and participants might not be part of the silviculture program, i think risk could be upgraded to specified. The evidence is based on overall provincial regeneration reports but this data is not linked to private harvested area, their prescription and regen timeliness since harvest. (JH)</p>	Thank you for your comments, risk designation has been changed to specified risk.
Environmental Interest	<p>Section 1 – Introduction?</p> <p>There are multiple demands on Nova Scotia's forests including the demand for biomass feedstock. These come at a time when it is of the utmost importance to protect and restore ecosystem health. This must, in the words of the Lahey Report, be the "overarching priority" in how forests are managed in Nova Scotia. Protecting biodiversity, restoring ecosystem health and strengthening the carbon storage capacity of our forests all depend upon reversing the centuries of forest degradation that have followed colonization. The province's legal commitment to protect 20% of Nova Scotia's lands and waters by 2030 is a critical step in the right direction and yet it is not referenced in this consultation. Why not? It is surely impossible to assess how much wood is sustainably available for any of the competing uses, including biomass, without taking into account the removal from the forest inventory of at least 300,000 of the 355,000 ha of land (6.45%) still required to meet the target of protecting 1.1 million ha (20%) by 2030. In light of the vital role forests must play in addressing climate destabilization and biodiversity loss, the precautionary principle must guide all efforts to</p>	Thank you for your comments, which are well noted. The Lahey report has been integrated by the Working Body in their evaluation of risks and has taken the decision in line with the SBP Regional Risk Assessment procedure as well as the REF, as described in Guidance to Standard 2, p.24..

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	<p>determine what resources can still be extracted from our forests. So please, ensure that the wood supply statistics you are working with are appropriate, verified and publicly available. What do I mean by 'appropriate'? Forests do far more than supply wood. We desperately need to keep more forests standing and intact. These forests are already under threat from an increasingly erratic climate and ever more invasive pests. The situation is going to get worse. Our mindset must shift from 'How much can we take?' to 'How much can we leave?' What do our forests need to become healthier, more complex, more resilient? 'Low value wood' is an economic concept, not an ecological one.</p>	
	<p>Section 2 - Regional background and statement of scope            Re p.64 2.1.1: With regard to "areas of high conservation value (HCV) pertaining to biodiversity in the supply base shall be identified" – there seems to be no process for doing this on private land and neither requirements nor incentives for private landowners to identify and protect such areas including old growth forest and species at risk habitat. The situation is somewhat better on Crown land but far from acceptable. First the process for assigning Crown lands to each of the 3 zones of the Lahey's Forest TRIAD is backwards. Where there should be well advanced landscape level planning to identify areas that are candidates for protection – areas that should be granted interim protection while they are assessed for inclusion in the 20% of NS – NRR has instead devoted its resources to identifying lands appropriate for High Production Forestry. The HPF leg of the triad is supposed to be the smallest (182,500 ha) and the most subject to ongoing evaluation. It is also supposed to be phased in at a rate of about 5,000 ha per annum over 35 years. By contrast, the province has 6 years to meet the 20% target and only 16 months to meet the interim 15% target established in the Canada-Nova Scotia Nature Agreement. In the absence of a robust and timely implementation of the Collaborative Protected Areas Strategy (December 2023), or indeed any progress towards collaboration between the two departments (NRR and ECC) and the public, groups of citizen scientists have proposed areas for protection on Crown land. They have surveyed the areas and submitted proposals to protect these areas to ECC, supplying extensive evidence that these areas meet the criteria laid out in the Collaborative Protected Areas Strategy. In the instance of the proposed Goldsmith Lake Wilderness Area in Annapolis County, an experienced and highly regarded conservation manager submitted a plan to protect the area to the Minister of Environment and Climate Change in February 2022. He and other residents commented on the importance of</p>	<p>Thank you for your comment which has been passed on to the Working Body.</p>

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	<p>giving the area permanent protection when Harvest Plans for the area were put up for public comment in the spring of 2022. In October it became apparent that the harvest plans had been approved anyway when a group organized by the Citizen Scientists of Southwest Nova Scotia went into the forest west of Goldsmith Lake to document biodiversity and discovered a new logging road running down the middle of a 30m wide, 2km long clearcut. That day the group identified SAR lichen whose 100m buffer zone butted right up to the clearcut. The group set to work documenting the high conservation value of the area and submitted a proposal for protection in November 2022. In May 2024 the group updated their proposal. Thirty-five of the SAR occurrences they documented impact harvest plan areas approved by NRR in 2022. Not one single SAR concern had been identified by NRR in the course of its Integrated Resource Management process. As of September 30, 2024 the group had documented and reported 77 occurrences of 7 different species at risk. In addition, they had identified 18 probable old growth stands, some of which have been assessed by NRR. In spite of consistent requests for a pause on all logging and roadbuilding activities in the area until it has been assessed for inclusion in the 20%, NRR published a new harvest plan for the area on November 4, 2024. Citizen scientists have already identified 11 SAR occurrences whose buffers impact the new harvest plan area. Immediately to the southeast is a stand of large old hemlocks and the most diverse array of lichens of conservation concern the group has yet identified in the whole 3900 ha area. While the situation at Goldsmith Lake is the best documented, this is far from the only citizen proposed Wilderness Area where, instead of supporting and advancing the identification of areas of HCV on Crown lands, NRR appears to be focused on enabling the forestry industry to cut what it can, while it can.</p>	
	<p>Section 3 – Methodology            Re 3.2.1 – Forest Carbon Stocks Stable or Increasing As it turns out, a great deal of carbon accounting regarding Canada’s managed forests has been excessively optimistic. Industrial forestry is heavily invested in promoting the idea that their forestry practices are beneficial in the fight to bring down global greenhouse gas levels. But, as it turns out, figures that appeared to support that argument in fact depended on the carbon sequestering prowess of unmanaged forests. Matt Betts most recent study brings this revised understanding of the impact of managed forests home to the Maritimes: “According to our forest-inventory plot-derived model, above-ground biomass in NB forests has declined by a total 246 Tg CO<sub>2</sub>e, which is 141 Tg CO<sub>2</sub>e (4.02 Tg year<sup>-1</sup>) [over a 35 year period, 1985 to</p>	<p>Thank you for your comments. The data provided in the comment relate to New Brunswick forest and without additional evaluation of the applicability of such data to the Nova Scotia, the Working Body does not have sufficient data to be able to draw adapted conclusion.</p>

2020] after accounting for lifecycle carbon. This is equivalent to 32% of the province's total annual emissions (12.4 Tg in 2020), and greater than all annual oil and gas emissions combined (3.3 Tg year<sup>-1</sup>) (Government of Canada 2023)...Although our results might have been predictable given the relatively high harvest rates and short harvest rotations in NB forests (typically about 50 years) they stand in contrast to most predictions in the literature about the carbon storage role of managed forests" M.G. Betts et al., 2024. "Congruent Long-Term Declines in Carbon and Biodiversity Are a Signature of Forest Degradation"Global Change Biology Oct 30, 2024. <https://doi.org/10.1111/gcb.17541> While New Brunswick's forestry practices rely even more heavily than Nova Scotia's on clearcutting and spraying with short rotations, those practices are prevalent in Nova Scotia too. There is no reason to believe that our heavily cut managed forests are not producing the same results. Clearcutting continues apace on private land, most notably on industrial private land. While the most severe forms of clearcutting have been dialed back somewhat on Crown land, they are projected to continue in the HPF leg of the triad and also, it appears likely, under the shady umbrella of "Outcomes Based Forest Management". I say shady because there appears to be even less opportunity for public oversight and input in these areas. The Environmental Assessment process envisaged by Lahey is conspicuous by its absence. Also concerning is the fact that the 'ecological' harvest prescriptions, generated for the Ecological Matrix leg of the triad on Crown Land by the Silvicultural Guide to the Ecological Matrix, currently allow for the removal of 50% or more of the basal area of the trees in a polygon. This is the case in all but two of the harvest prescriptions once you include the extraction trails that are cut into the harvest stands. This level of forest cover loss above ground results in carbon loss from the forest floor and soil comparable to the results of clearcutting. In addition, forest removal to create logging roads does not count towards that 50% removal, even when the new roadway passes through the harvest plan area. The impact of these roadways should not be underestimated. Clearcut strips 20-30m wide for a 6m wide road are usual. These dramatically change the wind, sun and humidity levels of the forest as well as obstructing wildlife and creating seedbeds of disturbed soil perfectly designed to invite invasive species into the forest. Forestry practices need to change to prioritize the protection of forest interior conditions if the carbon storage of our forests is to increase. Old forests left to become old growth both store the most carbon and support the most biodiversity. Harvesting of all forest stands over 80 years old on Crown lands should be put on hold until the 20% protection target

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	<p>has been reached. These forests are scarce and precious, of far more value standing than logged. The monetization of this value may help to keep these forests standing but we should remember that their value far surpasses monetary worth..</p>	
	<p>Section 4 - Stakeholder consultation</p> <p>Re 4.2.1: "...The focus of this Indicator is to ensure that the identification and avoidance of negative social and community impacts are incorporated into forest management planning through a consultation process with stakeholders who may be impacted." First, let us be clear that every Nova Scotian is a stakeholder when it comes to the treatment of our forests. Our common good is at stake when the ability of our forests to sequester carbon, support biodiversity, and store, filter and gradually release water is impacted by forestry activities, whether these take place on private land or crown land. Our health and welfare is intimately bound up with the health of our forests at every scale, from the ability to exercise, fish, hunt, forage, pray and play in the forest to the ability to pass on a livable planet to future generations. Unfortunately, when it comes to private land, there seem to be very few constraints on the activities of private landowners even when actions such as clearcutting right up to the property line have immediate and adverse consequences on the neighbour's forest. Blowdowns are an entirely predictable consequence of wholesale forest removal, and yet a landowner choosing to clearcut their land is not required to leave a buffer. There is, in other words, no effort in law or regulation to avoid the simplest, most direct negative consequences of poor forestry practices on private land. The situation is somewhat better on Crown land but, in reality, the mechanisms for public consultation on forestry decision-making are inadequate and largely token. The Harvest Plan Map Viewer is the only avenue for public comment on proposed harvest plans. It has always been clunky to use. It is possible to request the PTA for the plan but recently the amount of information available in the PTA has been scaled back to the point where it is completely minimal. The archived information that used to be immediately available for surrounding harvest plans whose comment periods had expired is no longer accessible with the click of a mouse. Furthermore, the public is explicitly discouraged from commenting on anything outside the boundaries of the harvest plan that is up for comment. This is ludicrous, ecologically speaking. Biodiversity does not care about such boundaries. Of course the condition of the surrounding forest should affect the proposed cut. Then there is the question as to whether public comments have any impact. They are certainly carefully archived and made</p>	<p>Thank you for your comment which seems more targeted to the Government and calling for more efficient process whilst acknowledging the existence of a process. Whilst important, the rational provided does not seem to warrant a change to the risk rating concluded by the Working Body.</p>

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	<p>available for FOIPOP, adding to the impression of public consultation. But the experience of the knowledgeable people who commented on the harvest plans for Goldsmith Lake in 2022 is not unusual. Those harvest plans apparently went ahead, a fact that people only discovered when the citizen scientists came upon the huge new logging road that had been constructed quite soon after the end of the comment periods. In other words, the results of the Integrated Resource Management process are not made available to the public, even if changes have been made to the plan that was posted on the HPMV. The public comments and NRR listens or not. There is no way to tell whether or not the plans have been approved. After a period of improved communications between NRR and the public, the door seems to have slammed shut. This is a widespread experience, not one limited to the organizations I am attached to. This year the Minister of NRR not only failed repeatedly to make time to meet with the Healthy Forest Coalition, his secretary also informed this well-respected organization that he would not have time to meet in the future either.</p>	
	<p>Annex 2 - List of experts consulted and contacts of Working Body p. 229 This seems to be a limited list with no representation from departments and organizations that would be more focused on conservation. Given that the Triad model has been accepted by government, industry and environmental groups, protected areas must be treated as an integral part of forest management. Why is there no representation from the Protected Areas Branch of ECC, for example? They, surely, would have drawn the groups attention to the impact that the 20% target can be expected to have on any estimates of wood supply. It is baffling that NRR did not do this, given that the Minister of NRR is charged with working alongside the Minister of ECC to meet this legislated target.</p>	<p>Thank you for your comment. Public announcement as well as public consultations took place in line with the RRA procedure, inviting parties to join. SBP nor the Working Body are must ensure the mean of achieving wide ranging expert consultation. It is down to each individual organisation to accept to participate.</p>
	<p>Annex 6 - REDII Level A risk assessment p. 243, p.251 Necessary protections for biodiversity are entirely lacking on private land in Nova Scotia. There are significant issues on Crown land. I am relieved to see that this document recognizes this, stating : 'Based on evidence reviewed, the legal framework is not effective for biodiversity on Crown License in Nova Scotia.' (p.251).' Please see my comment on 2.1.1 for the inadequacy of the Integrated Resource Management process, including a detailed, factual, recent example of NRR's failure to identify SAR before approving harvest plans. In that example, concerning harvest plans in the citizen proposed Goldsmith Lake Wilderness Area, it should be noted that, in November 2023, as a result of all the SAR occurrences discovered by</p>	<p>Thank you for bringing the case of Goldsmith Lake to our attention as part of your comment which is well noted. Whilst SBP is not able to judge on an individual case, the information relayed will be passed on to the Working Body to evaluate whether it warrants a change to the risk rating. Currently, the REDII assessment is been updated with REDIII assessment requirements.</p>

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citizen scientists, NRR amended its harvest plans, scaling them back by 40%. This amendment was not made public. I learned it by filing a FOIPOP. NRR never reached out to the Citizen Scientists of Southwest Nova Scotia to ask them to survey the remaining areas where logging was to go ahead, in spite of the fact that NRR had identified no SAR affecting the original harvest plan areas while the citizen scientists had identified 35. In March 2024, when it became apparent that, in spite of all the evidence amassed to indicate the High Conservation Value of the Goldsmith Lake area, the licensee managing Crown Land intended to go ahead and harvest some portion of the original harvest plan area, citizen scientists went to work again, surveying parts of the harvest plan area they had not yet looked at. In short order they identified and reported another 8 SAR occurrences impacting the scaled back harvest areas. NRR's most egregious failure lies in their failure to take action on the very long awaited Recovery Plan for the Mainland Moose. While this document identifies core habitat necessary to the recovery of this endangered species, to the best of my knowledge none of this habitat has actually been designated for protection. Instead degradation of that habitat continues apace. The 30m wide roadway clearcut through core habitat for moose west of Goldsmith Lake is a perfect example. In an area where unfragmented habitat is at a premium, contractors were permitted to put in such a road. Complaint about the road to NRR brought a weak comment that NRR preferred the roadways to be 20m and a very gentle slap on the wrist for the licensee. NRR is far too tightly tied to the forestry industry to adequately fulfill its role in upholding the Endangered Species Act. The Lahey Report called for a complete culture change in the department. This has not happened yet. With regard to NRR, Old Growth Forests and the "publicly available Old Growth mapping tool for Crown Land," the existence of old growth forest stands in the proposed Goldsmith Lake Wilderness Area seems to have become a state secret. The citizen scientists have identified and reported a number of old growth stands to NRR's old growth team. One of these was assessed by NRR last fall and added to that publicly available mapping tool early in 2024. Thanks to a FOIPOP we know that another such stand was assessed around the same time and found to far surpass the criteria and yet it has not been put on the publicly available map. There are multiple other such stands that were assessed this summer but they too have not been public. This is in spite of the fact that Nova Scotia's Old Growth Forest Policy explicitly calls for making information available to the public.

### Indicator 2.1.1

"Re p.64 2.1.1: With regard to "areas of high conservation value (HCV) pertaining to biodiversity in the supply base shall be identified" – there seems to be no process for doing this on private land and neither requirements nor incentives for private landowners to identify and protect such areas including old growth forest and species at risk habitat.

The situation is somewhat better on Crown land but far from acceptable. First the process for assigning Crown lands to each of the 3 zones of the Lahey's Forest TRIAD is backwards. Where there should be well advanced landscape level planning to identify areas that are candidates for protection – areas that should be granted interim protection while they are assessed for inclusion in the 20% of NS – NRR has instead devoted its resources to identifying lands appropriate for High Production Forestry. The HPF leg of the triad is supposed to be the smallest (182,500 ha) and the most subject to ongoing evaluation. It is also supposed to be phased in at a rate of about 5,000 ha per annum over 35 years. By contrast, the province has 6 years to meet the 20% target and only 16 months to meet the interim 15% target established in the Canada-Nova Scotia Nature Agreement.

In the absence of a robust and timely implementation of the Collaborative Protected Areas Strategy (December 2023), or indeed any progress towards collaboration between the two departments (NRR and ECC) and the public, groups of citizen scientists have proposed areas for protection on Crown land. They have surveyed the areas and submitted proposals to protect these areas to ECC, supplying extensive evidence that these areas meet the criteria laid out in the Collaborative Protected Areas Strategy.

In the instance of the proposed Goldsmith Lake Wilderness Area in Annapolis County, an experienced and highly regarded conservation manager submitted a plan to protect the area to the Minister of Environment and Climate Change in February 2022. He and other residents commented on the importance of giving the area permanent protection when Harvest Plans for the area were put up for public comment in the spring of 2022. In October it became apparent that the harvest plans had been approved anyway when a group organized by the Citizen Scientists of Southwest Nova Scotia went into the forest west of Goldsmith Lake to document biodiversity and discovered a new logging road running down the middle of a 30m wide, 2km long clearcut. That day the group identified SAR lichen whose 100m buffer zone butted right up to the clearcut. The group set to work documenting the high conservation value of the area and

Thank you for bringing the case of Goldsmith Lake to our attention as part of your comment which is well noted. Whilst SBP is not able to judge on an individual case, the information relayed will be passed on to the Working Body to evaluate whether it warrants a change to the risk rating.

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	<p>submitted a proposal for protection in November 2022. In May 2024 the group updated their proposal. Thirty-five of the SAR occurrences they documented impact harvest plan areas approved by NRR in 2022. Not one single SAR concern had been identified by NRR in the course of its Integrated Resource Management process.</p> <p>As of September 30, 2024 the group had documented and reported 77 occurrences of 7 different species at risk. In addition, they had identified 18 probable old growth stands, some of which have been assessed by NRR.</p> <p>In spite of consistent requests for a pause on all logging and roadbuilding activities in the area until it has been assessed for inclusion in the 20%, NRR published a new harvest plan for the area on November 4, 2024. Citizen scientists have already identified 11 SAR occurrences whose buffers impact the new harvest plan area. Immediately to the southeast is a stand of large old hemlocks and the most diverse array of lichens of conservation concern the group has yet identified in the whole 3900 ha area.</p> <p>While the situation at Goldsmith Lake is the best documented, this is far from the only citizen proposed Wilderness Area where, instead of supporting and advancing the identification of areas of HCV on Crown lands, NRR appears to be focused on enabling the forestry industry to cut what it can, while it can."</p>	
	<p>Indicator 3.2.1 Re 3.2.1 – Forest Carbon Stocks Stable or Increasing</p> <p>As it turns out, a great deal of carbon accounting regarding Canada's managed forests has been excessively optimistic. Industrial forestry is heavily invested in promoting the idea that their forestry practices are beneficial in the fight to bring down global greenhouse gas levels. But, as it turns out, figures that appeared to support that argument in fact depended on the carbon sequestering prowess of unmanaged forests.</p> <p>Matt Betts most recent study brings this revised understanding of the impact of managed forests home to the Maritimes: "According to our forest-inventory plot-derived model, above-ground biomass in NB forests has declined by a total 246 Tg CO<sub>2</sub>e, which is 141 Tg CO<sub>2</sub>e (4.02 Tg year<sup>-1</sup>) [over a 35 year period, 1985 to 2020] after accounting for lifecycle carbon. This is equivalent to 32% of the province's total annual emissions (12.4 Tg in 2020), and greater than all annual oil and gas emissions combined (3.3 Tg year<sup>-1</sup>) (Government of Canada 2023)...Although our results might have been predictable given the relatively high harvest rates and short harvest rotations in NB forests (typically about 50 years) they stand in</p>	<p>Thank you for your comments. The data provided in the comment relate to New Brunswick forest and without additional evaluation of the applicability of such data to the Nova Scotia and verified data relevant to Carbon Stocks, the Working Body does not have sufficient data to be able to draw adapted conclusion.</p>

contrast to most predictions in the literature about the carbon storage role of managed forests” M.G. Betts et al., 2024. “Congruent Long-Term Declines in Carbon and Biodiversity Are a Signature of Forest Degradation”*Global Change Biology* Oct 30, 2024.

<https://doi.org/10.1111/gcb.17541>

While New Brunswick’s forestry practices rely even more heavily than Nova Scotia’s on clearcutting and spraying with short rotations, those practices are prevalent in Nova Scotia too. There is no reason to believe that our heavily cut managed forests are not producing the same results.

Clearcutting continues apace on private land, most notably on industrial private land. While the most severe forms of clearcutting have been dialed back somewhat on Crown land, they are projected to continue in the HPF leg of the triad and also, it appears likely, under the shady umbrella of “Outcomes Based Forest Management”. I say shady because there appears to be even less opportunity for public oversight and input in these areas. The Environmental Assessment process envisaged by Lahey is conspicuous by its absence.

Also concerning is the fact that the ‘ecological’ harvest prescriptions, generated for the Ecological Matrix leg of the triad on Crown Land by the Silvicultural Guide to the Ecological Matrix, currently allow for the removal of 50% or more of the basal area of the trees in a polygon. This is the case in all but two of the harvest prescriptions once you include the extraction trails that are cut into the harvest stands. This level of forest cover loss above ground results in carbon loss from the forest floor and soil comparable to the results of clearcutting. In addition, forest removal to create logging roads does not count towards that 50% removal, even when the new roadway passes through the harvest plan area. The impact of these roadways should not be underestimated. Clearcut strips 20-30m wide for a 6m wide road are usual. These dramatically change the wind, sun and humidity levels of the forest as well as obstructing wildlife and creating seedbeds of disturbed soil perfectly designed to invite invasive species into the forest.

Forestry practices need to change to prioritize the protection of forest interior conditions if the carbon storage of our forests is to increase. Old forests left to become old growth both store the most carbon and support the most biodiversity. Harvesting of all forest stands over 80 years old on Crown lands should be put on hold until the 20% protection target has been reached. These forests are scarce and precious, of far more value standing than logged. The monetization of this value may help to keep these forests

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	<p>standing but we should remember that their value far surpasses that monetary worth.</p>	
	<p>Indicator 4.2.1            "Re 4.2.1: "...The focus of this Indicator is to ensure that the identification and avoidance of negative social and community impacts are incorporated into forest management planning through a consultation process with stakeholders who may be impacted." First, let us be clear that every Nova Scotian is a stakeholder when it comes to the treatment of our forests. Our common good is at stake when the ability of our forests to sequester carbon, support biodiversity, and store, filter and gradually release water is impacted by forestry activities, whether these take place on private land or crown land. Our health and welfare is intimately bound up with the health of our forests at every scale, from the ability to exercise, fish, hunt, forage, pray and play in the forest to the ability to pass on a livable planet to future generations.</p> <p>Unfortunately, when it comes to private land, there seem to be very few constraints on the activities of private landowners even when actions such as clearcutting right up to the property line have immediate and adverse consequences on the neighbour's forest. Blowdowns are an entirely predictable consequence of wholesale forest removal, and yet a landowner choosing to clearcut their land is not required to leave a buffer. There is, in other words, no effort in law or regulation to avoid the simplest, most direct negative consequences of poor forestry practices on private land.</p> <p>The situation is somewhat better on Crown land but, in reality, the mechanisms for public consultation on forestry decision-making are inadequate and largely token. The Harvest Plan Map Viewer is the only avenue for public comment on proposed harvest plans. It has always been clunky to use. It is possible to request the PTA for the plan but recently the amount of information available in the PTA has been scaled back to the point where it is completely minimal. The archived information that used to be immediately available for surrounding harvest plans whose comment periods had expired is no longer accessible with the click of a mouse. Furthermore, the public is explicitly discouraged from commenting on anything outside the boundaries of the harvest plan that is up for comment. This is ludicrous, ecologically speaking. Biodiversity does not care about such boundaries. Of course the condition of the surrounding forest should affect the proposed cut.</p>	<p>Thank you for your comment which seems more targeted to the Government and calling for more efficient process whilst acknowledging the existence of a process. Whilst important, the rational provided does not seem to warrant a change to the risk rating concluded by the Working Body.</p>

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	<p>Then there is the question as to whether public comments have any impact. They are certainly carefully archived and made available for FOI/POPs, adding to the impression of public consultation. But the experience of the knowledgeable people who commented on the harvest plans for Goldsmith Lake in 2022 is not unusual. Those harvest plans apparently went ahead, a fact that people only discovered when the citizen scientists came upon the huge new logging road that had been constructed quite soon after the end of the comment periods. In other words, the results of the Integrated Resource Management process are not made available to the public, even if changes have been made to the plan that was posted on the HPMV. The public comments and NRR listens or not. There is no way to tell whether or not the plans have been approved.</p> <p>After a period of improved communications between NRR and the public, the door seems to have slammed shut. This is a widespread experience, not one limited to the organizations I am attached to. This year the Minister of NRR not only failed repeatedly to make time to meet with the Healthy Forest Coalition, his secretary also informed this well-respected organization that he would not have time to meet in the future either.</p> <p>"</p>	
Local expert	<p>Section – Introduction?</p> <p>"I've had little time to thoroughly review this document but find that there is a large amount of pertinent information lacking. I've done my best to point to references and sources that can be integrated into the RRA. Below is just one section that I had time to write about. Others will have to remain blank unfortunately as I instead focused on other sections.</p> <p>1.1.1 (p. 47) – Comply with Laws Indicator 1.1.1 Operations related to feedstock sourcing and biomass production shall comply with all applicable and existing laws and regulations.</p> <p>The forest industry has been left to 'police itself' to a great extent on Crown lands. 'Policing oneself' rarely works in any business or society. Occasional checks by the industry, itself, may produce a 'noncompliance' issue that is of relatively little consequence to the contractor. Enforcement Officers who I have directly spoken with in the past have admitted that they know little of how to enforce or even recognize forestry violations.</p> <p>We hear repeatedly that the forest industry has developed many ways to under-report wood harvested from Crown land. Some say as much as one load out of every 10 loads of wood trucked from Crown forests is diverted.</p>	<p>Thank you for your comments. In line with the methodology prescribed by the RRA Procedure and the REF, evidences are collected and reviewed by the Working Body. Without further factual evidence, the comment does not seem to warrant in change to the risk rating as proposed by the Working Body.</p>

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	<p>A number of years ago, a certain mill extracted load after load of 'saw logs' from Crown stumpage, which extended far beyond their quota. A Freedom of Information request revealed that the mill was reporting loads of saw logs as other types of wood products (e.g. stud wood) so as not to use up their saw log quota. They continued for a significant period to obtain the cheap Crown saw logs by mis-reporting what was extracted. It is uncomfortable for one industry person to report another, and no government enforcement officers need to understand the industry dynamic and where loopholes may occur.</p> <p>Biomass is low profit wood. The industry will need to increase profits by finding ways to under-report Crown stumpage fees.</p> <p>In terms of complying with laws, there is no compliance with the MBCA except for forestry practices conducted by the Medway Community Forest Coop. The public becomes increasingly vexed with poor forestry practices in public forests that do not represent ecological forestry. Removals remain far too heavy to be consider ecological. DNRR devised loopholes in the SGEM that allows too much wood to be removed during a single harvest."</p>	
	<p>Section 2 - Regional background and statement of scope</p> <p>The supply base map should indicate that the province is committed to protect 20 % of its lands and waters by 2030. Much more of the map will be "yellow". As well the entire southwest is part of the Southwest Nova Biosphere Reserve. Most of Nova Scotia's forest land has been heavily cut and requires a long period of recovery. Short rotation forestry will lock the forest into continually remaining at the early successional stage rather than advancing to late successional forest which should dominate the landscape. Currently late successional forests and forests of older age classes are rapidly becoming more rare, represent a serious threat to biodiversity and limits Carbon storage, which now must become an over-riding objective for everyone if future generations are to live and prosper in NS. The supply base most focus more so on mill residues than primary forest sources. Some of the road cutting, which is rarely accounted for, may be part of the supply base.</p>	<p>Thank you for your comments. In line with the methodology prescribed by the RRA Procedure and the REF, evidences are collected and reviewed by the Working Body. Without further factual evidence, the comment does not seem to warrant in change to the risk rating as proposed by the Working Body.</p>
	<p>Section 3 – Methodology</p> <p>Nova Scotia's nutrient budget modeling has indicated uniquely low soil fertility levels across ~ 60 % of Nova Scotia. Some regions can no longer sustain harvesting to any degree. The timeframe required for soil nutrient recovery is unknown but is likely decades to centuries. Increased soil acidification was due to a combination of acid rain and extremely low</p>	<p>Thank you for your comment which has been passed on to the Working Body.</p>

buffering capacity of forest ecosystems developed on shallow soils over slates, granites and felsic bedrock. These bedrocks do not break down fast enough to replace nutrients, mainly calcium, leached away by acid rain. As soil calcium levels dropped, less calcium enters surface waters and aquatic pH lowered to the point of disrupting salmon and trout populations, linking unhealthy forests directly to declining aquatic ecosystems. Historical depletion from wildfires, land clearance, and heavy pulpwood harvesting compounded this issue. Useful references are: The Restoring the Health to Nova Scotia's Forests (2010) document aligns with scientific research and public opinion, offering valuable guidance. Additionally, biomass-focused reports within the Natural Balance Research Addendum, Phase 2 remain relevant for understanding forest impacts. The nutrient budget model can be construed by setting it to levels that merely maintain the insufficient low nutrient levels currently present. Forests require a period to RESTORE nutrients to previously higher levels. Anthropogenic emissions continue to increase the concentration of CO<sub>2</sub> and other greenhouse gases in our atmosphere, so it is critical to manage long-term Carbon sinks that convert atmospheric Carbon to its solid form. Forests are the greatest Carbon sink of all terrestrial biomes. Long-lived eastern forests, operating under infrequent fire disturbance regimes, are among the very highest carbon storing forest regions. Forest industries must abruptly pivot with the present crises of global warming and unprecedented biodiversity losses, to manage forests foremostly for climate and biodiversity loss mitigations; i.e. maximizing carbon sequestering land bases. Maintaining forest cover wherever possible to shade the soil to prevent the largest carbon storage reservoir (the SOIL) from being released to the atmosphere and hastening warming. Forests must be allowed to grow older, bucking the fallacy that rapidly growing young forests sequester more carbon than older intact forests. Research shows that far greater amounts of carbon are stored in older intact forests. Forest carbon modeling has typically not included soil carbon stores, because amounts are difficult to quantify, but this can no longer be excluded from carbon accounting. Any examination of forest biomass industry potential MUST include an examination of net carbon sequestrations/ emissions impacts on forest landscapes. Reference and integrate data on the current altered NS landscape, possibly using Global Forest Watch's modeling for net carbon emissions. It shows that our landbase has been converted from net carbon sequestering to NET CARBON EMITTING, which will endure for the next 2-3 decades. Recent waves of invasive forest species will cause NS to lose long-lived trees species: eastern hemlock,

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	<p>American beech and ash, which greatly lowers the capacity of natural forests to sequester carbon. Biomass industries may view the mass die-off of hemlock as a bounty of wood chips, but loss of hemlock, known for its superior capacity to sequester carbon, even during winter, is disastrous for global warming. Above ground C losses alone equate to all fossil fuel emissions for NS for one year. The loss of hemlock SOIL carbon stores may release 2X + that amount since the forest floor under hemlock trees stores more carbon per meter than other tree species in eastern forests. Salvage cut removals of dead and dying hemlocks that would otherwise decay very slowly over time and supplement the soil will impede the immediate climate mitigations required during this decade.</p>	
	<p>Section 4 - Stakeholder consultation</p> <p>Section 4.2 should include a regional map of soil nutrients, areas affected over the long-term by decades of acid rain, which continues into present day, albeit at lower rates, as North America continues to burn coal. This is an important map, as it demonstrates that there are large expanses of southwest NS where harvesting is severely limited. Continued forestry practices as they are currently carried out risk forest areas being turned to heath lands caused from lowering pH in soils from over harvest and preceding wildfires. Another important map to include is the amount of forest cover loss that has occurred in the past ~ 2 decades in NS. I attempt to include a screen grab from Global Forest Change. It was not successfully submitted so I advise your board to seriously examine the extent of forest cover losses in NS from one of several websites. S 4.2.2: This section must be updated to reflect a pending increase in protected areas to attain 20 % lands and waters by 2030. It is surprising to find no mention of this here. The AAC from Crown land contains inaccurate figures as they are now out-of-date. Case in point, the original estimates of annual harvest for the Medway Community Forest Coop lands (Crown land lease) had over-estimated available wood supply, which affected planning. The provincial forest inventory data is often erroneous. Generally speaking one can expect to harvest less than what is originally indicated. As well, most of the province has been over-cut and requires a long period of recovery. This was advised during the Natural Resources Strategy 2010. Section 4.8 omitted the biomass sector that is burning chips at Brooklyn Energy, Port Hawkesbury Paper, etc. There are farms/ green house industries also purchasing wood chips.</p>	<p>Thank you for your comment which has been passed on to the Working Body.</p>

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	<p>Section 5 – Conclusions Not available for review.</p>	<p>The section will be updated before the publication of the RRA.</p>
	<p>Annex 3 - List of publications used I did not see some of the more pertinent scientific publications. This is not an exhaustive list, by any means, but consider including: Betts, M., Yang, Z., Gunn, J. and Healey, S. (2024), Congruent Long-Term Declines in Carbon and Biodiversity Are a Signature of Forest Degradation. <i>Glob Change Biol</i>, 30: e17541. <a href="https://doi.org/10.1111/gcb.17541">https://doi.org/10.1111/gcb.17541</a> Betts, M.G., Phalan, B.T., Wolf, C., Baker, S.C., Messier, C., Puettmann, K.J., Green, R., Harris, S.H., Edwards, D.P., Lindenmayer, D.B. and Balmford, A. (2021), Producing wood at least cost to biodiversity: integrating Triad and sharing–sparing approaches to inform forest landscape management. <i>Biol Rev</i>, 96: 1301-1317. <a href="https://doi.org/10.1111/brv.12703">https://doi.org/10.1111/brv.12703</a> Keys, Kevin, et al. "A simple geospatial nutrient budget model for assessing forest harvest sustainability across Nova Scotia, Canada." <i>Open Journal of Forestry</i> 6.5 (2016): 420-444. Bancroft, B. and Crossland, D. 2010. Restoring the Health to Nova Scotia's Forests. Natural Resources Strategy. Report available through NS gov.; Kevin Keys &amp; Jana Bockstette. NS Natural Resources and Renewables Biodiversity Conservation &amp; Forestry Technical Report Series. Forestry Tech Report 2023-04, Oct 2023. Nova Scotia Forest Matters (on-line) is generally an excellent place to check on new documents and publications regarding NS forests, with the bonus of having a concise review of material as well.</p>	<p>Thank you for sharing this list of relevant publication.</p>
	<p>Annex 4 - List of stakeholders Presumably this phase is not yet complete (?) I have not heard of any consultations taking place. I occupy an environmental seat on the Medway Community Forest Coop Board of Directors. As well, I am Vice President of Nature Nova Scotia. I do not believe that Nature Nova Scotia was consulted, although it represents a large stakeholder as it represents a large consortium (~ 26 groups) of natural history-related organizations from across NS. As well, the Healthy Forest Coalition might have been consulted, since it is a well-informed group consisting of forestry-educated citizens, practitioners, and retired professors from various universities, as well as other members from a great range of backgrounds. Nova Scotia Forest Matters (on-line) is generally an excellent place to check on many concisely researched aspects on NS forests.</p>	<p>The Working Body is required by the RRA procedure to consult with experts and to conduct public consultation on the RRA. Both methods are efficient methods to collect evidence supporting the risk rating.</p>
	<p>Annex 5 - Stakeholder consultation report More info from stakeholders to incorporate.</p>	<p>Thank you for your comment, which will be used by SBP to improve the RRA process.</p>

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	<p>Indicator 2.1.3          "Biodiversity is not measurable, therefore the most effective way to assess biodiversity maintenance or enhancement is through proxies. Use key species, habitats, ecosystems and areas of HCV. Biodiversity is measured at two scales: Landscape-level and Stand-level. While there are many assessments and reports available, the province of NS released an Ecological Landscape Analysis by Ecodistrict (2023) that provides evidence of effective implementation.          Evidence:  <a href="https://novascotia.ca/natr/ELA/pdf/ela-update-2023.pdf">https://novascotia.ca/natr/ELA/pdf/ela-update-2023.pdf</a>"</p>	<p>Thank you for your comments which has been passed on to the Working Body.</p>
<p>Economic Interest</p>	<p>Indicator 2.2.1          "A few considerations for comment around this indicator;          Relating to Crown Land:          Indicator 2.2.10 identifies the complexity &amp; layers of legislation that requires licensees to reforest after harvest on crown land. The assessment of the 2.2.1 indicator focuses on non-forestry activities, where other indicators focus on the source of biomass as it relates to forest management strategies. The working body should consider isolating the specified risk to non-forest industry activities while moving the risk designation for forest activities to low risk.          This indicator should be more aligned with the risk designation identified in the FSC NRA for Canada - this indicator was designated to spatial areas. Other indicators in the RRA use information from FSC to justify HCVs, the designation of risk to conversion should be considered as well.          Relating to the province &amp; federal data          Canada's deforestation rate is significantly low, using wording directly out of the rationale: ""this Indicator is to evaluate the risk of land conversion, not the rate"" adds subjectivity to the assessment. When considering the risk of land conversion, the working body should consider data that suggests deforestation isn't happening in the supply base - not use precautionary approaches.          Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results          Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:          ""(iv) current situation on compliance if the information was available.""/&gt; This</p>	<p>Thank you for your comments on 2.2.1 which has been passed on to the Working Body.          With regards to the approach taken concluding a risk level in presence or absence of data, thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>

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	<p>is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"".</p> <p>Evidence:  <a href="https://ca.fsc.org/ca-en/controlled-wood/national-risk-assessment">https://ca.fsc.org/ca-en/controlled-wood/national-risk-assessment</a>"</p>	
	<p>Indicator 2.2.2          "Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results:          -Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:          ""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"".</p>	<p>Thank you for your comment. As outlined in the risk analysis, this indicator is closely linked to several other indicators within the same criteria. A re-evaluation of the publicly available data for just this indicator will not alter the risk designation. We will take your comments into account for the next revision of the RRA.</p>
	<p>Indicator 2.2.3          "Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results:          -Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:          ""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"".</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>

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	<p>Indicator 2.2.8</p> <p>"Industrial Private Land are SFI certified and are required to provide regeneration after harvest. Industrial Private lands are regenerated resulting in current conditions meeting the requirements for this indicator. As such it should be low risk for this indicator.</p> <p>Evidence:</p> <p><a href="https://www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/Publications/state-of-the-forest-2023.pdf">https://www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/Publications/state-of-the-forest-2023.pdf</a></p> <p><a href="https://forests.org/wp-content/uploads/2022_SFI_StandardsandRules_section2.pdf">https://forests.org/wp-content/uploads/2022_SFI_StandardsandRules_section2.pdf</a></p>	<p>The benchmarking and recognition process is used to benchmark and recognise external schemes such as FSC or PEFC. The result of these benchmarks are published on the SBP website. These documents identify for which indicator of the SBP Standard 1, certification against FSC or PEFC Forest Management certification provide adequate mitigation measures to identified specified risks, including at site level. In other word, if a forest is FSC or PEFC certified, the certification is a recognised mitigation measure should a specified risk be identified.</p>
	<p>Indicator 3.2.2</p> <p>"Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results:</p> <p>Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:</p> <p>""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk""."</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>
	<p>Indicator 3.2.3</p> <p>"Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results:</p> <p>Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:</p> <p>""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>

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	<p>methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"".</p>	
	<p>Indicator 4.1.8          "This indicator separates the responsibilities of working professionals from equipment operators &amp; loggers. This should not be separated as the professional forester is responsible for the sign off that harvesting was completed to a required standard. Within the professional responsibility of a forester, ensuring qualified contractors is an element of due diligence. In addition to professional responsibility, the indicator can be interpreted in two areas: worker safety training &amp; worker competence training. As it relates to worker safety, all companies in the province must conform to the WorkSafe NS regulations. Each of these mechanisms are significant influences on the training provided to forest workers, and this should not be considered a specified risk.</p> <p>The working body should consider excluding elements related to safety within this indicator as they are already addressed in indicator 4.1.10.</p> <p>Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results.</p> <p>Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:          ""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"".</p>	<p>Thank you for your comments. Indicators 4.1.8 and 4.1.10 are not mutually exclusive. We note your comment which will be considered as part of the lessons learnt from this series of RRA development.</p>
	<p>Indicator 4.1.10          "Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results:          Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include:          ""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>

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	<p>Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"". "</p>	
	<p>Indicator 4.2.6          "Relating to lack of publicly available evidence to support implementation mechanism, monitoring and / or results          Suggest working body re-evaluates the validity of publicly available data as a requirement of the risk evaluation framework. This has not been applied consistently across other Regional Risk Assessments. Examples include: ""(iv) current situation on compliance if the information was available."" This is referenced from the SBP-endorsed Regional Risk Assessment for Lithuania, Estonia, Denmark, Latvia. The 'Canadian province of Quebec' Regional Risk Assessment does not reference a risk evaluation framework or classification methodology. The US - Primary Sourcing Regions Regional Risk Assessments risk evaluation framework reads ""at least two analytical methods were mobilized, including analysis of any applicable laws and qualitative analysis, to yield the most robust conclusion related to risk"". "</p>	<p>Thank you for your comment which we will consider as part of the lessons learnt from this series of RRA development.</p>
	<p>Indicator 4.2.7          Designated cultural heritage sites are identified and preserved on both private and public land. RRA identifies Cultural heritage sites that are not identified and therefore at risk of being damaged or destroyed. These threats are addressed in indicator 4.2.4 and does not appropriately apply to designated cultural heritage sites</p>	<p>Thank you for your comment. The risk designation has been changed.</p>

### Sustainable harvesting criteria 29(6)

The country in which forest biomass was harvested has national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring:

#### (i) The legality of harvesting operations

##### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	<p>✓ Yes - Sub-scopes: Crown Licence</p> <p>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</p>
<i>List of applicable law(s)</i>	<p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Forests Act</li> <li>• Crown Lands Act</li> </ul> <p><u>Industrial Private Land &amp; Private Woodlots</u></p> <p>There is limited regulatory framework for timber harvesting on industrial private land and private woodlots.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> </ul>

##### Step 2: Description of enforcement and monitoring

<i>Description of the practical implementation of the law(s)</i>	<p><u>Crown Licence</u></p> <p>The Nova Scotia (NS) Department of Natural Resources and Renewables (DNRR) reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various forest management values during the Integrated Resource Management process, including considerations consistent with the Nova Scotia Silvicultural Guide for the Ecological Matrix (SGEM).</p> <p>DNRR monitors forest practices through its Forest Operations Monitoring Program (FOMP). There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.</p> <p><u>Industrial Private Land &amp; Private Woodlots</u></p> <p>On industrial private land and private woodlots, owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight framework on private woodlots.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• DNRR FOMP Inspection Data 2017 – 2023</li> </ul>

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<i>Is the enforcement and monitoring ensured for the identified law(s)?</i>	<ul style="list-style-type: none"> <li>✓ Yes - Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul>
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### Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting

<i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i>	<p><u>Crown Licence</u> There is a comprehensive regulatory framework governing the management and maintenance of resources for Crown licence. Operational guidelines and the FOMP monitor forest management practices on Crown licence. FOMP inspection results verified Crown licensees comply with practice requirements. Based on the evidence reviewed, the legal framework is effective for Crown Licence in Nova Scotia.</p> <p><u>Industrial Private Land &amp; Private Woodlots</u> Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results of current condition, a precautionary approach is applied. Based on evidence reviewed, the legal framework is not effective for industrial private land and private woodlots in Nova Scotia.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• DNRR FOMP Inspection Data 2017 - 2023</li> </ul>
<i>Is the legal framework effective?</i>	<ul style="list-style-type: none"> <li>✓ Yes - Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul>

## (ii) Forest regeneration of harvested areas

### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	<ul style="list-style-type: none"> <li>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</li> <li>• No, Level B route is required</li> </ul>
<i>List of applicable law(s)</i>	<p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> <li>• Forests Act</li> </ul> <p><u>Industrial Private Land</u> There is no regulatory framework that requires regeneration after timber harvest on industrial private land.</p> <p><u>Private Woodlots</u></p> <ul style="list-style-type: none"> <li>• Forests Act, Forest Sustainability Regulation</li> </ul>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Forest Sustainability Regulation</a></li> </ul>

**Step 2: Description of enforcement and monitoring**

<p><i>Description of the practical implementation of the law(s)</i></p>	<p><u>Crown Licence</u>                  The Registry of Buyers and DNRR have the authority to enforce violations and penalties regarding regeneration requirements. Silviculture activities are reported in the Registry of Buyers of Primary Forest Products Reports on an annual basis. DNRR monitors regeneration through its FOMP. There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on silviculture operations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.</p> <p><u>Industrial Private Land &amp; Private Woodlots</u>                  The Registry of Buyers and DNRR have the authority to enforce violations and penalties regarding regeneration requirements. Silviculture activities are reported in the Registry of Buyers of Primary Forest Products Reports on an annual basis. On industrial private land and private woodlots, DNRR, and the Association for Sustainable Forestry administer silviculture program funding and review reforestation reports. Registered buyers are required to conduct post-treatment assessments to be submitted to the Association for Sustainable Forestry to ensure reforestation has been successful. DNRR is responsible for auditing post-treatment assessments to ensure compliance with the Forest Sustainability Regulations. On private woodlots that do not participate in the silviculture program there is no publicly available information describing an oversight framework for regeneration. Owners are responsible for the oversight of operations.</p>
<p><i>Sources</i></p>	<ul style="list-style-type: none"> <li>• <a href="#">Association for Sustainable Forestry</a></li> <li>• <a href="#">Crown Lands Act</a></li> <li>• DNRR FOMP Inspection Data 2017-2023</li> <li>• <a href="#">DNRR The Registry of Buyers</a></li> <li>• <a href="#">Ecological Landscape Analysis by Ecodistrict - 2023</a></li> <li>• <a href="#">Forest Sustainability Regulation</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• <a href="#">Nova Scotia’s Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management (2012)</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2023</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2022</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2021</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2020</a></li> </ul>
<p><i>Is the enforcement and monitoring ensured for the identified law(s)?</i></p>	<p>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>▪ No, Level B route is required</li> </ul>

**Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting**

<p><i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i></p>	<p><u>Crown Licence</u>                  There is a comprehensive regulatory framework governing regeneration on Crown licence. Government programs monitor regeneration. FOMP inspection results, the Nova Scotia Ecological Landscape Analysis by Ecodistrict (2023 Update) report, and the annual Registry of Buyers of Primary Forest Products Reports verify Crown licensees comply with regeneration requirements. Based on evidence reviewed, the legal framework is</p>
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	<p>effective for Crown Licence in Nova Scotia.</p> <p><u>Industrial Private Land</u></p> <p>The Registry of Buyers of Primary Forest Products Annual Reports verified regeneration is completed on industrial private land. Based on the evidence reviewed, this Indicator is designated as low risk for industrial private land in Nova Scotia. Based on evidence reviewed, the implementation framework is effective for industrial private land in Nova Scotia.</p> <p><u>Private Woodlots</u></p> <p>The Nova Scotia Ecological Landscape Analysis, by Ecodistrict (2023 Update) report, and the Registry of Buyers of Primary Forest Products Annual Reports verified regeneration is completed on private woodlots. Based on evidence reviewed, the implementation framework is effective for private woodlots in Nova Scotia.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Association for Sustainable Forestry</a></li> <li>• <a href="#">Crown Lands Act</a></li> <li>• DNRR FOMP Inspection Data 2017-2023</li> <li>• <a href="#">DNRR The Registry of Buyers</a></li> <li>• <a href="#">Ecological Landscape Analysis by Ecodistrict - 2023</a></li> <li>• <a href="#">Forest Sustainability Regulation</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• <a href="#">Nova Scotia's Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management</a> (2012)</li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2023</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2022</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2021</a></li> <li>• <a href="#">Registry of Buyers of Primary Forest Products Report – 2020</a></li> </ul>
<i>Is the legal framework effective?</i>	<p>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>▪ No, Level B route is required</li> </ul>

**(iii) That areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes**

### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	<p>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>▪ No, Level B route is required</li> </ul>
<i>List of applicable law(s)</i>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• Species at Risk Act (SARA)</li> <li>• Migratory Birds Convention Act</li> <li>• Fisheries Act</li> <li>• Canada National Parks Act</li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• Endangered Species Act</li> <li>• Wilderness Areas Protection Act</li> <li>• Special Places Protection Act</li> <li>• Forests Act</li> <li>• Wildlife Habitat and Watercourses Protection Regulations</li> <li>• Biodiversity Act</li> </ul>

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	<ul style="list-style-type: none"> <li>• Provincial Parks Act</li> </ul>
<i>Sources</i>	<p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Canada National Parks Act</a></li> <li>• <a href="#">Environment and Climate Change Canada</a></li> <li>• <a href="#">Fisheries Act</a></li> <li>• <a href="#">Migratory Birds Convention Act</a></li> <li>• <a href="#">Species at Risk Act</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">An Old-Growth Forest Policy for Nova Scotia</a></li> <li>• <a href="#">Biodiversity Act Bill4</a></li> <li>• <a href="#">Endangered Species Act</a></li> <li>• <a href="#">Field Guide to Forest Biodiversity Stewardship</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Ecological Classification System 2017</a></li> <li>• <a href="#">Nova Scotia Endangered Species Recovery Plans</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Special Places Protection Act</a></li> <li>• <a href="#">Wilderness Areas Protection Act</a></li> <li>• <a href="#">Wildlife Habitat and Watercourse Protection Regulation</a></li> </ul>

### Step 2: Description of enforcement and monitoring

<i>Description of the practical implementation of the law(s)</i>	<p>At the federal level, Committee on the Status of Endangered Wildlife in Canada (COSEWIC) oversees SARA species, critical habitats and updates SARA listings annually. Fisheries and Oceans Canada (DFO) oversees the Fisheries Act, Environment and Climate Change Canada (ECCC) oversees the MBCA, and Parks Canada oversees the Canada National Parks Act. At the provincial level, DNRR oversees species at risk including the Federal SARA, and NS Endangered Species Act. The Atlantic Canada Conservation Data Centre (ACCDC) oversees the RTE ecosystems. ACCDC is a jointly funded registry for all Atlantic provinces. DECC conservation lands, key ecosystems and nature reserves under the Wilderness Areas Protection Act and Special Places Protection Act. DNRR under the Forests Act and Biodiversity Act oversees forest planning and practices related to threats to biodiversity values.</p>
<i>Sources</i>	<p>See listing above in Step 1 Sources for Crown Licence, industrial private land and other private woodlots.</p>
<i>Is the enforcement and monitoring ensured for the identified law(s)?</i>	<p>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>• No, Level B route is required</li> </ul>

### Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting

<i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i>	<p>There is a comprehensive federal and provincial regulatory framework for nature protection purposes. Government agencies following protocols and experts identify/designate protected areas, specific to the protection needs. Government agencies provide applicable and competent oversight on protected areas. Government agencies websites provide publicly available information that defines the protected areas, requirements and restrictions. Protected areas are spatially defined and excluded from crown land, private managed forest land, and other private land management units. Based on evidence reviewed, the legal framework is effective for Crown licence, industrial private land, and private woodlot management in Nova Scotia.</p>
<i>Sources</i>	<p>See listing above in Step 1 Sources for Crown Licence, industrial private land and other private woodlots.</p>

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<i>Is the legal framework effective?</i>	<ul style="list-style-type: none"> <li>✓ Yes - Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</li> <li>▪ No, Level B route is required</li> </ul>
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### (iv) That harvesting is carried out considering the maintenance of soil quality and biodiversity with the aim of minimising negative impacts

#### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	<p><u>Soil Quality</u></p> <ul style="list-style-type: none"> <li>✓ Yes – Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul> <p><u>Biodiversity</u></p> <ul style="list-style-type: none"> <li>✓ Yes – Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul>
<i>List of applicable law(s)</i>	<p><u>Soil Quality</u></p> <p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Forests Act</li> <li>• Crown Lands Act</li> </ul> <p><u>Industrial Private Land &amp; Private Woodlots</u></p> <p>On industrial private land and private woodlots, there are no regulatory requirements to manage or maintain soil quality.</p> <p><u>Biodiversity</u></p> <ul style="list-style-type: none"> <li>• See listing below in Step 1 Sources for Crown licence, industrial private land and private woodlots.</li> </ul>
<i>Sources</i>	<p><u>Soil Quality</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> </ul> <p><u>Biodiversity</u></p> <p><u>International</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Global Forest Watch</a></li> <li>• <a href="#">HCV Resource Network</a></li> <li>• <a href="#">HCV Resource Network Common Guidance for the Identification of High Conservation Values.</a></li> <li>• <a href="#">Intact Forest Landscapes, map</a></li> <li>• <a href="#">IUCN Globally Threatened Ecosystems</a></li> <li>• <a href="#">Nature Serve Canada</a></li> <li>• <a href="#">NatureServe Conservation Status categories</a></li> <li>• <a href="#">Shape of Nature Globally threatened ecosystems</a></li> </ul> <p><u>Federal</u></p> <ul style="list-style-type: none"> <li>• <a href="#">2020 Wild Species Report</a></li> <li>• <a href="#">Canada National Parks Act</a></li> <li>• <a href="#">Environment and Climate Change Canada</a></li> <li>• <a href="#">Fisheries Act</a></li> <li>• <a href="#">Migratory Birds Convention Act</a></li> <li>• <a href="#">Species at Risk Act</a></li> <li>• <a href="#">Species at Risk Public Registry</a></li> </ul> <p><u>Provincial</u></p> <ul style="list-style-type: none"> <li>• <a href="#">An Old-Growth Forest Policy for Nova Scotia</a></li> <li>• <a href="#">Biodiversity Act Bill4</a></li> <li>• <a href="#">Endangered Species Act</a></li> </ul>

	<ul style="list-style-type: none"> <li>• <a href="#">Field Guide to Forest Biodiversity Stewardship</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Ecological Classification System 2017</a></li> <li>• <a href="#">Nova Scotia Endangered Species Recovery Plans</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Special Places Protection Act</a></li> <li>• <a href="#">Wilderness Areas Protection Act</a></li> <li>• <a href="#">Wildlife Habitat and Watercourse Protection Regulation</a></li> </ul> <p><u>Other</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Atlantic Canada Conservation Data Centre</a></li> <li>• <a href="#">East Coast Environmental Law Association. 2021. Protected on Paper Only: An Evaluation of Nova Scotia's Legal Obligations under the Endangered Species Act. 2021 Update.</a></li> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Lahey, William. 2018. An Independent Review of Forest Practices in Nova Scotia</a></li> <li>• <a href="#">Noseworthy, Joshua and T. Beckley. 2020. Borealization of the New England-Acadian Forest: A Review of the Evidence. Env. Reviews. 28 5.284:293.</a></li> <li>• <a href="#">Stewart, Bruce J., Peter D. Neily, Eugene J. Quigley, Anthony P. Duke and Lawrence K. Benjamin. 2003. Selected Nova Scotia old-growth forests: Age, ecology, structure, scoring. The Forestry Chronicle. Vol. 79. No.3.</a></li> </ul>
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**Step 2: Description of enforcement and monitoring**

<p><i>Description of the practical implementation of the law(s)</i></p>	<p><u>Provincial</u></p> <p>DNRR manages SAR listing with status categories and is responsible for administration and enforcement of the NS Endangered Species Act. DNRR monitors and enforces the Wildlife Habitat and Watercourses Protection Regulations.</p> <p><u>Crown Licence</u></p> <p>DNRR reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various forest management values during the Integrated Resource Management process, including soil quality considerations consistent with the SGEM. DNRR monitors soil quality through its FOMP. There are three levels of monitoring in the FOMP: Crown licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence. Specific to biodiversity values, DNRR provides oversight for old growth mapping and the publicly available old growth dashboard mapping tool for Crown licence. DNRR provides oversight of the Ecological Landscape Analysis reports and mapping. DNRR reviews and approves Crown licensees’ Forest Management Plans (FMPs) and Annual Operating Plans (AOPs). DNRR reviews and approves every proposed harvest plan as part of the Integrated Resource Management process. DNRR determines if the harvest plan is appropriate and meets all requirements for operating on Crown licence. DNRR considers various biodiversity values during the Integrated Resource Management process, such as adjacency to protected areas, species at risk recovery plans, bird/wildlife habitat and special management practices, as well as consistency with the SGEM and Old Growth Policy. Following the Integrated Resource Management process, every proposed harvest plan on Crown licence is posted on the Harvest Map Plan Viewer, that allows public comments on harvest plans. Crown licensees are notified if the proposed harvest plans are approved or if changes are required following the Harvest Map Plan Viewer process and evaluation by DNRR. DNRR monitors both biodiversity values through its FOMP. There are three levels of monitoring in the FOMP: Crown</p>
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	<p>licensee monitoring, DNRR monitoring, and DNRR Regional Audit Committee monitoring. Pre-treatment assessments are reviewed by DNRR and a list of harvest blocks will require a site visit. FOMP inspections are conducted on harvesting operations, road construction, and watercourse crossing installations. FOMP procedures require a minimum target for inspections. Frequency of inspections can be increased based on results of previous inspections, and/or through a risk-rating protocol. FOMP results are compiled annually and DNRR verifies compliance levels. Crown licensees and/or DNRR identify non-conformances through non-conformance reporting at the applicable levels of FOMP monitoring. A corrective action plan must be submitted and approved by DNRR for all non-conformances to minimise the risk of re-occurrence.</p> <p><u>Industrial Private Land</u></p> <p>On industrial private land, owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight and/or monitoring framework for soil quality or landscape-level and stand-level biodiversity values on industrial private land.</p> <p><u>Private Woodlots</u></p> <p>DNRR is responsible for assisting private woodlot landowners to manage land more effectively by providing professional and technical advice and assistance in the development and implementation of management planning consistent with the SGEM. On private woodlots, owners are responsible for the oversight of operations. As of March 2024, there is no publicly available information describing an oversight and/or monitoring framework for soil quality and landscape-level or stand-level biodiversity values on private woodlots.</p>
<p><i>Sources</i></p>	<p><u>Soil Quality</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• DNRR FOMP Inspection Data 2017 – 2023</li> </ul> <p><u>Biodiversity</u></p> <ul style="list-style-type: none"> <li>• See listing above in Step 1 Sources for Crown licence, industrial private land and private woodlots.</li> </ul>
<p><i>Is the enforcement and monitoring ensured for the identified law(s)?</i></p>	<p><u>Soil Quality</u></p> <p>✓ Yes – Sub-scopes: Crown Licence</p> <p>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</p> <p><u>Biodiversity</u></p> <p>✓ Yes – Sub-scopes: Crown Licence</p> <p>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</p>

### Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting

<p><i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i></p>	<p><u>Soil Quality &amp; Biodiversity Crown Licence</u></p> <p>There is a comprehensive regulatory framework governing the management and maintenance of soil quality for Crown licence. Operational guidelines and the FOMP monitor forest management practices on Crown licence. FOMP inspection results verified Crown licensees comply with practice requirements related to soils. Based on evidence reviewed, the legal framework is effective for soil conservation on Crown Licence in Nova Scotia. Specific to biodiversity values, the Crown licensees' FMP, and subsequent operational plans are the primary implementation mechanism of legislation related the management and maintenance of biodiversity values. Government programs provide oversight and monitor regulatory planning and practices for biodiversity values. There is no indication of widespread or systemic legal non-compliance. However, government oversight is focused on legal compliance with legislation for biodiversity values but not on sufficiency relative to the maintenance and enhancement of biodiversity values. This reinforces</p>
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	<p>uncertainty with respect to sufficiency/uniformity of implementation across diverse Crown licences. The Nova Scotia government and other organisations have, and continue to, assess the maintenance and enhancement of landscape-level and stand-level biodiversity values. There are many assessments and reports covering different spatial and temporal scales. The results of this data, assessments, and reports are wide and varied, making it difficult to provide a definitive conclusion. Based on the extensive results, this risk assessment is unable to draw a sufficiency conclusion on the maintenance or enhancement of specific biodiversity values.</p> <p>This risk assessment does identify areas of uncertainty. In the evaluation of Crown land, the most evident areas of uncertainty for the maintenance of biodiversity values are related the following:</p> <ul style="list-style-type: none"> <li>• SAR recovery plans and critical habitat for identified species-at-risk are at various stages of completion; and</li> <li>• RTE ecosystems are not recognised at the stand level.</li> </ul> <p>Based on evidence reviewed, the legal framework is not effective for biodiversity on Crown Licence in Nova Scotia.</p> <p><u>Industrial Private Land and Private Woodlots</u></p> <p>Due to a lack of a regulatory framework, evidence to support implementation mechanisms, a monitoring framework and/or results of current condition of soil quality, a precautionary approach is applied. Based on evidence reviewed, the legal framework for soil quality is not effective for industrial private land and private woodlots in Nova Scotia. There is an extensive federal and provincial regulatory framework governing biodiversity values. On industrial private land and private woodlots, due to a lack of evidence to support implementation mechanisms, a monitoring framework and/or results of current condition of the maintenance of landscape-level and stand-level biodiversity values, and a precautionary approach is applied. Based on evidence reviewed, the legal framework for biodiversity is not effective for industrial private land and private woodlots in Nova Scotia.</p>
<i>Sources</i>	<p><u>Soil Quality</u></p> <ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">Forests Act</a></li> <li>• <a href="#">Nova Scotia Silvicultural Guide for the Ecological Matrix</a></li> <li>• <a href="#">Nova Scotia Woodlot Owners &amp; Operators Association</a></li> <li>• DNRR FOMP Inspection Data 2017 – 2023</li> </ul> <p><u>Biodiversity</u></p> <ul style="list-style-type: none"> <li>• See listing above in Step 1 Sources for Crown licence, industrial private land and private woodlots.</li> </ul>
<i>Is the legal framework effective?</i>	<p><u>Soil Quality</u></p> <ul style="list-style-type: none"> <li>✓ Yes – Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul> <p><u>Biodiversity</u></p> <ul style="list-style-type: none"> <li>• Yes – Sub-scopes: Crown Licence</li> <li>✓ No, Level B route is required for Sub-scope: Industrial Private Land &amp; Private Woodlots</li> </ul>

### (v) That harvesting maintains or improves the long-term production capacity of the forest

#### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	<ul style="list-style-type: none"> <li>✓ Yes – Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</li> <li>• No, Level B route is required</li> </ul>
<i>List of applicable law(s)</i>	<p><u>Crown Licence</u></p> <ul style="list-style-type: none"> <li>• Crown Lands Act</li> </ul> <p><u>Industrial Private Land and Private Woodlots</u></p>

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	There is no regulatory framework that requires the determination and maintenance of long-term sustainable harvest levels on industrial private land and private woodlots.
<i>Sources</i>	<a href="#">Crown Lands Act</a>

### Step 2: Description of enforcement and monitoring

<i>Description of the practical implementation of the law(s)</i>	<p><u>Crown Licence</u> DNRR determines regional potential supply for Crown licences. DNRR monitors harvest levels on Crown licences to ensure the actual harvest levels do not rise above the potential supply.</p> <p><u>Industrial Private Land</u> On industrial private land, oversight of forest management and actual harvest is managed by the landowner. As of March 2024, there is no publicly available information describing an oversight framework for long-term sustainable harvest levels.</p> <p><u>Private Woodlots</u> On private woodlots, oversight of forest management and actual harvest level is managed by the landowner. As of March 2024, there is no publicly available information describing an oversight framework for long-term sustainable harvest levels.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">National Forest Database</a></li> <li>• <a href="#">Nova Scotia 2016 State of the Forest Report</a></li> <li>• <a href="#">Registry of Buyers Annual Reports</a></li> <li>• <a href="#">National Forestry Database, Annual Harvest vs Wood Supply</a></li> </ul>
<i>Is the enforcement and monitoring ensured for the identified law(s)?</i>	<p>✓ Yes – Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>• No, Level B route is required</li> </ul>

### Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting

<i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i>	<p><u>Crown Licence, Industrial Private Land &amp; Private Woodlots</u> The provincial harvest levels in NS have declined during the past 20 years and are well below the potential supply. The total actual harvest levels from Crown land, industrial private and private woodlots were well below the sustainable wood supply volumes available on each ownership. Based on the evidence reviewed, this Indicator is designated as low risk for Crown licence, industrial private land, and private woodlots. Based on evidence reviewed, the legal framework is effective for Crown Licence, industrial private land and private woodlots in Nova Scotia.</p>
<i>Sources</i>	<ul style="list-style-type: none"> <li>• <a href="#">Crown Lands Act</a></li> <li>• <a href="#">National Forest Database</a></li> <li>• <a href="#">Nova Scotia 2016 State of the Forest Report</a></li> <li>• <a href="#">Registry of Buyers Annual Reports</a></li> <li>• <a href="#">National Forestry Database, Annual Harvest vs Wood Supply</a></li> </ul>
<i>Is the legal framework effective?</i>	<p>✓ Yes – Sub-scopes: Crown Licence, Industrial Private Land &amp; Private Woodlots</p> <ul style="list-style-type: none"> <li>• No, Level B route is required</li> </ul>

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LULUCF criteria 29(7)	
<i>Paris Agreement ratified?</i>	✓ Yes • No
<i>Submission of a relevant NDC</i>	✓ Yes • No
<i>Sources</i>	<p>– Paris Agreement: UNFCCC’s party information about Canada – <a href="https://unfccc.int/node/61034">https://unfccc.int/node/61034</a></p> <p>– Paris Agreement: United Nations Treaty Collection – Canada 22 Apr 2016 – <a href="https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&amp;mtdsg_no=XXVII-7-d&amp;chapter=27&amp;clang=_en">https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&amp;mtdsg_no=XXVII-7-d&amp;chapter=27&amp;clang=_en</a></p> <p>– NDC Registry: Canada – <a href="https://unfccc.int/NDCREG">https://unfccc.int/NDCREG</a></p> <p>Canada’s 2021 Nationally Determined Contribution Under The Paris Agreement – <a href="https://unfccc.int/sites/default/files/NDC/2022-06/Canada%27s%20Enhanced%20NDC%20Submission1_FINAL%20EN.pdf">https://unfccc.int/sites/default/files/NDC/2022-06/Canada%27s%20Enhanced%20NDC%20Submission1_FINAL%20EN.pdf</a></p>
<i>Brief description of how agriculture, forestry and land use are accounted for in NDC</i>	<p>'Canada estimates the emissions and subsequent removals from natural disturbances on managed forest land in the LULUCF sector according to a Tier 3 country-specific method. Reported estimates for the net GHG emissions from managed forest land exclude the impacts (both emissions and subsequent removals) of non-anthropogenic natural disturbances (e.g., wildfires, windthrow and those insect infestations that cause significant (&gt;20%) tree mortality). For more information, see Canada’s NIR.'</p> <p>'For the purpose of Canada’s NDC, Canada’s 2030 emissions will be its national total net emissions, including LULUCF. For all LULUCF sub-sectors except the managed forest and associated harvested wood products, Canada’s accounting approach compares net emissions in 2030 with net emissions in 2005 (often referred to as a “net-net” approach) to determine the accounting contribution to Canada’s 2030. or more information on LULUCF accounting, see Canada’s latest Biennial Report.'</p> <p>Canada considers the Paris Agreement to be in line with achieving the objective of the Convention as set out in its Article 2. Canada’s enhanced NDC is consistent with the Paris Agreement and its long-term temperature goal. See 6(a) and 6(b) for more information.</p> <p>Canada’s GHG emissions peaked in 2007 and are projected to be on downward trajectory. Canada’s enhanced NDC is line with Canada’s 2050 net-zero emissions target. See 6(a) and 6(b) for more information.</p>

### OR (this option below must be used if the previous point about NDC is not satisfied)

The origin country has national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals

#### Step 1: Identification of applicable laws

<i>Have the applicable law(s) been identified?</i>	• Yes • No, Level B route is required
<i>List of applicable law(s)</i>	
<i>Sources</i>	

## Annex 6 REDII Level A risk assessment

### Step 2: Description of enforcement and monitoring

<i>Description of the practical implementation of the law(s)</i>	
<i>Sources</i>	
<i>Is the enforcement and monitoring ensured for the identified law(s)?</i>	• Yes • No, Level B route is required

### Step 3: Evaluation of the effectiveness of the legal framework on the legality of timber harvesting

<i>Evaluation of the practical implementation of the law(s) and explanation for the evaluation</i>	
<i>Sources</i>	
<i>Is the legal framework effective?</i>	• Yes • No, Level B route is required