

Supply Base Report: Pinnacle Renewable Energy Inc (Lavington Pellet Limited Partnership Division)

Scope Change Audit



Completed in accordance with the Supply Base Report Template Version 1.2

For further information on the SBP Framework and to view the full set of documentation see www.sbp-cert.org

Document history

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1 Overview

Producer name: Pinnacle Renewable Energy Inc. – Lavington Division
Producer location: 9900 School Road Coldstream, British Columbia V1B 3C7, Canada
Geographic position: 119° 6'1.17"W 50°14'0.26"N
Primary contact: Joseph Aquino
 8545 Willow Cale Road
 Prince George, BC V2N 6Z9
 (250) 562-5562 ext. 2220

Company website: www.pinnaclepellet.com
Date report finalised: 25/Oct/2018
Close of last CB audit: 12/Oct/018
Name of CB: SCS Global Services
Translations from English: No
SBP Standard(s) used: Standard 1 ver. 1.0, Standard 2 ver. 1.0 Standard 4 ver. 1.0, Standard 5 ver. 1.0
Weblink to Standard(s) used: <https://sbp-cert.org/documents/standards-documents/standards>
SBP Endorsed Regional Risk Assessment: Not Applicable
Weblink to SBE on Company website: <http://pinnaclepellet.com/sustainability/compliance-reports/>

| Indicate how the current evaluation fits within the cycle of Supply Base Evaluations | | | | | |
|--|--------------------------|--------------|--------------------------|--------------------------|--------------------------|
| Main (Initial) Evaluation | First Surveillance | Scope Change | Second Surveillance | Third Surveillance | Fourth Surveillance |
| <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2 Description of the Supply Base

2.1 General description

BC's land base is 95 million hectares of which 62% or (55 million hectares) is forested, where only 24% is available for harvest. Approximately 83% of BC's forests are coniferous leading, 6% are mixed forests containing both coniferous and deciduous species and 6% are deciduous leading. Six million hectares (approximately 15%) of BC's forests are in protected areas and 13% of all forests in protected areas are 141-250 years old. BC is Canada's most ecologically diverse province containing coastal and inland temperate rainforests, dry pine forests, sub-alpine forests, and other forested ecosystems.ⁱ

95% of BC's forests are a government/publically owned resource. As such BC is a global leader in terms of forest legislation and certification. Approximately 52 million hectares of forest in BC is covered by third-party certification (e.g. SFI, FSC, CSA) or meets specific criteria required for environmental management systems (e.g. ISO 14001)ⁱⁱ.

Forest tenure provides the authorization for companies to harvest timber from crown land. There are various forms of tenure; the two main categories of tenures are area based and volume based. Main tenure types are Replaceable Forest Licenses, Non-Replaceable Forest Licenses, Tree Farm Licenses and Woodlot Licenses. Tenures are associated with license numbers that identify the type of tenure and to whom it is issued. Under the license, the proponent can apply for cutting authority to harvest a specified area on crown land. Registered professionals who practice forestry in the Province prepare the cutting authority and submit the application to Provincial government for review. The government may approve or reject the permit application based on any number of determining factors. The cutting authority will be valid for a specified term where harvesting and silviculture are required to be completed. All cutting authorities issued in the Province are associated to a unique timbermark that tracks the timber to its origin.

Management of harvesting volume is governed under the Forest Act. Allowable annual cuts (AAC) are calculated in all districts across the Province using growth and yield data within the timber harvesting land base. An AAC is allocated to tenure holders operating in the district. The total harvested volume from each tenure holder represents the district AAC.

Management of harvesting practices is governed under the Forest and Range Practices Act (FRPA). Landscape level and site level forest management objectives are described in FRPA legislation. Proponent cutting authority applications are measured against FRPA objectives. The Provincial government has a compliance and enforcement division that inspects forest practices to ensure proponents are meeting the intent of FRPA.

Private land represents a small portion of British Columbia's overall landbase. Private land is considered outside the timber harvesting and managed forest landbase, and therefore is not reflected when determining district or Provincial level AAC's. Some parcels of private land contain treed areas that when harvested are sold to various wood product manufacturing facilities. Of the 2% of land in British Columbia that is private land, 51% is managed forest land, 22% is forested farmland and 27% is forested residentialⁱⁱⁱ. The timber and the harvesting practices on private land are governed by various pieces of Provincial and Federal legislation

that ensure ownership and legality of timber is legitimate and impacts to natural systems are minimized. Less than 1% of the total fibre procured by PREI is from private land.

Roundwood Calculation

The annual allowable cut for British Columbia is approximately 65 million cubic meters per year^{iv}. The proportion of the AAC consumed in round wood form at PREI plant is accounted for as follows:

PREI consumes some round wood at Burns Lake Division (PBL) and Meadowbank Division (PPM). The volume of round wood is determined by the volume of long rotation broadleaf harvest. In BC, licensees harvesting commercial conifer trees will be required to harvest a small proportion of deciduous trees where these trees will impact harvest operations. These are called incidental harvest. Pinnacle will purchase the incidental deciduous trees as there are no other markets for deciduous volume close to where these mills operate. The percentage of volume is less than 50% of the overall AAC.

Burns Lake: Total Broadleaf Long rotation logs = 3,297 ODT x 2.3 = 7,583.215 M3

7,583.215m3/total provincial AAC 65 million m3 = 0.012% of AAC

Meadowbank: Broad leaf long rotation logs = 6,164 ODT x 2.3 = 14,177.2 m3

14,177.2m3/total provincial AAC 65 million m3 = 0.022% of AAC

Supply Base Regions

The province is divided into forest Regions and Districts managed by government offices that authorize access to timber resources. The Forest Regions and Districts where PREI sources fibre include^v:

| | |
|---|--|
| 1. Cariboo Region (Williams Lake) | 2. Kootenay/Boundary Region (Cranbrook) |
| <ul style="list-style-type: none"> a. 100 Mile House District b. Cariboo-Chilcotin District c. Quesnel District | <ul style="list-style-type: none"> a. Rocky Mountain District b. Selkirk District |
| 3. Northeast Region (Fort St. John) | 4. Skeena Region (Smithers) |
| <ul style="list-style-type: none"> a. Peace District | <ul style="list-style-type: none"> a. Kalum District b. Nadina District c. Skeena Stikine District |
| 5. Thompson/Okanagan Region(Kamloops) | 6. Omineca Region (Prince George) |
| <ul style="list-style-type: none"> a. Thompson Rivers District b. Okanagan Shuswap District c. Cascades District | <ul style="list-style-type: none"> a. Fort St. James District b. Mackenzie District c. Prince George District d. Vanderhoof District |

Fibre Supply

Approximately 89% of the fibre procured by PREI is secondary fibre. 100% of LPLP’s fibre supply is secondary fibre. Secondary fibre is residual material or bi-products from the lumber, plywood and remanufacturing industry in the form of bark, sawdust, shavings and hog. EC and UK feedstock types correspond to PREI feedstock types as follows:

A small portion of secondary fibre received at **LPLP** is procured from the United States bordering southern British Columbia. Much of the fibre processed at the facility originates in BC, however small portions of the raw material has potential origin in Oregon, Washington, Idaho and Montana. The fibre is received from a certified supplier as ‘PEFC Controlled Sources’ via the suppliers and PREI’s due diligence system risk assessment. This fibre supply represents less than 5% of Lavingtons fibre supply and is not part of the SBE supply base area.

In total, approximately 1,392,000 oven dry tonnes (odt’s) of fibre are converted to biomass fuel in the form of wood pellets. Approximately 84% of the fibre procured by PREI is forest management certified where approximately 75% is accompanied by chain of custody claim certificates. The 75% fibre supply accompanied with a PEFC CoC claim certificate represents the tonnage of SBP compliant material produced PREI. The remaining 25% is considered SBP controlled as determined by the PEFC DDS regional risk assessment. All fibre supplied to Armstrong Division originates from within the supply base area.

PREI controls fibre deliveries to seven biomass production facilities strategically located in areas where residual fibre markets exist. The seven biomass production facilities include:

- Houston Pellet Limited Partnership (**HPLP**)
- Pinnacle Pellet Burns Lake (**PBL**)
- Pinnacle Pellet Meadowbank (**PPM**)
- Pinnacle Pellet Williams Lake (**PWL**)
- Pinnacle Pellet Armstrong (**PPA**)
- Lavington Pellet Limited Partnership (**LPLP**)
- Pinnacle Pellet Entwistle (**PPE**)

Input Groups

| EC Feedstock Types | Corresponding Pinnacle Feedstock Types | Feedstock Type |
|---------------------------------------|--|--------------------|
| Forest Residues | Bush Grind - with Timber mark | Primary |
| | Chips – with Timber mark | Primary |
| Stemwood | Logs - All | Primary |
| | Pulp Logs | Primary |
| Wood Industry Residues | Sawdust | Secondary |
| | Shavings - All | Secondary |
| | Hog/Hog Mix | Secondary |
| | Composer | Secondary |
| | Trim Blocks | Secondary |
| | Chips – All | Secondary |
| UK Feedstock Types | Corresponding Pinnacle Feedstock Types | Feedstock Type |
| Forestry Residues | Bush Grind - with Timber mark | Primary |
| | Chips – with Timber mark | Primary |
| Tree Tops | Pulp Logs | Primary |
| Long Rotation Forestry (Broadleaf and | Logs - Deciduous | Primary |
| Bark | Hog/Hog Mix | Secondary |
| Sawmill Residues | Chips - All | Secondary |
| | Sawdust | Secondary |
| | Shavings - All | Secondary |
| | Composer | Secondary |
| | Trim Blocks | Secondary |
| | Yard Grind | Secondary |
| Dryer Fuel | Pellet Fines, pellets | Secondary, Primary |

2.2 Actions taken to promote certification amongst feedstock supplier

Customer demand for certified wood products drives extensive forest certification in BC. PREI requires that claim certificates for PEFC certified fibre are issued from PEFC certified suppliers. PREI requires all non-certified suppliers and certified suppliers providing non-certified fibre, sign a supplier declaration verifying their compliance with the various legality, forest management and environmental requirements set out by the certification scheme. Pinnacle promotes certification schemes with suppliers as it is a core value of Pinnacles business. Pinnacle provides suppliers with the tools necessary to achieve certification compliance through shared knowledge.

2.3 Final harvest sampling programme

N/A – No primary fibre at Lavington division

2.4 Flow diagram of feedstock inputs showing feedstock type [optional]

2.5 Quantification of the Supply Base

Supply Base

- a. Total Supply Base area (ha): **≈19,000,000ha**
- b. Tenure by type (ha): **95% Crown Land, 5% Private Land**
- c. Forest by type (ha): **Coastal -4,750,000ha, Interior -11,400,000ha, Boreal -950,000ha**
- d. Forest by management type (ha): **100% Natural managed forest**
- e. Certified forest by scheme (ha): **Approximately 95%**

Feedstock

- f. **Total LPLP volume of Feedstock: 252,386.29 odt**
- g. **Total volume of primary feedstock: 0 odt**
- h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.
- i. **LPLP:**
 - Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
 - Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**
- j. List all species in primary feedstock, including scientific name
 - **Lodgepole pine – *Pinus contorta***

- Hybrid white spruce – *Picea glauca x engelmannii*
- Engelmann Spruce – *Picea engelmannii*
- Douglas fir – *Pseudotsuga mensezii*
- Black spruce – *Picea mariana*
- Western hemlock – *Tsuga heterophylla*
- Sub-alpine fir (Balsam) – *Abies lasiocarpa*
- Western Red Cedar – *Thuja plicata*
- Western Larch – *Larix occidentalis*
- Paper Birch – *Betula papyrifera*
- Trembling aspen – *Populus tremuloides*
- Black cottonwood – *Populus balsamifera*

k. Volume of primary feedstock from primary forest – **0 odt**

l. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes

- Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**
- Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**

m. Total volume of secondary feedstock: **239,595.94 odt**

n. Origin: **BC**

o. Type: **Sawmill residuals, sawdust, bark, shavings, hog**

p. Total volume of secondary feedstock: **12,790.35 odt**

q. Origin: **BC, Alberta, Oregon, Washington, Idaho and Montana**

r. Type: **Sawmill residuals, sawdust, shavings**

s. Total Volume of tertiary feedstock: **0 odt**

t. Origin:

3 Requirement for a Supply Base Evaluation

| SBE completed | SBE not completed |
|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

The SBE covers a relatively large supply base area in order to capture the extensive list of suppliers within the supply base under one risk assessment. The supply base area falls within the Province of British Columbia, where all suppliers follow the same legislative requirements. PREI does not receive 100% chain of custody claims on all fibre, thus the SBE was the most effective method to provide the highest percentage of SBP compliant claims on finished pellets.

4 Supply Base Evaluation

4.1 Scope

The scope of the supply base includes all primary and secondary feedstock where origin can be traced back to the harvest location. Remanufacturing facilities and primary fibre from private land were excluded from the scope of the SBE as there was insufficient evidence to prove compliance with some SBE indicators.

The SBE was carried out for the entire province of British Columbia, excluding Vancouver Islands, to account for variation in year-to-year harvesting locations and prospective future harvesting areas.

4.2 Justification

The size of the supply base area (SBA) ensures coverage of all current and potential harvesting areas in the Province. Due to the relatively large SBA and overlap of supply areas between PREI's biomass production facilities, the SBE was chosen to incorporate all supply areas into one SBE. The legislative requirements for fibre procurement and harvesting are consistent throughout the SBE area.

4.3 Results of Risk Assessment

The risk assessment resulted in low risk for all indicators

4.4 Results of Supplier Verification Programme

Not Applicable as all indicators were deemed to be low risk.

4.5 Conclusion

PREI meets low risk designations for all indicators of the SBE. The high percentage of forest management certified forest in BC ensures all feedstock was managed under a forest management regime with multiple layers in place to ensure compliance. Provincial legislation, certification requirements, enforcement and continual improvement measures ensure forests in BC are managed to some of the highest standards globally.

The crown land system in BC ensure consistent land management strategies are carried out across the province. All licensees operating in BC are subject to the same compliance standards, which at their foundation are above and beyond the SBE requirements. The SBE details the findings, evidence reviewed and means of verification applicable to each SBE indicator and how low risk can objectively be determined.

PREI has a risk assessment process and has determined the risk of non compliance for SBE indicators, excluding fibre from remanufacturing facilities and private land, to be low risk of non-compliance.

5 Supply Base Evaluation Process

The SBE was compiled in combination with Pinnacle Renewable Energy Inc. and a team of external certification consultants. The team consisted of subject matter experts that provided thorough analysis on the applicable findings and evidence to base the risk designations. The subject matter experts have extensive certification and risk analysis experience throughout the province of BC. Upon completion, the SBE was reviewed by internal staff to ensure the indicators aligned with company procedures.

6 Stakeholder Consultation

The SBE was provided to various stakeholders across the Province to engage in stakeholder consultation of PREI's supply base area. PREI provided the SBE to various stakeholders representing national level, provincial level, regional level and local level interests. The goal of the stakeholder group was to ensure wide representation of members covering applicable expertise for all SBE indicators. The stakeholder representation included all levels of government, non-government organizations, organizations representing conservation efforts, forest industry at all levels, public representation indigenous peoples and other representation from other certification schemes. The stakeholders were supportive of the risk designations, only positive comments were received from stakeholders.

6.1 Response to stakeholder comments

There were two responses received during the SBE review and comment period. Both responses were positive and displayed support for the risk designations. The two stakeholders offered to provide further information in regards to provincial and regional level strategies implemented to support further sustainable forest management practices. PREI representatives met with stakeholders to discuss. The outcome of those meetings were positive and no further information was required to be added to SBE findings.

7 Overview of Initial Assessment of Risk

Table 1. Overview of results from the risk assessment of all Indicators (prior to SVP)

| Indicator | Initial Risk Rating | | |
|-----------|---------------------|-----|-------------|
| | Specified | Low | Unspecified |
| 1.1.1 | | ✓ | |
| 1.1.2 | | ✓ | |
| 1.1.3 | | ✓ | |
| 1.2.1 | | ✓ | |
| 1.3.1 | | ✓ | |
| 1.4.1 | | ✓ | |
| 1.5.1 | | ✓ | |
| 1.6.1 | | ✓ | |
| 2.1.1 | | ✓ | |
| 2.1.2 | | ✓ | |
| 2.1.3 | | ✓ | |
| 2.2.1 | | ✓ | |
| 2.2.2 | | ✓ | |
| 2.2.3 | | ✓ | |
| 2.2.4 | | ✓ | |
| 2.2.5 | | ✓ | |
| 2.2.6 | | ✓ | |
| 2.2.7 | | ✓ | |
| 2.2.8 | | ✓ | |
| 2.2.9 | | ✓ | |

| Indicator | Initial Risk Rating | | |
|-----------|---------------------|-----|-------------|
| | Specified | Low | Unspecified |
| 2.3.1 | | ✓ | |
| 2.3.2 | | ✓ | |
| 2.3.3 | | ✓ | |
| 2.4.1 | | ✓ | |
| 2.4.2 | | ✓ | |
| 2.4.3 | | ✓ | |
| 2.5.1 | | ✓ | |
| 2.5.2 | | ✓ | |
| 2.6.1 | | ✓ | |
| 2.7.1 | | ✓ | |
| 2.7.2 | | ✓ | |
| 2.7.3 | | ✓ | |
| 2.7.4 | | ✓ | |
| 2.7.5 | | ✓ | |
| 2.8.1 | | ✓ | |
| 2.9.1 | | ✓ | |
| 2.9.2 | | ✓ | |
| 2.10.1 | | ✓ | |

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

Not Applicable - No indicators are considered to be specified or unspecified risk and therefore a supplier verification program is not required.

8.2 Site visits

Not Applicable

8.3 Conclusions from the Supplier Verification Programme

Not Applicable

9 Mitigation Measures

9.1 Mitigation measures

Not Applicable - No indicators are considered to be specified or unspecified risk and therefore a mitigation measures were not required

9.2 Monitoring and outcomes

Not Applicable

10 Detailed Findings for Indicators

Detailed findings for each indicator are given in the SBE Annex 1

11 Review of Report

11.1 Peer review

The Supply Base Report (SBR) was peer reviewed by an external subject matter experts who have extensive knowledge of certification requirements throughout the province of BC. The subject matter experts provide expertise in the resource sector across Canada. The group consists of Registered Professional Foresters in the Province of BC and has extensive knowledge on forest legislation. Upon completion of the peer review, qualified PREI staff reviewed the SBR.

11.2 Public or additional reviews

Not Applicable

12 Approval of Report

| Approval of Supply Base Report by senior management | | | |
|--|-----------------------|---|-------------------------|
| Report Prepared by: | <i>Joseph Aquino</i> | <i>Head of Sustainability</i> | <i>October 25, 2018</i> |
| | Name | Title | Date |
| The undersigned persons confirm that I/we are members of the organisation’s senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report. | | | |
| Report approved by: | <i>Bernard Tobin</i> | <i>General Manager of Fibre</i> | <i>October 25, 2018</i> |
| | Name | Title | Date |
| Report approved by: | <i>Vaughan Basset</i> | <i>Senior Vice President of Sales and Logistics</i> | <i>October 25, 2018</i> |
| | Name | Title | Date |

13 Updates

Updated figures reflect actual feedstock deliveries for 2017 and forecasted feedstock deliveries for 2018.

13.1 Significant changes in the Supply Base

In 2017, Pinnacle began purchasing fibre from a supplier outside of BC. The majority of the fibre received from this supplier has origin in BC, however a small portion has origin from the United States bordering southern British Columbia – Oregon, Washington, Idaho and Montana. The fibre is received from a certified supplier as 'PEFC Controlled Sources' via the suppliers due diligence system risk assessment. This fibre supply represents less than 5% of Lavingtons fibre supply and will be considered SBP controlled feedstock. As a result of the fibre supply originating outside BC, it was removed from the scope of the supply base evaluation.

13.2 Effectiveness of previous mitigation measures

N/A

13.3 New risk ratings and mitigation measures

N/A

13.4 Actual figures for feedstock over the previous 12 months

Feedstock

- a. **Total LPLP volume of Feedstock:** 252,386.29 odt
- b. **Total volume of primary feedstock:** 0 odt
- c. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.
- d. **LPLP:**
 - a. Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
 - b. Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**
- e. List all species in primary feedstock, including scientific name
 - **Lodgepole pine – *Pinus contorta***
 - **Hybrid white spruce – *Picea glauca x engelmannii***
 - **Engelmann Spruce – *Picea engelmannii***
 - **Douglas fir – *Pseudotsuga mensezii***

- **Black spruce – *Picea mariana***
 - **Western hemlock – *Tsuga heterophylla***
 - **Sub-alpine fir (Balsam) – *Abies lasiocarpa***
 - **Western Red Cedar – *Thuja plicata***
 - **Western Larch – *Larix occidentalis***
 - **Paper Birch – *Betula papyrifera***
 - **Trembling aspen – *Populus tremuloides***
 - **Black cottonwood – *Populus balsamifera***
- f. Volume of primary feedstock from primary forest – **0 odt**
- g. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes
- a. Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**
 - b. Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**
- h. **Total volume of secondary feedstock: 239,595.94 odt**
- i. **Origin: BC**
- j. **Type: Sawmill residuals, sawdust, bark, shavings, hog**
- k. **Total volume of secondary feedstock: 12,790.35 odt**
- l. **Origin: BC, Oregon, Washington, Idaho and Montana**
- m. **Type: Sawmill residuals, sawdust, bark, shavings, hog**
- n. **Total Volume of tertiary feedstock: 0 odt**
- o. **Origin:**

13.5 Projected figures for feedstock over the next 12 months

Feedstock

- a. **Total LPLP volume of Feedstock: 225,000 – 250,000 odt**
- A range of raw material values provided to account for supplier production variations throughout the year.
- b. **Total volume of primary feedstock: 0 odt**
- c. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.
- d. **LPLP:**
- Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
 - Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**
- e. List all species in primary feedstock, including scientific name

- Lodgepole pine – *Pinus contorta*
- Hybrid white spruce – *Picea glauca x engelmannii*
- Engelmann Spruce – *Picea engelmannii*
- Douglas fir – *Pseudotsuga mensezii*
- Black spruce – *Picea mariana*
- Western hemlock – *Tsuga heterophylla*
- Sub-alpine fir (Balsam) – *Abies lasiocarpa*
- Western Red Cedar – *Thuja plicata*
- Western Larch – *Larix occidentalis*
- Paper Birch – *Betula papyrifera*
- Trembling aspen – *Populus tremuloides*
- Black cottonwood – *Populus balsamifera*

f. Volume of primary feedstock from primary forest – **0 odt**

g. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes

- Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**
- Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**

h. **Total volume of secondary feedstock: 225,000 – 250,000 odt**

i. **Origin: BC**

j. **Type: Sawmill residuals, sawdust, bark, shavings, hog**

p. **Total volume of secondary feedstock: 12,000.00 odt**

q. **Origin: BC, Oregon, Washington, Idaho and Montana**

r. **Type: Sawmill residuals, sawdust, bark, shavings, hog**

k. **Total Volume of tertiary feedstock: 0 odt**

l. **Origin:**

Annex 1: Detailed Findings for Supply Base Evaluation Indicators

Pinnacle Renewable Energy Inc. – SBP Supply Base Evaluation – July 2018

| | Indicator |
|-----------------------|--|
| 1.1.1 | The Biomass Producer’s Supply Base is defined and mapped. |
| Finding | <p>The BC State of the Forests report indicates that public lands and forests account for 95% of the provincial land base, with BC owning 94%. Approximately 4% of the provincial land base is privately owned.</p> <p>The Supply Base is the area encompassing all places where pre-consumer feedstock was harvested (i.e. location of the tree stump). The Supply Base is from Crown and Private forests in the province of British Columbia, excluding Vancouver Islands. Private forests within the supply base include those managed as Private Managed Forest Land and those that are not. (See Supply Base Map).</p> <p>Majority of the Province’s Crown and Private lands are managed under one of the Forest Management Certification Systems. Those lands are included within the Supply Base for sourcing feedstock but excluded from the requirements of a Supply Base Evaluation (SBE). The non-certified forests on Crown and Private lands are the focus of this SBE and the Supply Base has been divided into the following three sub-scopes for the risk assessment:</p> <ol style="list-style-type: none"> 1. Certified forests on Crown and Private Land 2. Non-certified forests on Crown Land 3. Non-certified forests on Private land <p>All fibre that is harvested from Crown or Private land and transported within the province is required to have a Timbermark and is accounted for through the Province’s Harvest Billing System (HBS); therefore, can be traced to origin and confirmed to be within the Supply Base, including identifying the sub-scope. (See Indicator 1.1.2 for more details).</p> <p>The Supply Base has been clearly defined and mapped. The Means of verification and evidence reviewed support a low risk designation for this indicator.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Scope is defined and justified • Maps to the appropriate scale are available • Ownership layers • Interviews with staff and suppliers to confirm origin of supply • Online Government Registry: Harvest Billing System • Internal documents are consistent with individual supplier and cutblock information, payment invoices, District of Origin forms |
| Evidence Reviewed | <ul style="list-style-type: none"> • PREI Supply Base Map (developed from Government Layers) • B.C. Ministry of Forests, Mines and Lands. 2010. The State of British Columbia’s Forests, 3rd ed. Forest Practices and Investment Branch, Victoria, B.C – https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/reporting/envreportbc/archived-reports/sof_2010.pdf • PREI Monthly Reports |

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| | <ul style="list-style-type: none"> HBS timber mark query – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/harvest-billing-system Purchase wood contracts/Supplier Contracts Supplier Declaration |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 1.1.2 | Feedstock can be traced back to the defined Supply Base. |
| Finding | <p>The Ministry of Forests, Lands, Natural Resources Operations and Rural Development (FLNRORD), under the <i>Forest Act (Parts 5 & 6)</i>, is the authority that governs the harvesting, transporting, and scaling of all timber harvested from both Crown and private land within the defined Supply Base. This data is tracked through the provincial government Harvest Billing System (HBS) via a unique timber mark. The timber mark issued by FLNRORD identifies the area of harvest, the stumpage rate, and the authorized licensee in the case of Crown timber, or the landowner in the case of private timber. Timber must be physically stamped or painted with the correct and unique timber mark before it is removed from the harvest area. Load slips, which carries essential information describing the load, its source and its destination accompanies all timber in transport. The most common point of transfer for the HBS is at weigh scales, generally located at the processing facility.</p> <p>The timber mark is used to identify harvested timber from cut block through to scaling and invoicing to provide a complete audit path and ensure that no harvested timber is unaccounted. All transport activities, scaling, and processing of scale data is subject to check-scaling, scale site inspections, data review, and audit. Accurate records are required to be kept by anyone who: buys or sells timber, or products manufactured from timber, or operates a timber processing facility in the province. These records must be available for inspection by the Ministry. Possession of unmarked or incorrectly marked timber can lead to fines and imprisonment. Laws and judicial system provide recourse and penalties in the event of timber theft.</p> <p>PREI maintains a Chain-of-Custody program that ensures feedstock (both certified and non-certified) remains in compliance with certification requirements and can be traced. PREI uses supplier declarations, its supply tracking system, and HBS to trace all feedstock and verify it originates from within the defined Supply Base (See Indicator 1.1.1 for more details). It is therefore determined that there is a low risk of feedstock originating from outside the defined supply base.</p> |
| Means of Verification | <ul style="list-style-type: none"> Legislation Online Government Registry: Harvest Billing System Internal Tracking System shows feedstock inputs, including species and volumes, are consistent with HBS records Internal documents are consistent with individual supplier and cutblock information, payment invoices, District of Origin forms |

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| | <ul style="list-style-type: none"> Interviews with staff and suppliers to confirm origin of supply |
| Evidence Reviewed | <ul style="list-style-type: none"> Forest Act – Part 5 – Timber Marking – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96157_05#part5 Forest Act – Part 6 – Timber Scaling – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96157_06#part6 Timber Marking and Transportation Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/253_97 HBS timber mark query – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/harvest-billing-system Monthly Fibre Report – identifying suppliers PREI Suppliers List PREI Supply Tracking System Purchase Wood Risk Assessment Supplier Declarations Log Purchase Contracts/Purchase wood contracts/Supplier Contracts |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1.1.3 | The feedstock input profile is described and categorized by the mix of inputs. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Finding | <p>Transportation documentation, in the form of Load Slips, are legally required under the <i>Forest Act</i> in order to transport fibre in British Columbia (see Indicator 1.1.2 for details). Load slips contain appropriate data to describe the feedstock input at the receiving facility. Feedstock input data is recorded and tracked in daily, weekly and monthly reports.</p> <p>Pinnacle Feedstock is categorized as follows:</p> <table border="1"> <thead> <tr> <th>EC Feedstock Types</th> <th>Corresponding Pinnacle</th> <th>Feedstock Type</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Forest Residues</td> <td>Bush Grind - with Timber</td> <td>Primary</td> </tr> <tr> <td>Chips – with Timber mark</td> <td>Primary</td> </tr> <tr> <td rowspan="2">Stemwood</td> <td>Logs - All</td> <td>Primary</td> </tr> <tr> <td>Pulp Logs</td> <td>Primary</td> </tr> <tr> <td rowspan="5">Wood Industry</td> <td>Sawdust</td> <td>Secondary</td> </tr> <tr> <td>Shavings - All</td> <td>Secondary</td> </tr> <tr> <td>Hog/Hog Mix</td> <td>Secondary</td> </tr> <tr> <td>Composer</td> <td>Secondary</td> </tr> <tr> <td>Trim Blocks</td> <td>Secondary</td> </tr> <tr> <td></td> <td>Chips – All</td> <td>Secondary</td> </tr> <tr> <th>UK Feedstock Types</th> <th>Corresponding Pinnacle</th> <th>Feedstock Type</th> </tr> <tr> <td rowspan="2">Forestry Residues</td> <td>Bush Grind - with Timber</td> <td>Primary</td> </tr> <tr> <td>Chips – with Timber mark</td> <td>Primary</td> </tr> <tr> <td>Tree Tops</td> <td>Pulp Logs/Bio Logs</td> <td>Primary</td> </tr> <tr> <td>Long Rotation</td> <td>Logs - Deciduous</td> <td>Primary</td> </tr> <tr> <td>Bark</td> <td>Hog/Hog Mix</td> <td>Secondary</td> </tr> <tr> <td rowspan="2">Sawmill Residues</td> <td>Chips - All</td> <td>Secondary</td> </tr> <tr> <td>Sawdust</td> <td>Secondary</td> </tr> </tbody> </table> | EC Feedstock Types | Corresponding Pinnacle | Feedstock Type | Forest Residues | Bush Grind - with Timber | Primary | Chips – with Timber mark | Primary | Stemwood | Logs - All | Primary | Pulp Logs | Primary | Wood Industry | Sawdust | Secondary | Shavings - All | Secondary | Hog/Hog Mix | Secondary | Composer | Secondary | Trim Blocks | Secondary | | Chips – All | Secondary | UK Feedstock Types | Corresponding Pinnacle | Feedstock Type | Forestry Residues | Bush Grind - with Timber | Primary | Chips – with Timber mark | Primary | Tree Tops | Pulp Logs/Bio Logs | Primary | Long Rotation | Logs - Deciduous | Primary | Bark | Hog/Hog Mix | Secondary | Sawmill Residues | Chips - All | Secondary | Sawdust | Secondary |
| EC Feedstock Types | Corresponding Pinnacle | Feedstock Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Forest Residues | Bush Grind - with Timber | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chips – with Timber mark | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stemwood | Logs - All | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pulp Logs | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wood Industry | Sawdust | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shavings - All | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Hog/Hog Mix | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Composer | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Trim Blocks | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chips – All | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UK Feedstock Types | Corresponding Pinnacle | Feedstock Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Forestry Residues | Bush Grind - with Timber | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chips – with Timber mark | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tree Tops | Pulp Logs/Bio Logs | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Long Rotation | Logs - Deciduous | Primary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bark | Hog/Hog Mix | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sawmill Residues | Chips - All | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Sawdust | Secondary | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | | Shavings - All | Secondary |
| | | Composer | Secondary |
| | | Trim Blocks | Secondary |
| | | Yard Grind | Secondary |
| | | | |
| | Dryer Fuel | Pellet Fines, pellets | Secondary, Primary |
| | <p>PREI maintains a Chain-of-Custody program that ensures feedstock input (both certified and non-certified) remains in compliance with certification requirements. (See Indicator 1.1.1 & Indicator 1.1.2 for more details). In addition, PREI maintains a Management System (SBP Procedures Manual) that describes the input verification and tracking system in place at each facility by suppliers, product type (primary, secondary or tertiary), volume and species mix.</p> | | |
| Means of Verification | <ul style="list-style-type: none"> • Internal Tracking System shows feedstock inputs records, including species and volumes, are consistent with HBS records • Internal documents are consistent with individual supplier and cutblock information, payment invoices, District of Origin forms • Interviews with staff and suppliers to confirm origin and categorization of supply | | |
| Evidence Reviewed | <ul style="list-style-type: none"> • PREI CoC Documented Control System • PREI Suppliers List • PREI Supply Tracking System • Load slips • Monthly Fibre reports • LIMS Reports | | |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> | | |

| | Indicator |
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| 1.2.1 | The BP has implemented appropriate control systems and procedures to ensure that legality of ownership and land use can be demonstrated for the Supply Base. |
| Finding | <p>The Supply Base consists of 24 Timber Supply Areas on Crown land, 17 Tree Farm License areas on a combination of Crown and private land, and private land areas (see Indicator 1.1.1 for details). Tree Farm Licences are long-term replaceable area-based licences that grant the licensee virtually exclusive rights to harvest timber from within a specified area. A variety of licence types might be issued on the Timber Supply Areas, ranging from long-term to short-term. The Association of BC Forest Professionals reference guide indicates that public lands and forests account for 95% of the provincial land base, with BC owning 94%. Approximately 4% of the provincial land base is privately owned.</p> <p>Where the BP does not own or manage any forest land in British Columbia, it may contract with harvesting and chipping contractors to procure fibre from forested areas. It may purchase fibre that has been produced by operators who are not under direct contract to the BP, and it may purchase secondary fibre.</p> |

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| | <p>British Columbia has a well-entrenched legal system where private and public ownership rights are well established. The province is generally well-surveyed and ownership disputes are rare, although boundary disputes do occur. These are resolved by surveys and in the courts as required. The legal system is the most common means of enforcement of property rights, while the Crown has enforcement mechanisms in place to ensure that the terms of licences issued by the province are upheld.</p> <p>Under the <i>Forest Act</i>, the province has the authority to enter into tenure agreements which confer rights to Crown resources and may include obligations and restrictions. Tenure agreements address the occupation of Crown land and grants harvesting rights for Crown timber.</p> <p>On Crown land, harvesting takes place on forest management units that are licensed to an entity that harvests timber subject to: a forest stewardship plan (FSP), provincial and federal regulations, and government approvals. As long as the appropriate stumpage (see Indicator 1.4.1 for more details) dues are paid to the provincial government, the licensee may utilize the timber by sale or trade, or may process the timber. The province may issue sub-licences to permit specific harvests (non-replaceable forest licence under section 13.1 of the <i>Forest Act</i>), usually limited to specific species, product types, a specified quantity or timber containing specific health related damage. The BC government’s forest management system identifies what Crown land areas are available for timber harvesting and which areas are not due to various restrictions for ecological or social reasons. This system provides assurance of the legality of land use on provincial Crown land.</p> <p>Private owners generally have ownership of the trees on their property and they may also harvest and process or sell /trade the associated timber as they see fit, provided that appropriate regulations are met. The rights of private land ownership provide assurance of legal use on private land where timber is harvested. The BP only procures timber from private lands where the landowner has initiated the contract and has provided documentation for the legal sale of the timber.</p> <p>When PREI harvests or processes fibre that originates from Crown land, this operation is conducted under a licence that may be held by PREI or by another entity. The legal validity of the licence is established in the provincial <i>Forest Act</i>. The licences grant the right to harvest Crown timber provided that the terms of the licence are met. The legal ownership of the harvested timber is transferred when the Crown dues are paid for the timber, again assuming other terms of the licence are fulfilled. When PREI harvests or processes its own fibre from Crown land, a contractual agreement would set out the terms upon which this would occur, and it would provide for the transfer of ownership of the fibre subject to the agreement terms. When PREI purchases fibre, the purchase agreement fulfils the same role.</p> <p>In 2014, the World Resources Institute reported that Canada had the lowest level of suspicious log supply and corruption of any country or country group examined. A low level of corruption coupled with strong tenure governance systems was considered to imply a low risk of illegally obtained forest licences, and a low risk that wood is being sourced illegally.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Documents showing legal ownership, lease, history of land tenure and the actual legal use • Provincial timber licence documents • Long term unchallenged use • Timber Harvest /Chipping Contracts |

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| | <ul style="list-style-type: none"> • Timber Purchase Contracts |
| Evidence Reviewed | <ul style="list-style-type: none"> • Association of BC Forest Professionals. 2017. Forest Legislation and Policy Reference Guide 2017. Material current to March 31, 2017. • Sustainable Forest Management Network. Undated. General Statistics on British Columbia's forests: https://www.sfmcanada.org/images/.../EN/BC_info_Province_and_territories_EN.pdf • World Resources Institute. 2014. Sourcing Legally Supplied Wood: A Guide for Businesses. Edited by Ruth Nogueron and Loretta Cheung. https://www.wri.org/sites/default/files/wri_report_4c_report_legalityguide_final320.pdf |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 1.3.1 | The BP has implemented appropriate control systems and procedures to ensure that feedstock is legally harvested and supplied and is in compliance with EUTR legality requirements. |
| Finding | <p>Legality of land ownership and land use, which includes the ownership and use of land for the purposes of growing and harvesting timber, was assessed under Indicator 1.2.1. This indicator considers whether the feedstock harvested and supplied is in conformance with legal requirements, specifically the EUTR legality requirements. A key part of compliance with this indicator is having an effective chain of custody system in place. Indicator 1.1.2 considers the traceability of the feedstock to the defined supply base.</p> <p>The <i>European Union's Timber Legality Regulation</i> (EUTR), which came into effect in May 2013, prohibits the placement of timber and timber products on the EU market if they were harvested illegally under the laws of the country of origin. It requires those who first place timber on the EU market to employ a due diligence system to ensure that timber was harvested legally. 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). The BP has staff who are knowledgeable about and oversee/maintain the CoC system.</p> <p>There are two general levels of legality associated with the harvest, transport and supply of timber – firstly, the legality of tenure and secondly, the assurance that forest operations meet legal requirements. On Crown lands, relevant legislation that establishes legality includes:</p> <ul style="list-style-type: none"> • <i>Forest Act</i> <ul style="list-style-type: none"> ○ Authorizes the Minister to grant tenure and defines the responsibilities of licensees; addresses rights to log Crown timber. ○ Sets out timber marking, transportation & scaling ○ Compliance and enforcement provisions • <i>Forest and Range Practices Act</i> <ul style="list-style-type: none"> ○ Sets out higher level goals of forest management |

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| | <ul style="list-style-type: none"> ○ Governs how forest and range operational planning and practices are to be conducted on Crown land ○ Prohibits unauthorized timber harvesting <p>The provincial legal framework ensures that Crown timber must be harvested under licence and the harvest must be in conformance with licence requirements and various forest stewardship plans and practice requirements. The <i>Forest Act</i> is the key piece of provincial legislation in this regard. Harvesting must also be in compliance with technical regulations governing wasteful practices, buffers and other measures that protect values, road construction, and other operational components. Forest operational planning and practices are governed by the <i>Forest and Range Practices Act</i> and associated regulations.</p> <p>On private land, timber is either harvested under contract with the land owner or the timber is harvested by the land owner and sold. In either case, contractual law is in place and enforced to ensure that both parties comply with the relevant contract. There are some regulatory requirements that must be followed on private land, unless the private land is subject to an agreement such as a Timber Farm Licence, where Crown regulations would take precedence. The <i>Forest Act</i> governs aspects of timber marking, scaling and transportation from private land, and the <i>Private Managed Forest Land Act</i> provides for the protection of key environmental values on private managed forest lands.</p> <p>In British Columbia, the issuance and renewal of licences is tightly regulated by government and many licensees have opportunities for public input. Where timber can be harvested on licensed areas is also highly regulated through forest stewardship planning and related planning mechanisms. Ensuring compliance with licensing and technical requirements is undertaken by the Compliance and Enforcement Branch of FLNRORD and is also part of the mandate of the B.C. Forest Practices Board (FPB). The FPB serves as the public watchdog to ensure that forest companies operating on Crown land comply with the <i>Forest and Range Practices Act</i> and with the <i>Wildfire Act</i>. In its 2016-17 annual report, the FPB stated that it completed 18 audits that year, of which 5 were clean, 5 had at least one non-compliance and 8 had at least one area for improvement. This result indicates a generally high level of compliance.</p> <p>On private land, the <i>Private Managed Forest Land (PMFL) Act</i> established the Managed Forest Council (MFC), which is an independent tribunal that is responsible for administering the <i>PMFL Act</i> and Regulations. The MFC has statutory authority to establish regulations in respect of forest management on PMFL. The MFC's website states that it has the authority to establish objectives for soil conservation, water quality, fish habitat, critical wildlife habitat, and reforestation. It also has a formal Inquiry Process, as well as an Investigation and Compliance Determinations Procedure Manual. In terms of the legality of the licences themselves, it is unheard of for there to be false or illegally issued licences.</p> <p>In 2014, the World Resources Institute reported that Canada had the lowest level of suspicious log supply and corruption of any country or country group examined. A low level of corruption coupled with strong tenure governance systems was considered to imply a low risk of illegally obtained forest licences, and a low risk that wood is being sourced illegally.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> ● Provincial legislation. ● Level of enforcement ● Supplier contracts ● Interviews with supplier key staff ● BPs have an up-to-date forest legislation/regulations registry |

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| | <ul style="list-style-type: none"> • BPs make use of public information on legal non-compliance, provided by regulatory authorities and reports from third parties • Interviews demonstrate that key BP staff have a good knowledge of relevant forestry legislation. • Company policy, regional risk assessment, Delivered Fiber and Logging & Hauling Agreements with suppliers. • Internal documents to set up individual supplier and contract information, payment invoices, District of Origin forms and Chain of Custody procedure manuals. |
| Evidence Reviewed | <ul style="list-style-type: none"> • Forest Act and Regulations http://www.bclaws.ca/civix/document/id/lc/statreg/96157_00 • Forest and Range Practices Act and Regulations http://www.bclaws.ca/civix/document/id/consol21/consol21/00_02069_01 • Private Managed Forest Land Act and Regulations http://www.bclaws.ca/civix/document/id/lc/statreg/03080_01 • B.C. Forest Practices Board. https://www.bcfpb.ca/ • B.C. Forest Practices Board. 2017. Annual Report 2016/2017. • European Union Timber Regulation (EUTR). http://www.euflegt.efi.int/eutr • NEPCon. 2017. Timber Legality Risk Assessment: Canada. Version 1.1. August 2017. • World Resources Institute. 2014. Sourcing Legally Supplied Wood: A Guide for Businesses. Edited by Ruth Nogueron and Loretta Cheung. https://www.wri.org/sites/default/files/wri_report_4c_report_legalityguide_final320.pdf |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 1.4.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures to verify that payments for harvest rights and timber, including duties, relevant royalties and taxes related to timber harvesting, are complete and up to date.</p> |
| Finding | <p>All timber harvested from both Crown and private land must contain a timber mark (<i>Forest Act – Part 5</i>) and be scaled (<i>Forest Act – Part 7</i>). Scaling is the process of measuring harvested timber to determine its volume and quality. The provincial Harvest Billing System (HBS) tracks timber marks (see Indicator 1.1.2) and volumes to determine the stumpage owed for each company by timbermark. The timber mark is used to identify harvested timber from cut block through to scaling and invoicing to provide a complete audit path and ensure that no harvested timber is unaccounted. All transport activities, scaling, and processing of scale data is subject to check-scaling, scale site inspections, data review, and audit.</p> <p>Stumpage rate (pre-determined price per cubic metre) must be paid for all trees cut and removed from provincial Crown land. Scale data is used to calculate the amount owed to the Government. Industry uses scale data for transactions, such as the purchase or sale of forest products and contractor payment.</p> <p>On Crown land, the BC government also collects annual rent from the holder of certain forms of agreement (<i>Forest Act, S.111 & Annual Rent Regulation</i>).</p> |

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| | <p>The Ministry of Forest Lands, Natural Resource Operations and Rural Development (FLNRORD) is authorized through the following Forest Policy Framework: <i>Land Act</i>, <i>Forest Act</i> & Regulations, Scaling Manual & Appraisal Manual.</p> <p>FLNRORD has a number of compliance and enforcement mechanisms that minimize the probability or impact of non-compliance for stumpage of Crown timber. These include but not limited to: penalties and remediation.</p> <p>Royalty payments on Crown land have been phased out and since 2001 stumpage rates are paid. No royalty is paid on timber harvested from private land.</p> <p>Private managed forest land owners pay Property Taxes to the Government on the (1) bare land value and (2) on the value of timber. The value of the bare land portion is applied annually by local tax authority. The value of the timber is added to the property tax two years after the harvesting activity.</p> <p>The existing legislation in BC ensures that all royalties are paid to the Crown for all forest products including forest residuals. The extensive systems in place ensure that a low risk designation is appropriate for this indicator.</p> |
| <p>Means of Verification</p> | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> • Stumpage records tracked through Ministry of Finance, Forest Statement of Account • Online registers: Harvest Billing System – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/harvest-billing-system <p>Biomass Producers' MOV</p> <ul style="list-style-type: none"> • Purchase wood contracts • Delivered Fiber and Logging & Hauling Agreements with suppliers, quarterly tax reporting • Internal documents to set up individual supplier information, payment invoices, District of Origin forms and Chain of Custody procedure manuals. |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • Forest Act (see specific sections above) – http://www.bclaws.ca/civix/document/id/complete/statreg/96157_00 • Minimum Stumpage Rate Regulation – http://www.bclaws.ca/civix/document/id/complete/statreg/354_87 • Scaling Regulation – http://www.bclaws.ca/Recon/document/ID/freeside/446_94 • Timber Marking and Transportation Regulation – http://www.bclaws.ca/Recon/document/ID/freeside/253_97 • Annual Rent Regulation – http://www.bclaws.ca/Recon/document/ID/freeside/122_2003 • Scaling Manual – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-scaling/timber-scaling-manual • Coastal Appraisal Manual – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/coast-appraisal-manual • Interior Appraisal Manual – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/interior-timber-pricing/interior-appraisal-manual • Annual Rent & Fees – Forestry – https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/forest-tenure-administration/annual-rent-fees • Private Timber Mark – |

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| | https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/private-timber-marks |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 1.5.1 | The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is supplied in compliance with the requirements of CITES. |
| Finding | <p>The <i>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</i> sets controls on movement of animal and plant species that are, or may be, threatened due to excessive commercial exploitation. Environment Canada (EC) is the lead agency responsible for implementing CITES on behalf of the federal government. <i>Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRITA)</i> is the legislation through which Canada enforces and administers its responsibilities under CITES. <i>WAPPRITA</i> is used to enforce CITES in Canada as well as to control imports of non-CITES-listed species that have been obtained illegally. Within EC, the Canadian Wildlife Service (CWS) administers CITES and interacts with provincial, territorial and other federal agencies.</p> <p>Canada is the second largest exporter of primary forest products in the world, but it also imports wood and wood products. Most of these imports and exports are associated with cross-border trade with the United States, which is a low-risk jurisdiction for illegal harvesting and border/customs governance.</p> <p>The <i>Wild Animal and Plant Trade Regulation – Schedule 1</i> provides a listing of CITES Flora and Fauna.</p> <p>Review of the CITES Schedule 1 confirms that there are no Canadian tree species on the CITES list of species, therefore this indicator is designated as low risk for the province of BC.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Legislation • CITES species listing (current) • Tree Species of British Columbia • Feedstock Input records • Interviews with staff demonstrate that the CITES requirements are understood |
| Evidence Reviewed | <ul style="list-style-type: none"> • CITES Website – www.cites.org • Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act – http://laws-lois.justice.gc.ca/eng/acts/W-8.5/ • Environment Canada – Wild Animal and Plant Trade Regulations – Schedule 1 – http://laws-lois.justice.gc.ca/eng/regulations/SOR-96-263/page-4.html#h-17 • FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf |

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| | <ul style="list-style-type: none"> • Global Forest Registry: http://www.globalforestregistry.org/ • Documentation of Annual check of CITES listing • Species listing in contracts |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 1.6.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures to ensure that feedstock is not sourced from areas where there are violations of traditional or civil rights.</p> |
| Finding | <p>Traditional and civil rights are addressed separately.</p> <p>Civil rights are well addressed through the Canadian and provincial legal systems with regards to forestry operations. The low level of civil and criminal cases involving forest operations demonstrates this.</p> <p>In BC, traditional rights – also known as Aboriginal or Indigenous Rights – are complex, in particular on crown land. To summarize this complexity:</p> <ol style="list-style-type: none"> 1. Very few treaties have been signed between First Nations, BC and Canada, with provincial, federal and First Nations governments all asserting ownership; 2. The Constitution Act affirmed aboriginal rights in 1982 and the courts have further affirmed rights for some First Nations including Title to the Tsilhqot'in in BC; and 3. Existing legal and policy frameworks are in place that are intended to protect Aboriginal Rights. <p>Respecting Aboriginal Title and Rights is a shared responsibility of both the provincial, federal, territorial and Aboriginal governments and institutions. In Canada, civil rights are defined through federal legislation. Section 35 of the Federal Constitution Act, 1982 recognized existing Aboriginal rights and provided significant legal protection to rights defined after 1982.</p> <p>Arnot (2010) states that as part of the historical relationship between the federal government and Aboriginal communities, any time the government is interacting with Aboriginal people the honour of the Crown needs to be upheld. This principle of the "honour of the Crown" imposes a number of duties upon the government and has been defined and elaborated through court cases such as Marshall 1, 1999.</p> <p>In the past 30 years there have been dozens of federal and provincial court cases affirming Aboriginal Rights and Title across Canada, including many high-profile cases in British Columbia including:</p> <ul style="list-style-type: none"> • Tsilhqot'in Nation v. British Columbia, [2014] • Lax Kw'alaams Indian Band v. Canada (Attorney General), [2011] • Haida Nation v. British Columbia (Minister of Forests), [2004] • Delgamuukw v. British Columbia, [1997] • R. v. Gladstone, [1996] • R. v. N.T.C. Smokehouse Ltd., [1996] • R. v. Van der Peet, [1996] |

- R. v. Lewis, [1996]
- R. v. Sparrow, [1990]

These court cases continue to define Aboriginal Rights and Title and influence how governments adapt their policies and laws concerning Aboriginal Rights and Title. According to the Association of BC Forest Professionals, the provincial government has responded to the principles established by the courts and have released a series of policies and guidelines to ensure the Crown meets its legal obligation to consult with First Nations. These policies and guidelines are amended from time to time to be consistent with new court decision to ensure they reflect the current state of the law. While First Nations are not successful in all cases, the trend is the strengthening and expansion of Aboriginal Rights and Title.

Treaty rights set out in modern day Final Agreements are given constitutional recognition and affirmation to section 35(1) of the Constitution Act. At the provincial level, the British Columbia Treaty Process (BCTP) was established in 1993 to resolve outstanding claims to lands and resources in the province. The six-stage treaty negotiation process is coordinated by the BC Treaty Commission and includes the following stages:

1. Statement of intent;
2. Readiness to negotiate;
3. Negotiation of a framework agreement;
4. Negotiation to Finalize a Treaty;
5. Negotiation to finalize treaty; and
6. Implementation of the treaty.

65 First Nations, representing 105 current and former Indian Act Bands out of all 198 Indian Act Bands in BC (53%), are participating in, or have completed treaties through the treaty negotiations process. Many of these treaty First Nations are represented by the First Nations Summit (Summit). The Union of BC Indian Chiefs (UBCIC) represents many of the other 'non-treaty' First Nation communities.

All First Nations may initiate the treaty negotiation process by filing a statement of intent to negotiate a treaty. The first four stages of the process define how and what will form the basis of the treaty. Stages five and six are the last steps to formalize the new relationship in a treaty and to ensure its implementation.

According to the BCTP 2017 Annual Report, 27 First Nations are not currently negotiating a treaty, 14 are in active negotiations, nine are in advanced agreement in principle negotiations, eight are in final agreement negotiations and seven are implementing treaties. The BC Treaty Commission lists the details of the Treaty Process.

Three final agreements have come into effect:

- Tla'amin;
- Maa-nulth, and
- Tsawwassen.

Treaties within the Supply Base are:

- Nisga'a Final Agreement Act
- Yale Final Agreement Act (effective date postponed)
- Treaty 8 (federal) and Treaty 8 First Nations

Both the UBCIC and the Summit support the UN Declaration of the Rights of Indigenous Peoples (UNDRIP). Canada fully endorsed the declaration in 2010 and removed its objector status in 2016. The Indian Residential Schools Truth and Reconciliation Commission (TRC) in 2015 marked a significant change in the Federal Government's

commitment to harmonize Canadian law with the standards set in the UNDRIP.

With regards to resource extraction and First Nations in Canada, a pillar of UNDRIP is Free, Prior and Informed Consent (FPIC). The United Nations FAO defines FPIC as a right of indigenous peoples and obligatory methodology for governments and project developers for resource extraction in indigenous peoples' traditional territories. Although not legally binding, the recent federal and provincial commitments to implement the 94 recommendations of the Truth and Reconciliation Commission are hoped to accelerate the adoption of relevant legislation in conformance with UNDRIP as the courts continue to define Aboriginal rights and title in Canada. On June 1st 2018, the House of Commons passed into law Bill C-262 to ensure Canadian laws are in harmony with UNDRIP.

Both the UBCIC and the Summit also support ILO Convention 169. ILO 169 is the most important international agreement obligating signatory states to consult Indigenous Peoples on matters affecting them “with the objective of achieving agreement or consent to the proposed measures” (ILO 169, art. 6). Although ILO 169 does not require consent, it requires strong implementation and monitoring of the implementation of the treaty. Canada is one of the 143 out of 165 countries that has not ratified ILO 169.

Provincial Forest Management

The agency with authority for forest management on Crown land is the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD).

In discharging the authority for forest management, the Province has a legal duty to consult with First Nations. Implementation of this duty, including the accommodation of Aboriginal Rights that may be affected, are described in the *Updated Procedures for Meeting Legal Obligations When Consulting First Nations (2010)*. The Province often involves forestry companies, as the proponent, in the procedural aspects of consultation. There are several documents provided by the Province to assist proponents with consultation:

- Building Relationships with First Nations: Respecting Rights and Doing Good Business
- Guide to Involving Proponents When Consulting with First Nations
- Proponents: First Nations Engagement Communication Log.

In addition to the overarching provincial policies, there is also key forestry legislation for consultation. These include the *Forest and Range Practices Act (FRPA)* and the *Forest Planning and Practices Regulation FPPR*.

Provincially, with respect to forest management, Aboriginal Rights are addressed through the broad topic of Cultural Heritage according to the following statutory provisions:

- Definition of Cultural Heritage Resources (section 1 of the *Forest Act*);
- Cultural Heritage Resources Objective (section 10 of the *Forest Planning and Practices Regulation*);
- Review and Comment Provisions (sections 21 and 22 of the *Forest Planning and Practices Regulation*);
- Cultural Heritage Resources may be identified as a resource feature in relation to a specified area (section 5 (1) (e) of the *Government Actions Regulation*); and
- Conflicting with other objectives (section 5 (1) of the *Land Use Objectives Regulation*) requires that before establishing or amending a land use objective the minister must determine if the proposed land use objective or land use would conflict with other objectives under *FRPA*.

Under the provincial *Forest Act* a cultural heritage resource is an object or location of a traditional societal practice that is of historical, cultural or archaeological significance to BC, a community or an aboriginal people.

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| | <p>The FRPA objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are the focus of a traditional use by an Aboriginal people that are of continuing importance to the people. This objective does not include archaeological sites that are managed separately under the <i>Heritage Conservation Act</i> (section 10 FPPR). Cultural Heritage resources are specific to each First Nation and may vary considerably among First Nations across the province.</p> <p>There are several planning tools used in forest management to engage with Aboriginal people and communities regarding forest-based issues of interest. These planning tools are developed and implemented by both government and licensees, depending on specific conditions.</p> <ul style="list-style-type: none"> • Forest Stewardship Plans. Licensees and BC Timber Sales need an approved FSP to obtain a cutting permit, road permit or Timber Sale License. Licensees have an obligation to participate in the FRPA information sharing with process with First Nations during the development of the FSP. FSPs must identify results or strategies that address protecting cultural heritage resources) Chapter 8.13 Cultural Heritage Resources); • Interim Measures Agreements. Interim measures agreements are used to consider Aboriginal rights and title issues prior to treaty finalization; • Archaeological Overview Assessments. AOA's determine the archaeological resource potential of an area. They result in predications regarding archaeological site variability, density and distribution; • Archaeological Impact Assessment. Managed by the Archaeology Branch at the FLNRORD, AIAs are designed to gain the fullest possible understanding of archaeological resources, which would be affected the forest management activity; • Traditional Use Studies. TUS are a tool to identify sites and areas holding significance to a First Nation cultural group. • Land Use Planning and Consultation. The land use planning framework in the province can assist in addressing this strategic level of consultation with First Nations. • Tenure. Tenure opportunities are available to Aboriginal people under the Forest Act, through direct award or the competitive bid process. <p>There are recognized laws, regulations and processes in place to resolve conflicts of substantial magnitude pertaining to Aboriginal rights and / or non-Aboriginal communities with traditional rights. However, First Nations may not legitimize these conflict resolution processes. The BC Treaty Process is one available means to address outstanding claims.</p> <p>The extensive regulatory framework and the identified efforts put forth by Provincial, Federal and First Nations governments conclude that, although First Nations rights and title are complex issues, governments have a process of collectively addressing issues. The process that is established, although may not be satisfactory for all involved parties, indicates that there is a functioning system where identifying rights and title is the main objective. The work that is done to define what rights and title mean on a case-by-case basis ensure that all voices are heard in the process. Therefore, it is justifiable to conclude that a low risk designation is appropriate for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Traditional and civil rights are identified and documented • Disputes concerning traditional and civil rights are identified and documented • First Nations participated in FM consultation before issuance of License to cut • First Nations actively involved in BC Treaty process |

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| | <ul style="list-style-type: none"> • Consultation with First Nations confirms that traditional rights are not violated • Provincial laws and regulations are upheld, and compliance and enforcement records indicate no / limited violations. |
| <p>Evidence Reviewed</p> | <p>Heritage Conservation Act: http://www.bclaws.ca/civix/document/id/complete/statreg/96187_01</p> <p>Forest and Range Evaluation Program (Cultural Heritage Resources): https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring/forest-range-evaluation-program</p> <p>Forest and Range Practices Act (FRPA): http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01</p> <p>Forest Planning and Practices Regulation (Section 10): http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004#section10</p> <p>Updated Procedures for Meeting Legal Obligations When Consulting First Nations (2010): http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_2004</p> <p>First Nations Agreements: https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations</p> <p>United Nations Special Rapporteur on the rights of indigenous peoples: http://www.ohchr.org/en/issues/ipeoples/srindigenouspeoples/pages/sripeoplesindex.aspx</p> <p>Indigenous Foundations for definition of Aboriginal Rights: http://indigenousfoundations.web.arts.ubc.ca/aboriginal_rights/</p> <p>Indigenous and Northern Affairs Canada for summary of First Nations in Canada: https://www.aadnc-aandc.gc.ca/eng/1100100013791/1100100013795</p> <p>Map of First Nations Communities and Reserves in BC: https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-BC/STAGING/texte-text/inacmp_1100100021016_eng.pdf</p> <p>BC Treaty Commission: http://www.bctreaty.ca/aboriginal-rights</p> <p>Amnesty International: http://www.amnesty.ca/our-work/issues/indigenous-peoples/indigenous-peoples-in-canada</p> <p>Constitution Act, 1982, section 35: http://laws-lois.justice.gc.ca/eng/Const/page-16.html</p> <p>The Honour of First Nations – the Honour of the Crown. David Arnot. 2010. http://www.queensu.ca/iigr/sites/webpublish.queensu.ca/iigrwww/files/files/conf/Arch/2010/ConferenceOnTheCrown/CrownConferencePapers/The_Crown_and_the_First_Nations.pdf</p> <p>Forest Act – Section 1 – Definitions and interpretations. http://www.bclaws.ca/civix/document/id/complete/statreg/96157_01#section1</p> <p>International Labour Organization and ILO Convention 169: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11210:0::NO::P11210_COUNTRY_ID:102582</p> |

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| | <p>First Nations Summit: http://fns.bc.ca</p> <p>United Nations FAO: http://www.fao.org/indigenous-peoples/our-pillars/fpic/en/</p> <p>Union of BC Indian Chiefs: https://www.ubcic.bc.ca</p> <p>BC Treaty Commission: http://www.bctreaty.ca</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 2.1.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation values are identified and mapped.</p> |
| Finding | <p>The geographic scale of risk assessment for this indicator is provincial. The High Conservation Values (HCV) Network (hcvnetwork.org) define six categories of HCVs as follows:</p> <p>HCV1: Biodiversity values. Concentrations of biological diversity including endemic species, and rare, threatened or endangered species and critical or potential habitat for species that are significant at global, regional or national levels.</p> <p>HCV 2: Large landscape-level forests. Intact Forest Landscapes (IFL), large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.</p> <p>HCV 3: RTE Ecosystems. Forests that are in or contain Rare, threatened, or endangered (RTE) ecosystems, habitats or refugia.</p> <p>HCV 4: Critical ecosystem services. Forest areas that provide basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.</p> <p>HCV 5: Community basic needs. Forest areas fundamental to meeting basic needs of local communities identified through engagement with these communities or Indigenous Peoples.</p> <p>HCV 6: Cultural identity. Forest areas critical to local communities traditional cultural identity. 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.</p> <p>The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) and Ministry of Environment and Climate Change Strategy (MOE) administer Acts and Regulations governing Crown forest land management of the resource values described above for the 6 HCV categories.</p> <p>Through the Strategic Land and Resource Plans (SLRPs) planning process, as discussed under Indicator 2.2.1, the interests and needs of First Nations, stakeholders and the public were identified and mapped. These interests include many, if not all, of the listed resource values described above for the 6 HCV categories.</p> <p>For HCV 1, biological diversity including endemic species, and rare, threatened or endangered species and critical or potential habitat for species that are significant at global, regional or national levels are identified and mapped and under provincial</p> |

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| | <p>legislation through MoE and FLNRORD. These are also identified and mapped under federal legislation by the Ministry of Environment and Climate Change.</p> <p>The BC Conservation Data Centre (CDC) identifies and maps biodiversity by collecting and sharing scientific data and information about wildlife and ecosystems in B.C. This includes maintaining data of species and ecosystems that occur in BC, assessing the conservation status ranks of species and ecosystems, mapping known locations and element occurrences and making data available on line (CDC). Various on-line tools exist to access data about species at risk including the BC Species and Ecosystems Explorer and CDC iMap portal (i.e. species at risk of being lost (red) and species of concern (blue). Note that maps of some species at risk are not publicly available in order to protect the locations.</p> <p>The federal government maintains the Species at Risk Public Registry for species that fall under the federal Species at Risk Act (SARA). SARA provides federal legislation to prevent wildlife species from becoming extinct and to provide for their recovery (Species at Risk Public Registry). There is generally a high degree of overlap between the federally listed SAR and provincially listed SAR.</p> <p>For HCV 2, Landscape-level ecosystems and mosaics are identified and mapped at various scales: Provincial Parks, Protected Areas, Ecological Reserves, Conservancies, and Wildlife Management Areas. The BC Parks Branch of the MOE manages provincial parks. National parks are managed by Parks Canada. Forest Management is guided by provincial legislation and land use decisions through FLNRORD. The assessment of IFL is of global interest, and Global Forest Watch Canada provides on-line maps and tools that identify and display IFLs.</p> <p>For HCV 3, rare, threatened, or endangered ecosystems, habitats or refugia are jointly identified and mapped by the provincial MOE and the federal Ministry of Environment and Climate Change. Ecosystems are identified as red-listed, blue-listed or yellow-listed depending on their conservation status. The CDC manages the conservation of biodiversity by collecting and sharing scientific data and information about BC ecosystems and provides online maps and analysis tools.</p> <p>For HCV 4, basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes are identified and mapped by FLNRORD.</p> <p>For HCV 5, sites and resources fundamental for satisfying the basic necessities of local communities or Indigenous Peoples relevant to forest management are identified and mapped by FLNRORD. This also includes Community Watersheds.</p> <p>For HCV 6, sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance are well-known and protected under federal and provincial legislation. Critical cultural, ecological, economic or religious/sacred importance for the traditional cultures are identified and mapped by the Archaeology Branch of FLNRORD, as well as in land use plans. Note that maps of some sites of cultural value are not publicly available in order to protect the locations.</p> <p>All of the above information is specific to Crown land.</p> <p>For Private Managed Forest, mapping and identification of some of these resource values is not publicly available. Resource values federally legislated are publicly available (i.e. SARA & fisheries).</p> <p>Private land is outside of the timber harvesting land base and is not subject to the landscape level planning in the Province of BC. However, private land only accounts for a small portion of forested land in BC (see indicator 1.1.1) and would not have a material effect on HCV management at the landscape level.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the ability for BC to manage HCV's at a landscape level covering 96% of the provinces land base is an exceptional result for HCV management, therefore this indicator is deemed a low risk in BC.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • BC Conservation Data Centre database for wildlife and ecosystems • GIS / Aerial maps of HCV areas • Regional, publicly available data from a credible third party(s) including provincial and federal agencies |

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| | <ul style="list-style-type: none"> • Existence of a strong legal framework and policy framework for provincial and federal agencies • Compliance and Enforcement records for infractions of relevant regulations |
| Evidence Reviewed | <ul style="list-style-type: none"> • HCV Resource Network – https://www.hcvnetwork.org • Global Forest Watch – https://www.globalforestwatch.org/country/CAN • Federal – Environment and Climate Change Canada – https://www.ec.gc.ca/?lang=En • Federal Species at Risk Act – https://www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-species-at-risk-act.html • Federal Species at Risk Public Registry – https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=7606C7A6-1 • BC Conservation Data Centre – https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre • Red, Blue & Yellow Lists – https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists • BC Ministry of Environment and Climate Change Strategy – Mandate – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change • BC Ministry of Forests, Lands, Natural Resources Operations and Rural Development – Mandate – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development • GeoBC Geographic Warehouse – Data Catalogue – https://catalogue.data.gov.bc.ca/dataset?sector=Natural+Resources&type=Application |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 2.1.2 | <p>The Biomass Producer has implemented appropriate control systems and procedures to identify and address potential threats to forests and other areas with high conservation values from forest management.</p> |
| Finding | <p>The geographic scale of risk assessment for this indicator is provincial.</p> <p>The Strategic Land and Resource Plans (SLRPs) planning process, as discussed under Indicator 2.2.1, sought the input from First Nations, stakeholders and the public on their interests, needs and concerns on resource values, including many, if not all, of the listed resource values for the 6 HCV categories defined in Indicator 2.1.1. Government’s legal and policy framework requires licensees to develop strategies and deliver results that are consistent with this legal direction (see Indicator 2.2.1). The focus of SLRPs often is on areas of high ecological value or on areas with potential for conflict between users of the land and resources.</p> <p>‘Threat’, for the purpose of this indicator, means ‘<i>having an uncertain chance of continued survival or presence at the ecoregion level</i>’. This indicator has two parts: identification of potential threats and addressing potential threats to HCVs.</p> |

Identification of potential threats to HCVs

Potential threats to HCVs from forest management activities include, but are not limited to, such activities as habitat and forest modification and fragmentation from road building and timber harvesting, increase in predation from increased access, changes to forest composition, introduction of invasive species, increased risk of wildfire and other human activities.

Potential threats from forest management for each of the six categories of HCV are identified through the following sources:

- Strategic Land and Resource Plans (SLRPs)
- provincial and regional environmental organizations,
- provincial compliance and enforcement assessments, and
- through engagement with local communities and Indigenous Peoples

Address potential threats to HCVs

Legal Framework – Forest Licensees are required to adhere to under FRPA

- Legally binding Designations, including Protected Areas Designations:
 - o Ecological Reserves, Provincial Parks, Protected Areas, Conservancies, Recreation Areas, Wildlife Management Areas
- Legal Land Use Objectives established under S.93.4 *Land Act*:
 - o Ecosystem Based Management (EBM); Multiple Value; OGMA; Provincial Non-Spatial Old Growth Order; Regional Non-spatial Landscape Biodiversity.
- Legal Spatial Areas – with associated objectives and measure that provide direction for forestry activities under *FRPA* using the Government Action Regulations (GAR):
 - o Decisions about categories of species, including
 - Species at risk
 - Regionally important wildlife
 - Ungulates
 - o Decisions that trigger practice requirements for protection of
 - Wildlife
 - Natural resource features
 - Wildlife habitat features
 - Temperature sensitive streams
 - o Land use decisions for managing, protecting or designating
 - Wildlife habitat areas (WHA)
 - Ungulate winter ranges (UWR)
 - Community watersheds
 - Fisheries sensitive watersheds (FSW)
 - Lakeshore management zones
 - Scenic areas
- FPPR, S.9 – Forest Stewardship Plans (FSP)
 - o objectives set by government for wildlife and biodiversity at the landscape level

Non-Legal Framework

- Strategic Land and Resource Plans (SLRPs)
- Timber Supply Review – Allowable Annual Cut – ‘netdown’

Detailed analysis of IFLs (HCV2) does not exist for BC. The provincial government manages landscape-level ecosystems and mosaics through the legal and non-legal framework described above.

All of the above information is specific to Crown land.

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| | <p>On private managed forest land, managers are required to prepare management commitments and objectives, as well as provide strategies to meet the objectives in accordance with the <i>Private Managed Forest Land Act (PFMLA)</i> and associated Regulations. The Managed Forest Council has prepared a field practices guide which provides best management practices for soil conservation, protection of water quality, protection of fish habitat, and reforestation.</p> <p>In addition, forest management activities on private managed forest land must be compliant with the provincial <i>Heritage Conservation Act, Integrated Pest Management Act, Water Act</i> and <i>Wildfire Act</i>, as well as federal <i>Species at Risk Act</i> and <i>Fisheries Act</i>.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the extensive legislative and non-legislative framework in BC directed at identifying and addressing threats to HCV's ensures there is active management strategies in place. The result is a provincial forest industry that is sensitive to the importance of HCV's and is equipped to effectively manage for these values on the land base. The risk rating is therefore deemed a low risk for BC due to the management framework addressing the requirements of this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • BC Conservation Data Centre database for wildlife and ecosystems • GIS / Aerial maps of HCV areas • Regional, publicly available data from a credible third party(s) including provincial and federal agencies • Existence of a strong legal framework and policy framework for provincial and federal agencies • Compliance and Enforcement records for infractions of relevant regulations |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • HCV Resource Network – https://www.hcvnetwork.org • Global Forest Watch – https://www.globalforestwatch.org/country/CAN • Federal – Environment and Climate Change Canada – https://www.ec.gc.ca/?lang=En • Federal Species at Risk Act – https://www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-species-at-risk-act.html • Federal Species at Risk Public Registry – https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=7606C7A6-1 • BC Conservation Data Centre – https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre • Red, Blue & Yellow Lists – https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists • Species & Ecosystems at Risk – https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk • BC Ministry of Environment and Climate Change Strategy – Mandate – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/environment-climate-change • BC Ministry of Forests, Lands, Natural Resources Operations and Rural Development – Mandate – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/forests-lands-natural-resource-operations-and-rural-development • Crown Land Indicators & Statistic Report, 2010 – https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-indicators-statistics-report |

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| | <ul style="list-style-type: none"> • FRPA – Government Actions Regulation (GAR) – http://www.bclaws.ca/civix/document/id/complete/statreg/582_2004 • GAR Ministerial Orders – https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/policy-legislation/legislation-regulation/forest-range-practices-act/government-actions-regulation • Private Managed Forest Land Act – http://www.bclaws.ca/civix/document/id/complete/statreg/03080_01 • Managed Forest Council – http://mfcouncil.ca |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 2.1.3 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008. |
| Finding | <p>Canada is among the world’s lowest deforested nations as shown by the following figures for Canada:</p> <ul style="list-style-type: none"> - FAO’s Global Forest Resources Assessment (2015) –0% annual rate of change to forest cover (2010 – 2015) - Global Forest Registry (2007) – 0.019% annual deforestation - NRCan (2017) – 0.02% rate of deforestation - NRCan State of Canada’s Forests Report (2017)– less than 0.05% of forests was lost between 1990 and 2015 <p>2010 National data (NRCan) shows that conversions to other land uses each year include but are not limited to agriculture (41%), industry and resource extraction (32%), urban development (17%), transportation and recreation (17%), forestry roads (8%), and hydroelectric developments (1%). While resource development and industrial activity have increased deforestation in localized regions, nationwide Canada has been able to consistently reduce deforestation over the past 20 years – a trend that is expected to continue.</p> <p>At the Provincial level, the most current report (SoF, 2010) for deforestation (converted to human (non-forest) use) in BC’s forest is less than 3% (since 2000, at an annual rate of 6,200 ha/yr).</p> <p>With 94% of forested land publicly owned in BC and strongly regulated with regards to harvest rates and reforestation requirements, conversion of forests to plantations and other non-forest uses by the forest industry does not occur at a significant rate. According to laws, regulations and policies in place, all areas harvested on public land must be reforested, either by replanting or through natural regeneration.</p> <p>Similar to national level, conversion to non-forest uses also and more significantly occurs due to other sectors and infrastructure requirements, i.e. agriculture, energy, hydroelectric, transport, urban expansion, etc. These are generally a result of provincial government land use policies for other industries such as mining or power transmission.</p> <p>Forest companies operating on Crown land have limited influence on most permanent additions or deletions to the operable forest area. Permanent access structures (PAS) such as roads, landings and borrow pits essential to the process of accessing timber</p> |

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| | <p>result in the conversion of operable land base to non-forest uses. PAS is accounted for within the Timber Supply Analysis (see Indicator 2.3.1 for more details) and is controlled/minimized via legislative requirements (FPPR S.36 – maximum 7% gross cutblock area).</p> <p>The Reporting Silviculture Updates and Land Status Tracking System (RESULTS) application tracks silviculture information by managing the submission of openings, disturbances, silviculture activities and obligation declarations as required by the <i>Forest and Range Practices Act</i>.</p> <p>BC Private Managed Forest land has legislation to ensure areas are not deforested. While there is some private forest land being converted to real estate development, it is primarily interface areas and within city/township limits or within agriculture belts. This is not classified as Crown provincial forest land and does not contribute to the timber harvesting land base. Within BC, local government interests related to natural resource management include, but not limited to, development of incentives to reduce deforestation while encouraging rural development.</p> <p>The low incidence of deforestation and the continued use of forested land for forest management purposes indicates a high level of governance for land use decisions in BC. Therefore, it is justifiable to conclude that a low risk designation is appropriate for this indicator.</p> |
| <p>Means of Verification</p> | <p><u>Publicly Available MOV</u></p> <ul style="list-style-type: none"> • Existing legislation • Level of enforcement • Verify establishment of plantations • Verify amount of deforestation <p><u>Biomass Producers' MOV</u></p> <ul style="list-style-type: none"> • Interviews with staff and stakeholders • Procedures • Fibre contracts & Annual Supplier correspondence • Records of BP's field inspections |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • Global Forest Registry – http://www.globalforestregistry.org/map • FAO Global Forest Resources Assessment – 2015 – http://www.fao.org/3/a-i4808e.pdf • Natural Resources Canada (NRCan) – State for Canada's Forest (2017) – http://www.nrcan.gc.ca/forests/report/18934 • Natural Resources Canada (NRCan) – Deforestation in Canada Website– http://www.nrcan.gc.ca/forests/fire-insects-disturbances/deforestation/13419 • Deforestation in Canada—What are the facts? 2016. Natural Resources Canada, Canadian Forest Service, Ottawa. 2 pg. – http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/36710.pdf • State of British Columbia's Forests (2010) – https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/reporting/environmental-reporting-bc/previous-reports-indicators • Forest Planning and Practices Regulation (FPPR), S.36 – Permanent Access Structure Limits – http://www.bclaws.ca/Recon/document/ID/freeside/14_2004#section36 • RESULTS Application (FLNRORD) – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/silviculture/silviculture-reporting-results |

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| Risk Rating | <input checked="" type="checkbox"/> Low Risk | <input type="checkbox"/> Specified Risk | <input type="checkbox"/> Unspecified Risk at RA |
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| 2.2.1 | The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them. |
| Finding | <p>The process for completing assessment of impacts of forest management, as well as the planning, implementation and monitoring to minimize those impacts will be described. This process is applicable for all the indicators within Criterion 2.2 – Ecosystem Function (see individual indicators for more details).</p> <p>Strategic Land and Resource Plans (SLRPs), land use designations (e.g. protected areas), explicitly stated objectives of government (e.g. Land use objective orders), legislation (e.g. FRPA) and Forest Stewardship Plans (FSP) provide a legal and policy framework for land use and forest management, as well as determining areas for managing non-timber values. Prescribing foresters are guided by this framework. Assessment of impacts may be required in order to meet specific land use directions or management regimes contained in this framework.</p> <p>There are 138 approved Strategic Land and Resource Plans (SLRPs), 24 regional scale (85% of BC land base), 44-sub-regional scale, and 70 landscape scale. Through the planning process, the interests and needs of stakeholders are identified, land use policy direction is defined, resource management strategies and zones are developed, and legal land use objectives are established under the authority of the <i>Land Act</i>, as required. A primary outcome of the land use planning processes is land and resource-management direction that is approved as government policy but is not legally established. To ensure the direction remains current, in many cases policy-based planning direction related to forestry activities is legalized as land use objectives under Section 93.4 of the <i>Land Act</i>. However, some land use planning has resulted in land use designations (e.g. Protected Areas, Ecological Reserves, etc).</p> <p>The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) administers the following BC Acts and Regulations governing Crown forest land: <i>Forest Act & Regulations</i>, <i>Forest and Range Practices Act (FRPA) & Regulations</i>, <i>Protected Areas of BC Act</i>, <i>Parks Act & Regulation</i>, <i>Ecological Reserve Act</i>.</p> <p>Sections 5-10 of the Forest Planning and Practices Regulation (FPPA) of <i>FRPA</i> outlines ‘objectives set by government’ for timber and a variety of non-timber values. These “objectives” are legally applicable to forest stewardship plans (FSP) developed by forest licensees and B.C. Timber Sales. In addition, “Objectives enabled in regulation” via Government Action Regulations (GAR), under <i>FRPA</i>, directs how government establishes land designations or stewardship measures for forest and range values (e.g. Caribou, Grizzly Bear, WHA, UWR, etc.)</p> <p><i>FRPA</i> and <i>FPPR</i> sets the requirements for planning, road building, logging, and reforestation. Before conducting any activities, a licensee must prepare a Forest Stewardship Plan (FSP). The FSP sets out how the licensee will address government objectives for the protection of wildlife, fish, biodiversity, soils, water, forage, recreation, resource features, visual quality, and cultural heritage resources. <i>FRPA</i> is ‘results-based’, not prescriptive, and there is no ‘legal’ requirement for impact assessments. However, the licensee is obligated ensure that the 11 resource values identified in <i>FRPA</i> and <i>FPPR</i> are maintained via results and strategies (or adopted defaults), which</p> |

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| | <p>may include an assessment (i.e. terrain stability, visual quality, archaeological, etc.). In addition, targets are provided for some of the resource values (i.e. wildlife tree retention, OGMA-mature) and these would require assessments.</p> <p>FSPs are legally required to be made available for public review and comment. This process allows First Nations, the public and stakeholders whose activities might be affected by forest management activities to provide input. Government cannot approve an FSP unless the licensee has completed this public review, as required. The forest stewardship plan tracking system (FSPTS) is a central electronic repository of spatially enabled forest stewardship plan (FSP) documents.</p> <p>Government officials also play an important oversight role under the FRPA through the approval of key plans, the enforcement of FRPA obligations, independent audits via the Forest Practices Board and effectiveness evaluations/monitoring via Forest & Range Evaluation Program (FREP).</p> <p>All private Managed Forests must be managed in accordance with the <i>Private Managed Forest Land Act (PFMLA)</i> and associated Regulations. The regulations specify the required forest practices related to soil conservation, protection of water quality, protection of fish habitat, and reforestation.</p> <p>The Private Managed Forest Land Council (MFC) is an independent provincial agency established under the <i>PFMLA</i> to administer the Managed Forest Program and protect key public environmental values on private Managed Forest land in BC. This includes the setting and monitoring of forest practices standards, monitor effectiveness of forest practice standards, and performing audits and enforcing standards. The Annual Report provides a summary of statutory requirements and a summary of the various activities throughout the year.</p> <p>Forest managers are required to prepare management commitments and objectives, as well as provide strategies to meet the objectives. MFC has prepared a field practices guide which provides best management practices for soil conservation, protection of water quality, protection of fish habitat, and reforestation.</p> <p>All timber harvested from private lands in BC must comply with the <i>Forest Act</i> provisions dealing with timber scaling, marking and transportation. FLNRORD staff are responsible for assessing and ensuring compliance with the <i>Forest Act</i> requirements.</p> <p>In addition to the public and private forest land legislation in BC, numerous other pieces of provincial legislation apply to forest management activities including the provincial <i>Heritage Conservation Act</i>, <i>Integrated Pest Management Act</i>, <i>Water Act</i> and <i>Wildfire Act</i>, as well as federal <i>Species at Risk Act</i> and <i>Fisheries Act</i>.</p> <p>Enforcement of federal government regulations on public and private forest land is conducted by other regulatory agencies, including Environment Canada and Fisheries & Oceans Canada.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the extensive regulatory framework described in the indicator findings support a low risk designation for the province in regards to appropriate assessment of impacts, planning, implementation and monitoring.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existing legislation • Level of Compliance and enforcement • Licensees Forest Stewardship Plans • Assessment of potential impacts at operational level • Internal policies and procedures |

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| Evidence Reviewed | <ul style="list-style-type: none"> • Crown Land Indicators & Statistic Report, 2010 – https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/crown-land/crown-land-indicators-statistics-report • Land Use Planning Polices & Guides – https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/policies-guides • GeoBC Geographic Warehouse publishes SLRP spatial data – https://catalogue.data.gov.bc.ca/dataset?sector=Natural+Resources&type=Application • Land Use Planning Data – https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/spatial-data • FLNRORD – Provincial Timber Management Goals, Objectives & Targets – 7/10/2017 – https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/silviculture/timbergoalsobjectives2017apr05_revised.pdf • Forest Stewardship Plan Tracking System (FSPTS) – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-stewardship-plans/forest-stewardship-plan-tracking-system • Private Managed Forest Land Act – http://www.bclaws.ca/civix/document/id/complete/statreg/03080_01 • Managed Forest Council – http://mfcouncil.ca • Managed Forest Council Annual Report 2016/2017 – http://mfcouncil.ca/2016-17-annual-report/ |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk at RA <input type="checkbox"/> Unspecified Risk |

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| 2.2.2 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b). |
| Finding | <p>The Ministry of Forest, Lands, Natural Resources Operations and Rural Development (FLNRORD) is the provincial agency responsible for ensuring the management and protection of soils during forest management. Soils are one of 11 resource values managed and protected under the <i>Forest and Range Practices Act</i> (FRPA) and Forest Planning and Practices Regulation (FPPR). The provincial government soil objective under <i>FRPA</i> as defined in the Regulation (FPPR, S.5) is to ‘... <i>conserve the productivity and the hydrologic function of soils.</i>’ In addition, FPPR, S.3(1) specifically includes soil disturbance in the definition of ‘damage to the environment’.</p> <p>Under <i>FRPA</i> (S.3 – 9), all forest agreement holders must prepare a forest stewardship plan (FSP) and receive provincial government approval prior to associated permits being issued to the agreement holder. The FSP must specify the agreement holder’s results or strategies that will meet the ‘soils objectives’ set by government including the amount of productive forest land base occupied by permanent access structures (see Indicator 2.1.3 for more information) and amount of soil disturbance. Soil disturbance (within the net area to be reforested) is categorized as the area occupied by corduroyed trails, compacted areas, areas of dispersed disturbance, and un-rehabilitated temporary access structures. Factors to be considered in the result or strategy to address soil disturbance includes classification of soils including sensitivity to displacement, surface</p> |

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| | <p>erosion and compaction, the kinds of disturbance that are detrimental to productivity and hydrological function, the amount of detrimental disturbance that can occur without unduly compromising productivity or hydrological function, and the extent to which rehabilitation efforts can mitigate the effects of detrimental disturbance.</p> <p>During, or prior to, site level planning, assessments, including slope stability, erodibility, sediment delivery mapping and terrain stability must be completed, where appropriate (See Indicator 2.2.1 for more details on assessment of impacts). FPPR, S.34 requires that site plans be prepared to identify soil disturbance limits. FPPR, S.35(3) provides the default soil disturbance limits FPPR S.35(3) not to be exceeded; FPPR S.35(4) when they may exceed limits; and rehabilitation requirements (FPPR S.35(5) – (7)). The regulation (FPPR, S.36 – S. 40) contains practice requirements specific to soils that include permanent access structure limits, not causing landslides or gully processes, maintaining natural surface drainage patterns, and adequate revegetation.</p> <p>Practices are monitored against the appropriate operational plan (FSP or site plan) to ensure conformance with requirements. Appropriate enforcement actions and/or penalties are applied by FLNRORD Natural Resource Officers. The Forest Practices Board, also completes investigations and audits with regards to soil conservation on Crown land.</p> <p>Soil productivity and hydrologic function are being protected on most cutblocks observed from throughout British Columbia, but opportunities exist for improving the current record.</p> <p>The Forest & Range Evaluation Program (FREP) measures the effectiveness of forest practices on sustaining soils, as required by FRPA. Monitoring data is captured at the appropriate scope (site to landscape and watershed level), using checklists and protocols; and subsequently analysed by subject-area specialists who report results.</p> <p>The <i>Private Managed Forest Land Act</i>, S.12 forest management objective with respect to soil conservation for areas where harvesting has been carried out is to protect soil productivity on those areas by minimizing the amount of area occupied by permanent roads, landings and excavated or bladed trails. Further the PMFL Council Regulation specify that the management commitments include information about soil quality assessment, as well as requirements for soil conservation (via limits to areas occupied by roads or logging trails) and measures respecting exposed soils.</p> <p>The MFC Field Practices Guide is provided to Private Managed Forest Land Owners as an aid to field decisions and meeting practices obligations. Soil conservation guidance is provided for the following practices: road construction, road maintenance and deactivation, timber harvesting, and reforestation.</p> <p>Annually, the MFC engages a team of independent registered professional foresters to complete inspections on selected managed forests. Information on the field reviews, investigations and determinations are reported out in the publicly available MFC Annual Report.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the ability for BC to manage soils at a landscape and stand level covering 96% of the provinces land base is an exceptional result for soils management, therefore this indicator is deemed a low risk in BC.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existing legislation • Compliance and enforcement • Best Management Practice manuals • Monitoring records • Interviews with staff and stakeholders |

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| | <ul style="list-style-type: none"> Internal policies and procedures, fiber contracts and field audits |
| Evidence Reviewed | <ul style="list-style-type: none"> Forest and Range Practices Act, S.149 – Objectives Set by Government – http://www.bclaws.ca/civix/document/id/lc/statreg/02069_01#section149 Forest Planning and Practices Regulation – Part 4 – Practices Requirements – Division 1 – Soils – http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#division_d2e7917 Ministry of Environment – Soils Website – https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil FLNRORD – Forest Stewardship Plan Website – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-stewardship-plans BC Soil Information Finder Tool – https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil/soil-information-finder FLNRORD – Integrated Resource Monitoring – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring Integrated Monitoring Reports – Assistant Deputy Minister’s Resource Stewardship Report – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring/integrated-monitoring-reports?keyword=Assistant&keyword=Deputy&keyword=Minister&keyword=Resources&keyword=Stewardship&keyword=Overview Private Managed Forest Land Act, Section 12 – Soil Conservation – http://www.bclaws.ca/civix/document/id/complete/statreg/03080_01#section12 Private Managed Forest Land Council Regulation – Section 9, 13, 14, 19 – http://www.bclaws.ca/civix/document/id/complete/statreg/182_2007 Managed Forest Council – http://mfcouncil.ca |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 2.2.3 | The Biomass Producer has implemented appropriate control systems and procedures to ensure that key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b). |
| Finding | <p>Key ecosystems and habitats occur at both the landscape level and the stand level.</p> <p>Definitions BC Ministry of Environment and Climate Change Strategy's definition of an ecosystem is a collection of communities of both living and non-living things that are connected. The biotic elements in an ecosystem include living things such as plants and animals. The abiotic elements found in an ecosystem include non-living things like land forms or climate.</p> <p>According to <i>Standards for Mapping Ecosystems at Risk in BC (2006)</i>, key ecosystems include: Ecosystems at risk, including ecological communities listed as special concern, threatened, or endangered by the British Columbia Conservation Data Centre (CDC) together with the abiotic and ecological processes at a particular site Sensitive ecosystems, including those that are at-risk or are ecologically fragile in the</p> |

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| | <p>provincial landscape</p> <p>The Ministry of Forests and Range Glossary of Forestry Terms in BC (2008) defines habitat as ‘the environment in which a population or individual lives; includes not only the place where a species is found, but also the particular characteristics of the place (e.g., climate or the availability of suitable food and shelter) that make it especially well suited to meet the life cycle needs of that species’.</p> <p><u>Legislation</u></p> <p>The federal government has a role in conserving key ecosystems and habitats under specific circumstances:</p> <ul style="list-style-type: none"> • Fisheries, through the Department of Fisheries and Oceans and the <i>Federal Fisheries Act</i>, section 35(1); • Species at Risk through the <i>Species at Risk Act</i>; and • Migratory Birds through the <i>Migratory Birds Convention Act</i>, 1994 <p>With regards to forestry operations, conservation of key ecosystems habitats is largely the responsibility of the provincial Ministry of Forests, Lands, Resource Operations and Rural Development (FLNRORD) through the <i>Forest and Range Practices Act</i> (FRPA) and the Forest Planning and Practices Regulation (FPPR).</p> <p>Conservation measures are legislated under the following and defined in the Forest Stewardship Plans by the license holder:</p> <ul style="list-style-type: none"> • Soils (FRPA section 5); • Water under (FRPA section 8); • Riparian under (FPPR section 52(2)); • Environment (FRPA section 46); and • Biodiversity (FRPA section 9); <p>Provincially, the <i>Wildlife Act</i> also provides protection of wildlife habitat, specifically the establishment of critical wildlife habitat under Section 5 and the designation of wildlife management areas under Section 4.</p> <p>According to Environmental Reporting BC, conservation of key ecosystems and habitats is also achieved through various types of land designation.</p> <p>Protected lands, covering 15.4% of BC and all Parks and Protected Areas (15.0%) and Other Protected Lands (0.4%) with the primary purpose of the long-term conservation of nature and cultural values;</p> <p>Resource Exclusion Areas, covering 12.4% of BC including all designations that fully exclude one or two resource activities for the purpose of conservation. Some examples include designations such as no-harvest Wildlife Habitat Areas designated under the Forest and Range Practices Act, Grizzly Bear Habitat (Class 1) designated under the Land Act, and the Sea to Sky Wildland Areas designated under the Environment and Land Use Act; and</p> <p>Spatially Managed Areas, currently covering 24.5% of BC including all spatial designations managing or limiting development or a resource activity for the purpose of conservation, or a spatial management regime in place to preserve specified elements of biodiversity but where activity is still allowed to occur. The designations within this category vary significantly in purpose and scope of management. Some examples include designations such as conditional-harvest Wildlife Habitat Areas, conditional-harvest Ungulate Winter Range, and Visual Quality Objectives—all designated under the Forest and Range Practices Act— and Important Fisheries Watersheds and other legal objectives established for the Great Bear Rainforest under the Land Act.</p> <p>On Private Land, key ecosystems and habitats are managed through the <i>Private Managed Forest Land Act</i> as follows:</p> |
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| | <p>Critical habitat, as defined through section 5 of the provincial <i>Wildlife Act</i> and identified through the Federal Critical habitat for Species at Risk list; and Riparian tree retention, defined in the PMFL Field Guide</p> <p>Private land is outside of the timber harvesting land base and is not subject to the landscape level planning in the Province of BC. However, private land only accounts for a small portion of forested land in BC (see indicator 1.1.1) and would not have a material effect on ecosystems management at the landscape level.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the ability for BC to manage ecosystems and critical habitats at a landscape level covering 96% of the provinces land base is an exceptional result for ecosystem management, therefore this indicator is deemed a low risk in BC.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Records of BP's field inspections • Monitoring records by BC Compliance and Enforcement • Interviews with staff, stakeholders |
| Evidence Reviewed | <p>Standards for mapping ecosystems at risk in BC: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/standards-guidelines/risc/standards_for_mapping_ear_version1.pdf</p> <p>Environmental Reporting BC: http://www.env.gov.bc.ca/soe/indicators/land/land-designations.html</p> <p>Biogeoclimatic Ecosystem Classification System: https://www.for.gov.bc.ca/hre/becweb/system/how/index.html</p> <p>Meidinger, D and Pojar J. Ecosystems of BC, 1991. https://www.for.gov.bc.ca/hfd/pubs/docs/srs/srs06.pdf</p> <p>Critical Habitat for Species at Risk in BC: http://donnees.ec.gc.ca/data/species/developplans/critical-habitat-for-species-at-risk-british-columbia/</p> <p>Wildlife Act: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96488_01#section5</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.2.4 | The Biomass Producer has implemented appropriate control systems and procedures to ensure that biodiversity is protected (CPET S5b). |
| Finding | <p>The Ministry of Forests and Range Glossary of Forestry Terms in BC (2008) defines biodiversity as, ‘the biological diversity of plants, animals, and other living organisms in all their forms and levels of organization, including the biological diversity of genes, species, and ecosystems.’</p> <p>According to the BC Biodiversity Guidebook the full impact of forest management</p> |

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| | <p>practices on many species is unknown and certain practices that benefit some species are often detrimental to others. As natural ecosystems become increasingly modified by human activities, natural patterns of biodiversity become increasingly altered and the risk of losing native species increases. The greatest degree of disruption occurs from extreme habitat modifications such as urbanization and agriculture. Parks and protected areas, on the other hand, if appropriately managed, maintain close to natural levels of biodiversity.</p> <p>Managed crown and private forests fall between these two extremes, and can support varying levels of natural biodiversity, depending on the management practices. More natural levels of biodiversity will be maintained in managed forests if those forests are managed to mimic important characteristics of natural forest conditions.</p> <p>At the landscape level, biodiversity is protected in BC at different scales using different management tools.</p> <p>According to Environmental Reporting BC, biodiversity is achieved through various types of land designation.</p> <p>Protected lands, covering 15.4% of BC and all Parks and Protected Areas (15.0%) and Other Protected Lands (0.4%) with the primary purpose of the long-term conservation of nature and cultural values;</p> <p>Resource Exclusion Areas, covering 12.4% of BC including all designations that fully exclude one or two resource activities for the purpose of conservation. Some examples include designations such as no-harvest Wildlife Habitat Areas designated under the Forest and Range Practices Act, Grizzly Bear Habitat (Class 1) designated under the Land Act, and the Sea to Sky Wildland Areas designated under the Environment and Land Use Act; and</p> <p>Spatially Managed Areas, currently covering 24.5% of BC including all spatial designations managing or limiting development or a resource activity for the purpose of conservation, or a spatial management regime in place to preserve specified elements of biodiversity but where activity is still allowed to occur. The designations within this category vary significantly in purpose and scope of management. Some examples include designations such as conditional-harvest Wildlife Habitat Areas, conditional-harvest Ungulate Winter Range, and Visual Quality Objectives—all designated under the Forest and Range Practices Act—and Important Fisheries Watersheds and other legal objectives established for the Great Bear Rainforest under the Land Act.</p> <p>Biodiversity Emphasis Options are assigned to landscape units. Each Biodiversity Emphasis Option is designed to provide a different level of natural biodiversity and a different risk of losing elements of natural biodiversity.</p> <p>The lower biodiversity emphasis option may be appropriate for areas where other social and economic demands, such as timber supply, are the primary management objectives. This option will provide habitat for a wide range of native species, but the pattern of natural biodiversity will be significantly altered, and the risk of some native species being unable to survive in the area will be relatively high.</p> <p>The intermediate biodiversity emphasis option is a trade-off between biodiversity conservation and timber production. Compared to the lower biodiversity emphasis option, this one will provide more natural levels of biodiversity and a reduced risk of eliminating native species from the area.</p> <p>The higher biodiversity emphasis option gives a higher priority to biodiversity conservation but would have the greatest impact on timber harvest. This option is recommended for those areas where biodiversity conservation is a high management priority.</p> |
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| | <p>Landscape unit biodiversity objectives are established for natural disturbance types. Different natural disturbance regimes have created forests with greatly differing seral stage distributions. Portions of the province with less frequent stand-initiating disturbance have greater abundance of older forest, and a greater abundance of species adapted to landscapes of older forests, than do areas with more frequent disturbance. For the purpose of setting biodiversity objectives, five natural disturbance types (NDTs) are recognized as occurring in British Columbia:</p> <p>NDT1 – Ecosystems with rare stand-initiating events</p> <p>NDT2 – Ecosystems with infrequent stand-initiating events</p> <p>NDT3 – Ecosystems with frequent stand-initiating events</p> <p>NDT4 – Ecosystems with frequent stand-maintaining fires</p> <p>NDT5 – Alpine Tundra and Subalpine Parkland ecosystems</p> <p>With regards to forestry operations, protection of biodiversity is largely the responsibility of the provincial Ministry of Forests, Lands, Resource Operations and Rural Development (FLNRORD) through the Forest and Range Practices Act (FRPA) and the Forest Planning and Practices Regulation (FPPR).</p> <p>At the landscape level, FRPA section 9 requires, ‘without unduly reducing the supply of timber from British Columbia’s forests, and to the extent practicable, to design areas on which the timber harvesting that is to be carried out resembles, both spatially and temporally, the patterns of natural disturbance that occur within the landscape. Regulations further limit cutblock size (FPPR section 64).</p> <p>At the stand level, biodiversity protection measures include:</p> <p>Wildlife tree retention, to provide stand-level structure for biodiversity and habitat on every cutblock;</p> <p>Wildlife tree patches and habitat features which include rare stand structural elements in the landscape such as trees that support nests of eagles, ospreys, blue herons or other listed species. These features often cannot be managed as single elements in a harvest area, due to worker safety concerns, but they make good "ecological anchors" within wildlife tree patches; and</p> <p>Coarse woody debris, provides organic matter that can enhance soil moisture carrying capacity and habitat for certain wildlife and other organisms</p> <p>On Private Land, biodiversity is managed through the Private Managed Forest Land Act as follows:</p> <p>Critical habitat, as defined through section 5 of the provincial Wildlife Act and identified through the Federal Critical habitat for Species at Risk list; and</p> <ul style="list-style-type: none"> • Riparian tree retention, defined in the PMFL Field Guide <p>Private land is outside of the timber harvesting land base and is not subject to the landscape level planning in the Province of BC. However, private land only accounts for a small portion of forested land in BC (see indicator 1.1.1) and would not have a material effect on biodiversity management across the province of BC.</p> <p>The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the ability for BC to manage biodiversity at a landscape level covering 96% of the provinces land base is an exceptional result for biodiversity management, therefore this indicator is deemed a low risk in BC.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Best Management Practice manuals • Supply contracts • Standard Operating Procedures • Records of BP’s field inspections |

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| | <ul style="list-style-type: none"> • Interviews with staff, stakeholders • Reports related to biodiversity issues • Publicly available information on the protection of the identified values • Level of enforcement • Regional, publicly available data from a credible third party • Existence of a strong legal framework in the region • FSC Controlled Wood National Risk Assessment • PEFC CoC, Risk Assessment Summary, SFI Fiber Sourcing, • Internal documents and agreements/contracts. |
| Evidence Reviewed | <p>BC Biodiversity Guidebook: https://www.for.gov.bc.ca/hfd/library/documents/bib19715.pdf</p> <p>Forest and Range Practices Act: http://www.bclaws.ca/civix/document/id/consol21/consol21/00_02069_01</p> <p>Forest Planning and Practices Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/14_2004</p> <p>BC Private Managed Forest Land Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_03080_01</p> <p>Stand Level Biodiversity in BC: https://www.for.gov.bc.ca/hfp/training/00001/module03/module03.htm</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.2.5 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that the process of residue removal minimises harm to ecosystems. |
| Finding | <p>Authorization and management of forest residue and waste is under the Provincial Ministry of Forest, Lands and Natural Resource Operations and Rural Development (FLNRORD), specifically the Timber Pricing Branch.</p> <p>‘Waste’ is defined as merchantable Crown timber, felled or standing, that remains on site at the completion of primary harvesting operations. The Provincial Logging Residue & Waste Measurement Procedure Manual outlines the standards and procedures for assessing waste. Beyond merchantable timber and waste, typical primary timber harvesting operations result in woody material, consisting of treetops and branches, being left on the cutblocks as coarse woody debris (CWD) or in piles at landings, schedule for burning.</p> <p>The SBP Standard includes treetops and branches within the definition of ‘residue’, which is not considered merchantable timber, nor waste, as per described above.</p> <p>On Crown land, residue removal activities are subject to the similar legislative requirements as primary timber harvesting, such as cutting authorization under the <i>Forest Act</i>, planning and practices requirements under the <i>Forest and Range Practices Act (FRPA)</i> and Forest Planning and Practices Regulation (FPPR), as well as compliance and enforcement to appropriate legislation (See indicators related to Criterion 2.2 – Ecosystem Function</p> |

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| | <p>Maintained). As such, requirements are in place to ensure minimized impact to ecosystems for residue removal.</p> <p>Private land requirements to minimize impacts to environment are the same regardless of the product: primary timber harvesting or residue removal.</p> <p>The requirements of the cutting authority sufficiently cover the requirements to minimise harm to ecosystems. Therefore this indicator is deemed a low risk in the province of BC.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Existence of a strong legal framework in the region • Level of enforcement • Best Management Practice manuals • Supply contracts • Records of BP’s field inspections • Assessment at an operational level of measures designed to minimize impacts on the values identified |
| Evidence Reviewed | <ul style="list-style-type: none"> • Forest Residue & Waste Website – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/forest-residue-waste • <i>Forest Act</i> – Division 8.3 – Disposition of Timber Acquired under <i>Forestry Revitalization Act</i> or Subject to Waste Assessment http://www.bclaws.ca/civix/document/id/complete/statreg/96157_03#division_d2e12616 • <i>Forest Act</i> – Licences to Cut – http://www.bclaws.ca/civix/document/id/complete/statreg/96157_03#section47.6 ; http://www.bclaws.ca/civix/document/id/complete/statreg/96157_03#section47.71 ; http://www.bclaws.ca/civix/document/id/complete/statreg/96157_03#section47.72 • Provincial Logging Residue & Waste Measurement Procedure Manual – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/forest-residue-waste/provincial-logging-residue-and-waste-measurements-procedure-manual • Forest and Range Practices Act – http://www.bclaws.ca/civix/document/id/complete/statreg/02069_01 • Forest Planning and Practices Regulation – http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004 • Managed Forest Council – Field Practices Guide – http://mfcouncil.ca/wp-content/uploads/2015/01/FPG_2015_web.pdf • Private Forest Landowners Association – Best Management Practices – http://www.pfla.bc.ca/bmps/ |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.2.6 | The Biomass Producer has implemented appropriate control systems and procedures to verify that negative impacts on ground water, surface water and water downstream from forest management are minimised (CPET S5b). |
| Finding | Many statutes contain provisions aimed at protecting water quality including the provincial <i>Water Sustainability Act</i> and <i>Drinking Water Protection Act</i> and the federal <i>Fisheries Act</i> . The Ministry of Forest, Lands, Natural Resources Operations and Rural Development (FLNRORD) is the provincial agency responsible for ensuring the |

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| | <p>management and protection of water quality and quantity during forest management. Water is one of 11 resource values managed and protected under the <i>Forest and Range Practices Act</i> (FRPA) and Forest Planning and Practices Regulation (FPPR). Water is addressed in several sections of FRPA and FPPR: S.5 ‘... conserve the productivity and the hydrologic function of soils.’; S.8 – ‘...protect water quality, fish habitat, wildlife habitat and biodiversity associated with the riparian area.’ the productivity and the hydrologic function of soils.’; S.8.2 – specific objectives for water in community watersheds.</p> <p>Under FRPA (S.3 – 9), all forest agreement holders must prepare a forest stewardship plan (FSP) and receive provincial government approval prior to associated permits being issued to the agreement holder. The FSP must specify the agreement holder’s results or strategies that will meet the ‘water objectives’ set by government. Factors to be considered in the result or strategy: address the type of management regime required for riparian considering the need to buffer the aquatic ecosystem of a stream, role played by trees and understory, need to maintain stream bank and stream channel integrity; relative importance and sensitivity of different riparian classes; type, timing and intensity of forest practice; and role of forest shading.</p> <p>Strategic and operational level forest management planning helps protect water resources. Planning measures include delineation of community watersheds, fisheries-sensitive watersheds, and riparian areas in which forest operations are prohibited or significantly limited. FPPR S.47 – S.58 provide requirement for riparian classifications, restriction in various riparian zones, as well as maintenance/protection of habitat and temperature sensitive streams. FPPR S.59 – S.63 contain practices requirements specific to watersheds. As well FPPR provides practices requirements related to soils, roads and other related water.</p> <p>During, or prior to, site level planning, assessments, including slope stability, erodibility, sediment delivery mapping and terrain stability must be completed, where appropriate (See Indicator 2.2.1 for more details on assessment of impacts).</p> <p>Practices are monitored against the appropriate operational plan (FSP or site plan) to requirements are in conformance. Appropriate enforcement actions and/or penalties are applied by FLNRORD Natural Resource Officers. The Forest Practices Board, also completes investigations and audits of the forest planning and practices that affect water quality on Crown land.</p> <p>The Forest & Range Evaluation Program (FREP) measures the effectiveness of forest practices on water quality and riparian forestry practices, as required by FRPA. Monitoring data is captured at the appropriate scope (site to landscape and watershed level), using checklists and protocols; and subsequently analysed by subject-area specialists who report results.</p> <p>The <i>Private Managed Forest Land Act</i>, S.13 forest management objective with respect to water quality is to protect drinking water, both during and after harvesting. Practices and requirements related to protecting water quality and fish habitat is provided in S.15 – S.30 of the Private Manged Forest Land Council Regulation.</p> <p>The MFC Field Practices Guide is provided to Private Managed Forest Land Owners as an aid to field decisions and meeting practices obligations. Water quality guidance is provided for the following practices: road construction, road maintenance and deactivation, timber harvesting, reforestation stream classification and riparian tree retention.</p> <p>Annually, the MFC engages a team of independent registered professional foresters to complete inspections on selected managed forests. Information on the field reviews, investigations and determinations are reported out in the publicly available MFC Annual Report.</p> <p>The ability for provincial and federal level legislation to properly manage and ensure impacts to ground water, surface water and water downstream of forest management activities are effective, justify a low risk rating for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existing legislation • Compliance and enforcement • Best Management Practice manuals |

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| | <ul style="list-style-type: none"> Monitoring records Interviews with staff and stakeholders Internal policies and procedures, fiber contracts and field audits |
| Evidence Reviewed | <ul style="list-style-type: none"> Forest and Range Practices Act, S.149 – Objectives Set by Government – http://www.bclaws.ca/civix/document/id/lc/statreg/02069_01#section149 Forest Planning and Practices Regulation, S.8 - Objectives– http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#section8 Forest Planning and Practices Regulation – Part 4 – Practices Requirements – Division 4 – Watersheds – http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#division_d2e11654 FLNRORD – Forest Stewardship Plan Website – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-stewardship-plans FLNRORD – Integrated Resource Monitoring – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring Integrated Monitoring Reports – Assistant Deputy Minister’s Resource Stewardship Report – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/integrated-resource-monitoring/integrated-monitoring-reports?keyword=Assistant&keyword=Deputy&keyword=Minister&keyword=Resources&keyword=Stewardship&keyword=Overview Private Managed Forest Land Act, Section 13 – Water Quality – http://www.bclaws.ca/civix/document/id/complete/statreg/03080_01#section13 Private Managed Forest Land Council Regulation – Section 15 – 30 – http://www.bclaws.ca/civix/document/id/complete/statreg/182_2007 Managed Forest Council – http://mfcouncil.ca |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

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| 2.2.7 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that air quality is not adversely affected by forest management activities. |
| Finding | <p>The scope of this indicator is activities occurring directly from forest management practices but does not include emissions from industrial sources such as facilities (provincial permits) and/or transportation and machinery sources (Federal and Provincial statutes).</p> <p>Burning of wood and vegetation releases smoke and is a source of air pollution that negatively impacts air quality. Smoke contains a wide variety of air pollutants, including fine particulate matter (PM). Open burning is the largest source of PM emissions in BC.</p> <p>Industrial burning completed by the forest industry includes post-harvest slash burning. In addition, the forest industry and/or government utilize prescribed (controlled) forest burning as a management tool to reduce fire hazard and/or enhance wildlife habitat.</p> <p>Authorization and management of industrial burning to address air quality is under the Provincial Ministry of Environment and Climate Change Strategy, specifically the Air, Land & Water Branch. Legislation includes: <i>Environmental Management Act</i> and the</p> |

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| | <p>Open Burning Smoke Control Regulation (OBSCR). <i>Wildfire Act</i>, Section 4 - defines the use of open fires as applied to municipalities, local governments, and private lands. <i>Wildfire Regulation</i>, Section 2.3 defines prescribed circumstances respecting the lighting, fuelling or use of open fire on private managed forest land. In addition, Local governments may create bylaws to regulate the nuisance, fire hazard or air quality impacts of burning.</p> <p>Legislatively the forest industry is required to dispose of leftover slash and wood residue to abate fire hazard via burning or turning material into wood products, such as mulch or wood pellets. Burning of slash can be completed through broadcast burning or pile burning. Broadcast burns, not widely implemented in BC, are covered under the <i>Wildfire Act</i> and <i>Wildfire Regulation</i>. Pile burning is the primary method to abate hazard. OBSCR authorizes and provides requirements for pile burning which include: what can be burned in piles, where piles can be located, length of burn and atmospheric venting conditions. OBSCR Compliance tools include orders, administrative sanctions and administrative penalties and/or can result in a fine of up to \$200,000.</p> <p>As specified in OBSCR, open burning is only permitted when the forecast Ventilation Index is sufficient to disperse smoke. Ventilation Index is available from Environment Canada or Provincial site. The Ventilation Index must be predicted to be both GOOD (55-100) the afternoon of ignition, as well as FAIR or GOOD (34-100) for the following afternoon. Ventilation Index are contained within daily Smoke Control Forecast and available for 25 locations in BC, via the Provincial interactive Venting Index Map and/or Venting Index Report. A number of Best Management Practices are implemented for reducing smoke during burning including: burning dry/seasoned debris; pile construction; rapid ignition; re-staking piles; and consideration of wind direction.</p> <p>In addition, provincial policy for managing smoke is provided in “A Smoke Management Framework for BC (2011)”. Reduction of smoke from biomass burning to minimizing exposure to smoke and reduce health risk is the overall goal.</p> <p>The Provincial Environmental Reporting BC website monitors and reports annual and 24-hour air quality readings for approximately 116 stations in 7 AirZones. The Status of Fine Particulate Matter in BC (2014-2016), as compared to the Canadian Ambient Air Quality Standards established by the Canadian Council of Ministers of the Environment is reported.</p> <p>The aforementioned control measures support a low risk designation for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existence of a strong legal framework in the region • Level of enforcement • Best Management Practice manuals; • Inquiries to environment authorities • Interviews with staff, stakeholders; • Publicly available information on the protection of air quality • Internal policies and procedures, fiber contracts and field audits |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • Ministry of Environment and Climate Change Strategy – Pollution Sources – Smoke & Burning – Industrial Burning – https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-pollution/smoke-burning/industrial • Wildfire Service – Prescribed Burning – https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/prescribed-burning • Open Burning Smoke Control Regulation – https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-pollution/smoke-burning/regulations/openburningregulation |

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| | <ul style="list-style-type: none"> • Ventilation Index – https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-pollution/smoke-burning/ventilation-index • Interactive Venting Index Map – https://governmentofbc.maps.arcgis.com/apps/webappviewer/index.html?id=6d288bc667b24528a5c1e3b4c0373d07 • Venting Index Report – http://www.env.gov.bc.ca/epd/epdpa/venting/ • A Smoke Management Framework for British Columbia, June 2011 – https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/smoke-management-framework-20110722.pdf • Status of Fine Particulate Matter in BC (2014 – 2016) – http://www.env.gov.bc.ca/soe/indicators/air/fine-pm.html • BC Ambient Air Quality Objectives, May. 9, 2018 – https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/aqotable.pdf |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

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| 2.2.8 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is controlled and appropriate use of chemicals, and that Integrated Pest Management (IPM) is implemented wherever possible in forest management activities (CPET S5c). |
| Finding | <p>Pesticides are regulated at federal, provincial and municipal levels. Provincially, authorization and management of pesticide use is under the Provincial Ministry of Environment & Climate Change Strategy (MoE), specifically the Environmental Protection & Sustainability Division – Pesticides & Pest Management via the <i>Integrated Pest Management Act (IPMA)</i> and Regulation (IPMR). The main objective of the legislation is to promote the use of Integrated Pest Management (IPM) and prevent unreasonable adverse effects to human health and the environment from the use of pesticides.</p> <p>The <i>IPMA</i> defines “pest” as “an injurious, noxious or troublesome living organism, but does not include a virus, bacteria, fungus or internal parasite that exists on or in humans or animals”. “Pest” may be used interchangeably with “weed”, “plant” or “vegetation”. A “noxious weed” is a plant specified under the <i>Weed Control Act</i>. An “invasive plant” is a plant specified under the <i>Forest and Range Practices Act (FRPA)</i>. The <i>Weed Control Act</i> and Regulations require land occupiers, as defined in the <i>Act</i>, to control provincially listed noxious weeds on both private and public land. <i>FRPA</i> (S.47) and accompanying Regulations (Forest Planning and Practices Regulation, Invasive Plants Regulation) require forest and range tenure holders to incorporate measures in their forest stewardship plans (FSP) to prevent the introduction or spread of listed invasive species. The <i>IPMA</i> and Regulations provide the statutory authority to allow pesticide/herbicide use on public lands as described in a PMP.</p> <p>In BC, chemical use for forestry and the management noxious weeds and invasive plants may occur on public land, as well as on private land.</p> <p>The <i>IPMA</i> and <i>IMPR</i> set out the authorization and conditions for pesticide sale and use through a pesticide classification system, and regulatory provisions and standards for licenses, certification, permits, and confirmations of pesticide use notices (PUNs) under Pest Management Plans (PMPs). The <i>IMPR</i> also contains requirements for public notification, consultation with First Nations and stakeholders, reporting, and record keeping provisions – as well as standards for use of IPM. The <i>IPMA</i> and <i>IMPR</i> requirements are applicable to forestry and industrial vegetation management on public land, as well as on private land used for forestry, transportation, public utilities and</p> |

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| | <p>pipelines. <i>IPMA</i> Compliance and Enforcement provisions include substantive penalties (financial and administrative), as well as sentencing options. The Ministry conducts inspections to monitor compliance, either selected at random or based on selected criteria.</p> <p>Companies, government ministries and agencies, municipalities, regional districts or individuals using pesticides to manage vegetation must register a Pest Management Plan (PMP), obtain a Pesticide User License or obtain a Permit. A license or PMP is required to apply pesticides on public land. A Pesticide User License is required to manage vegetation on any amount/year of private land used for timber production (IPMR S.5(1)(g)).</p> <p>A Monitoring Program is a requirement of a PMP (IMPR, S.58(2)(c)) which includes a description the monitoring program that will be employed of before or during the pesticide for assessing pest populations, environmental conditions and damage caused by pests.</p> <p>The aforementioned control measures support a low risk designation for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existing legislation • Compliance and enforcement • Best Management Practice manuals • Monitoring records • Interviews with institutions responsible for overseeing the use of pesticides • Interviews with staff and stakeholders • Internal policies and procedures, fiber contracts and field audits |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • <i>Integrated Pest Management Act</i> – http://www.bclaws.ca/civix/document/id/complete/statreg/03058_01 • Integrated Pest Management Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/604_2004 • Weed Control Act – http://www.bclaws.ca/civix/document/id/lc/statreg/96487_01 • Forest and Range Practices Act, S.47 – http://www.bclaws.ca/civix/document/id/lc/statreg/02069_01#section47 • Invasive Plants Regulation – http://www.bclaws.ca/civix/document/id/loo70/loo70/18_18_2004 • Environmental Protection & Sustainability – Pesticides & Pest Management – https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management • Sector-Specific Tools & Guides for Pesticide Use – Forest Pest Management Sector Review Paper, October 2006 https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/business-industry/sector-specific-tools-guides • Explanatory Notes - Forestry, Noxious Weed and Industrial Vegetation Management – Phase One: Explanatory Notes for Forestry, Noxious Weed and Industrial Vegetation Managers, March 2012 - https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/publications-guides/explanatory-notes • Noxious Weeds & Vegetation Management – https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management/business-industry/sector-specific-tools-guides/noxious-weeds-vegetation-management?keyword=herbicide • Invasive Alien Pest Management Plan for Provincial Crown Lands in Central and Northern British Columbia – FLNR PMP 402=0664-15/20. June 24, 2015 |
| <p>Risk Rating</p> | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.2.9 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that methods of waste disposal minimise negative impacts on forest ecosystems (CPET S5d). |
| Finding | <p>Under Provincial legislation, the <i>Environmental Management Act</i> regulates industrial and municipal waste discharge, pollution, hazardous waste and contaminated site remediation. Waste that is classified/defined as ‘hazardous waste’ is legislated through the <i>Environmental Management Act</i>. The Hazardous Waste Regulation describes the requirements for the handling, storage, transportation, and disposal of hazardous waste. The <i>Act</i> includes enforcement options, such as administrative penalties, orders and fines to encouraged compliance.</p> <p>The SBP Standard defines ‘waste’ as <i>any substance or object that the holder discards or intends to discard or is required to discard</i>.</p> <p>In the forestry context in BC, waste materials tend not to be those classified as ‘hazardous waste’. In addition, waste in the BC forestry context includes spills that threatens the environmental quality of water, land or air.</p> <p>Many forest land managers (Crown and private land) and/or forestry contractors operating in BC maintain a management system that includes procedures for managing waste/spills, (i.e. ISO 14001). Forest land managers often include requirements, either in contracts or pre-work documents, that specify appropriate waste management. In addition, many forest land managers require mandatory ‘spring training’ for forestry contractors which includes waste management and spill response training. Many organizations maintain Best Management Practices, which include procedures, as well as forms for recording spill response. Training records and records of spill response are to be maintained by the operators and periodically verified by supervisors. Onsite inspections occur during and post operations to verify conformance with pre-work requirements, including waste management. Inspections are often documented, especially if non-conformance is detected. Contracts often have remediation and/or penalty clauses specific to the situation. Based on this, systems and controls in place to minimize negative impacts to the environment from waste and spills during forestry operations.</p> <p>The aforementioned control measures support a low risk designation for this indicator.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Existing legislation • Level of enforcement • Inquiries/interviews to environment authorities • Best Management Practices • List of Companies ISO 14001 Certified • Interviews with staff, stakeholders • Internal policies and procedures, fiber contracts and field audits |
| Evidence Reviewed | <ul style="list-style-type: none"> • Environmental Management Act – http://www.bclaws.ca/civix/document/id/lc/statreg/03053_00 • Hazardous Waste Regulation – http://www.bclaws.ca/civix/document/id/complete/statreg/63_88_00 • Spills & Environmental Emergencies – https://www2.gov.bc.ca/gov/content/environment/air-land-water/spills-environmental-emergencies • Hazardous Waste - https://www2.gov.bc.ca/gov/content/environment/waste-management/hazardous-waste |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.3.1 | Analysis shows that feedstock harvesting does not exceed the long-term production capacity of the forest, avoids significant negative impacts on forest productivity and ensures long-term economic viability. Harvest levels are justified by inventory and growth data. |
| Finding | <p>The geographic scale of risk assessment for this indicator is Provincial. Authorization, analysis and management of long-term production capacity is under the Provincial Ministry of Forest, Lands and Natural Resource Operations and Rural Development (FLNRORD), specifically the Forest Analysis and Inventory Branch. The Timber Supply Review (TSR) program updates the timber supply for the province’s 37 Timber Supply Areas (TSA) and 34 Tree Farm Licences (TFL) (See Indicator 1.1.1 details on Supply Base Area). ‘Allowable Annual Cut (AAC)’ is defined as the maximum average level of timber harvest (expressed in cubic metres) permitted for forest management areas (TSA or TFL). The Province’s Chief Forester must determine the AAC for each TSA and TFL every 10 years. Ministry representatives determine the AAC for Community Forest Agreements, First Nations Woodland licences and Woodlots. The Minister of FLNRORD apportions the cut to the various licenses within the TSA. The TSR Process occurs in three stages: (1) information sharing and gathering; (2) analysis; (3) AAC Determination. Section 8 of the <i>Forest Act</i> enables AAC determination and (S8(8)) describes the information the Chief Forester must consider ensuring long-term environmental sustainability and economic viability of the timber supply analysis for a TSA. This includes the best available: information on areas not available for timber harvesting (i.e. protected forests, reserves, uneconomical, etc.); forest management practices; economic and terrain conditions; timber growth and yield predictions; silviculture practices; anticipated losses due to fire and pests; implications of alternative harvest levels; management requirements and practices for each forest values (wildlife, recreation, visual quality, etc.); information about First Nation rights, title and interests. Section 9 of the <i>Forest Act</i> describes the resource information that TFLs are legally required to provide to the Chief Forester.</p> <p>FLNRORD’s Forest Inventory Program provides forest inventory data for the entire province. Forest inventory and reliable stand growth models are used to forecast stand development under alternative management regimes and natural disturbances. Timber Supply is the amount of timber that is forecasted to be available for a specified time and for a specific management regime. Uncertainties in timber supply forecasting include merchantability of tree species, operability, future management practices, the future timber production land base, wildfires and insect epidemics.</p> <p>As stated in the Province’s Environmental ReportingBC – Land & Forests (May 2018), the Provincial Timber Supply Forecast ... <i>Until relatively recently, B.C. was forecast to have a stable mid and long-term timber supply of about 70 million cubic metres per year. Recent analysis projects decreases in timber supply to about 58 million cubic metres per year by 2025—due to mortality caused by the mountain pine beetle epidemic. The forecasted timber supply returns to approximately 65–70 million cubic metres per year by 2075.</i> Detailed timber supply forecasts and their related assumptions are publicly available for all management units on the government website.</p> <p>Based on information from the Province’s Environmental ReportingBC – Land & Forests, the amount of timber harvested each year (67 M cubic metres) has been below the AAC (83 M cubic metres) on Crown lands in British Columbia (2015). Over the last 10 years, the average total timber harvest was 74 million cubic metres per year, of which 67 million cubic metres per year (90%) was from forests where harvest levels were regulated by Allowable Annual Cuts. The remaining 7 million cubic metres of timber harvested per year (10% of the total harvest) was from lands with no government-set Allowable Annual Cuts. These lands are private lands under the <i>Private Managed Forest Land Act</i>.</p> <p>Little information, such as analysis and rationale on the timber harvesting land base and forest management land base is available for Private Managed Forest Land. The level of</p> |

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| | <p>harvest on Private Managed Forest Land is guided by commitment to stewardship and commitment to use property for production and harvesting of timber.</p> <p>On Crown Land, licensees harvest levels are subject to cut control (<i>Forest Act</i> – Part 4; Cut Control Regulation) requirements. These include rules for tracking harvest levels against licence AACs (5-yr maximum). Penalties may be applied, and overharvest amount is charged to next cut control period, if a licence is over the maximum allowed. Undercut is not allowed to be carried forward into next period. Scale data, that is used to calculate stumpage (as described in in Indicator 1.1.2 and 1.4.1) is use to monitor cut control assessment.</p> <p>There is extensive analysis conducted in the province of BC to ensure that the long-term production capacity of the forest, avoids significant negative impacts on forest productivity and ensures long-term economic viability. The analysis process is well documented and publically available. Therefore a low risk designation is supported for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Legislation • Enforcement • Monitoring Reports • Publicly available reports • AAC Determination for applicable licenses (in TSA or TFL) • Cut Control verification for Licenses • Verification of private forest land Timber Supply vs Harvested volume • Internal policies and procedures, fiber contracts and field audits |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • Timber Supply – Backgrounder paper January 2017 – https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/forest-analysis-inventory/tsr-annual-allowable-cut/tsr_backgroundunder2.pdf • Environmental Reporting BC Website – Land & Forests (May 2018) – http://www.env.gov.bc.ca/soe/indicators/land/timber-harvest.html • Timber Supply Review & Allowable Annual Cut – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/timber-supply-review-and-allowable-annual-cut • Harvest Billing System (HBS) – https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/harvest-billing-system • Allowable Annual Cut – Timber Supply Areas – https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/forest-analysis-inventory/tsr-annual-allowable-cut/tsr_backgroundunder2.pdf • Allowable Annual Cut – Tree Farm Licences – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/timber-supply-review-and-allowable-annual-cut/allowable-annual-cut-tree-farm-licences • The State for British Columbia’s Forests – Third Edition – 2010 – Chapter 12 & 13 – https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/reporting/envreportbc/archived-reports/sof_2010.pdf |
| <p>Risk Rating</p> | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.3.2 | Adequate training is provided for all personnel, including employees and contractors (CPET S6d). |
| Finding | <p>There is a wide range of training that takes place in a modern workplace, covering everything from Occupational Health and Safety, WHIMIS, and employee behaviour to training required to use equipment, work with Company information, and understand legislative requirements. Some aspects of this training have been covered in other indicators, such as 2.2.8 – Appropriate Use of Chemicals, 2.8.1 – Occupational Health and Safety. Because this Indicator is positioned within Criterion 2.3 – “Management of the forest ensure that forest productivity is maintained”, the training considered in the assessment of this indicator will be oriented to forest planning and operations.</p> <p>The practice of professional forestry is regulated by the Association for British Columbia Forest Professionals (ABCFP), which is given its mandate through the <i>Foresters Act</i>. The <i>Act</i> grants exclusive rights of title and practice to members and allows the ABCFP to set requirements as to who may practice forestry. Prospective Registered Professional Foresters (RPFs) and Registered Professional Forest Technicians (RPFTs) are required to undergo an articling process normally lasting two years before they are granted professional standing.</p> <p>RPFs and RPFTs are required by ABCFP to maintain their competence, and to that end there are Continuing Professional Development (CPD) tools available that members make use of. In this way, the professional association ensures that some level of training is taken each year by ABCFP members. The ABCFP, in setting out its CPD standards, defines in essence what training is adequate to maintain competency. Since RPF’s are required to sign off on plans, training requirements for this part of forestry are ensured by the ABCFP. These plans are reviewed by other professionals in government and revised as required to meet regulations and standards before they are approved.</p> <p>Other disciplines that participate in forestry are similarly regulated in BC, including Agrologists, Biologists, Engineers and Geoscientists. Professionals in each of these disciplines are similarly required to meet and maintain competency standards, which entails training.</p> <p>In addition to professionals, other forest organizations regularly hold training sessions as the need arises, as for example, BC Timber Sales training for Species at Risk (see reference). In this way, people in the sector maintain currency with issues and practices.</p> <p>The ABCFP Guidebook states that the <i>Forest and Range Practices Act</i> requires that those conducting forest practices must meet the requirements of approved operational plans and relevant regulations. The ability of the people on the ground carrying out the activities prescribed in a forest plan depends on their qualifications, and there are both formal and informal training programs and options in place.</p> <p>Operators of almost all equipment, whether in the bush or in the mill, are required to have extensive training and in many cases, obtain certificates indicating that they have a high level of qualification. These are generally verified by asking the operator to produce the certificate or, in operations with a developed administrative structure, the qualifications and training needs of staff and often contractors are maintained in a database. Fallers and silviculture workers are also highly trained, as described under Indicator 2.8.1 – Occupational Health and Safety.</p> <p>The large companies and licence-holders take compliance very seriously and hold one or two-day meetings with employees and contractors, usually in spring during break up, to review a range of regulations, especially new or revised ones, review areas where there were issues or shortcomings last year and discuss potential improvements. These sessions are often mandatory. Species at risk is also a key topic at many of these</p> |

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| | <p>sessions, and people working in the bush must be aware of what SAR may be present where they are working, be able to identify them and know what measures to take if they or evidence of their presence is seen.</p> <p>During the year, most forest operations have weekly operational meetings and these will include training type discussions regarding problems or deficiencies that the supervisors have observed. The Compliance and Enforcement Branch of MFLNRORD also maintains a compliance program as well that verifies that the industry-led compliance is effective. The people in all of these roles are trained and often certified.</p> <p>The BP conducts training for all staff and contractors that are associated with carrying our SBP requirements. Training records are filed as part of the BP’s management system. This indicator is considered to be a low risk.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Existing legislation • Professional continuing education requirements • Staff and contractor qualifications /certifications • Training requirements matrices and training records • Terms of supply contracts • Records of BP’s field inspections and audits of equipment operators • Interviews with staff • Training plans and training records • Internal policies and procedures |
| Evidence Reviewed | <p>Assn of BC Forest Professionals https://abcfp.ca/web/ABCFP/About_Us/What-is-a-forest-professional.aspx</p> <p>Species at Risk Training presentation for BC Timber Sales https://www.for.gov.bc.ca/ftp/tsg/external/!publish/EMS2/Supplements/Species-At-Risk/1-Annual-Training-Documents/2010-SAR-Training-Information/BCTS-SAR-Training-December-2010.pdf</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 2.3.2 | Adequate training is provided for all personnel, including employees and contractors (CPET S6d). |
| Finding | <p>There is a wide range of training that takes place in a modern workplace, covering everything from Occupational Health and Safety, WHIMIS, and employee behaviour to training required to use equipment, work with Company information, and understand legislative requirements. Some aspects of this training have been covered in other indicators, such as 2.2.8 – Appropriate Use of Chemicals, 2.8.1 – Occupational Health and Safety. Because this Indicator is positioned within Criterion 2.3 – “Management of the forest ensure that forest productivity is maintained”, the training considered in the assessment of this indicator will be oriented to forest planning and operations.</p> <p>The practice of professional forestry is regulated by the Association for British Columbia Forest Professionals (ABCFP), which is given its mandate through the <i>Foresters Act</i>. The <i>Act</i> grants exclusive rights of title and practice to members and allows the ABCFP to set requirements as to who may practice forestry. Prospective Registered Professional Foresters (RPFs) and Registered Professional Forest Technicians (RPFTs) are required</p> |

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| | <p>to undergo an articling process normally lasting two years before they are granted professional standing.</p> <p>RPFs and RPFTs are required by ABCFP to maintain their competence, and to that end there are Continuing Professional Development (CPD) tools available that members make use of. In this way, the professional association ensures that some level of training is taken each year by ABCFP members. The ABCFP, in setting out its CPD standards, defines in essence what training is adequate to maintain competency. Since RPF's are required to sign off on plans, training requirements for this part of forestry are ensured by the ABCFP. These plans are reviewed by other professionals in government and revised as required to meet regulations and standards before they are approved.</p> <p>Other disciplines that participate in forestry are similarly regulated in BC, including Agrologists, Biologists, Engineers and Geoscientists. Professionals in each of these disciplines are similarly required to meet and maintain competency standards, which entails training.</p> <p>In addition to professionals, other forest organizations regularly hold training sessions as the need arises, as for example, BC Timber Sales training for Species at Risk (see reference). In this way, people in the sector maintain currency with issues and practices.</p> <p>The ABCFP Guidebook states that the <i>Forest and Range Practices Act</i> requires that those conducting forest practices must meet the requirements of approved operational plans and relevant regulations. The ability of the people on the ground carrying out the activities prescribed in a forest plan depends on their qualifications, and there are both formal and informal training programs and options in place.</p> <p>Operators of almost all equipment, whether in the bush or in the mill, are required to have extensive training and in many cases, obtain certificates indicating that they have a high level of qualification. These are generally verified by asking the operator to produce the certificate or, in operations with a developed administrative structure, the qualifications and training needs of staff and often contractors are maintained in a database. Fallers and silviculture workers are also highly trained, as described under Indicator 2.8.1 – Occupational Health and Safety.</p> <p>The large companies and licence-holders take compliance very seriously and hold one or two-day meetings with employees and contractors, usually in spring during break up, to review a range of regulations, especially new or revised ones, review areas where there were issues or shortcomings last year and discuss potential improvements. These sessions are often mandatory. Species at risk is also a key topic at many of these sessions, and people working in the bush must be aware of what SAR may be present where they are working, be able to identify them and know what measures to take if they or evidence of their presence is seen.</p> <p>During the year, most forest operations have weekly operational meetings and these will include training type discussions regarding problems or deficiencies that the supervisors have observed. The Compliance and Enforcement Branch of MFLNRORD also maintains a compliance program as well that verifies that the industry-led compliance is effective. The people in all of these roles are trained and often certified.</p> <p>The BP conducts training for all staff and contractors that are associated with carrying out our SBP requirements. Training records are filed as part of the BP's management system. This indicator is considered to be a low risk.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Existing legislation • Professional continuing education requirements • Terms of supply contracts • Records of BP's field inspections • Interviews with staff • Training plans and training records • Internal policies and procedures |

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| Evidence Reviewed | Assn of BC Forest Professionals https://abcfp.ca/web/ABCFP/About_Us/What-is-a-forest-professional.aspx Species at Risk Training presentation for BC Timber Sales https://www.for.gov.bc.ca/ftp/tsg/external/!publish/EMS2/Supplements/Species-At-Risk/1-Annual-Training-Documents/2010-SAR-Training-Information/BCTS-SAR-Training-December-2010.pdf |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

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| 2.3.3 | Analysis shows that feedstock harvesting and biomass production positively contribute to the local economy, including employment. |
| Finding | <p>There has been an active effort to better utilize wood fibre in BC, and that includes fibre that is suited for biomass use, especially roadside wood and salvage wood killed by the Mountain Pine Beetle (MPB) and more recently on-going mortality from spruce bark beetles. Bioenergy is an important part of BC's efforts to reduce the use of fossil fuels and develop a clean energy supply, while it also provides diversification for the forest sector, improving forest utilization. These efforts were supported by changes to the Forest Act made in 2003 that were intended to reduce the amount of supply constraints and directives in forestry.</p> <p>In 2003, the Forestry Revitalization Act was passed to create a more free-flowing and dynamic wood market. The Act created opportunities for new investment, entrepreneurs, communities and First Nation enterprises to enter the forest sector through 'redistribution' of the volume held by long-term tenures (equivalent to about 8.3 million m³). The removal of the long-standing appurtenancy clause from forest licences was another major change that relieved tenure holders from having to direct logs to specific mills located in regions of the licences.</p> <p>In 2005, amendments to the Forests Act equalized the financial risk associated with cruise-based and scale-based timber sale licences of beetle-killed wood, which increased the marketability of the timber. In 2006, Market-Based Pricing (MBP) for Timber was introduced in the Interior of BC, which included the addition of new grades of logs. This followed the successful introduction of MBP in the Coast region in 2004.</p> <p>Forestry remains a key industry in BC and is especially important in supporting many communities both in the interior and coast of BC. The "Economic Backbone Map" produced by FPAC shows a large number of communities in the interior of BC that are highly dependent on forestry. A recent report in the Fall 2015 newsletter of the BC Chartered Accountants Society states that 24% of BC's direct manufacturing jobs are in the forest sector, which supports more than 7,000 businesses, and 40% of BC's regional economies. A total of 145,850 jobs are in or supported by the forest sector. Since 2002, the provincial government has signed forest tenure agreements with 175 of 203 First Nations and these agreements provide access to 63.2 million m³ of timber and for \$324 million in revenue sharing.</p> <p>The 2008 BC Biomass Strategy set the following targets:</p> <ul style="list-style-type: none"> • Biofuel production to meet 50% or more of the province's renewable fuel requirements by 2020 • 10 community energy projects that convert local Biomass into energy by 2020 |

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| | <ul style="list-style-type: none"> Establish one of Canada’s most comprehensive Biomass inventories to create waste into energy opportunities. <p>These targets of the strategy will help to enable the biomass sector to develop and provide benefits to numerous communities, and the target related to community-level projects ties in very closely with the indicator.</p> <p>For the past decade, there has been a major effort in BC to use the timber killed by the MPB. In particular, salvage activity has been planned and accelerated so that as much of the timber as possible could be used for lumber production. The government found that licensees salvaging the sawlogs were very slow to allow biomass users to access leftover fibre, or timber that was too degraded to be used as lumber. To facilitate the access of the bioenergy sector to mountain pine beetle timber, FLNRORD created new forms of forest tenure known as “Bioenergy Licences”. Such licences may give biomass power developers long term access to fibre. This is crucial to the financing of such facilities and is supportive of the growth of the sector and its ability to provide benefit to the province. One example of these new licence types is the Fibre Supply Licence to Cut. A fibre supply licence to cut is a licence issued under the <i>Forest Act</i>. It’s generally used for large areas and provides long-term access (maximum 10 years) to road and landing waste (residual fibre) not used by the individual or company that conducted the original harvesting. The fibre forestry licence to cut is usually for a shorter-term covering a fairly limited area.</p> <p>Once harvesting is completed on a specific timber block, the primary harvester is required to provide notice whether or not the waste remaining on the block will be used. If not, the rights to the fibre may be issued as fibre supply licence to cut or a fibre forestry licences to cut.</p> <p>A fibre supply licence to cut is:</p> <ul style="list-style-type: none"> A long-term licence (maximum 10 years) covering a large area; Issued with a fibre recovery permit as part of the licence; Usually competitively awarded; and Only direct-awarded under certain circumstances for example, a First Nations pursuant to a treaty-related agreement. <p>Other licences designed to maintain the supply of timber to secondary users include the supplemental licence, restricted supply licence,</p> <p>An additional modification that has been made to facilitate the use of low grade wood in the biomass industry is that a cut control credit can be issued for Grade 4 wood (low quality wood) shipped to a facility other than a sawmill or veneer mill. In other words, the Grade 4 wood does not count against the AAC, increasing the use of low grade wood and reducing the amount of wood left in the bush. In Prince George District, cut control credits of an average of 480,850 m3/year have been issued since 2011, representing slightly less than 4% of the AAC.</p> <p>There is also a considerable emphasis on managing the salvage harvest to extract the greatest amount of timber while it was in its best condition, which is conducive to optimizing the economic contribution of the timber industry and also helps the bioenergy sector. In addition, there was a partition of the AAC set aside for bioenergy use, it was primarily low value and volume stands. These directions were part of the 2017 Prince George AAC determination, for example.</p> <p>The aforementioned analysis supports a low risk designation for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> Analysis of contribution of biomass to the local economy Sectoral analysis reports and economic studies License records and summaries Employment data, Purchasing local supplies and hiring local labour |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> BC MFLNRO. 2016. Strong Past, Bright Future: A Competitiveness Agenda for British Columbia’s Forest Sector. https://www2.gov.bc.ca/assets/gov/farming- |

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| | <p>natural-resources-and-industry/forestry/competitive-forest-industry/print_version_bcfs_agenda_final_lrsingles_r2.pdf</p> <ul style="list-style-type: none"> • Clean Energy BC website – Biomass page https://www.cleanenergybc.org/about/clean-energy-sectors/biomass • Fibre Action Plan – https://www.for.gov.bc.ca/hth/timber-tenures/forest-fibre-action-plan.htm • Chartered Professional Accountants British Columbia. 2015. Industry Update: Overview of BC Forestry Industry. Fall 2015. • MNP LLP. 2016. BC Clean Energy Projects: Investment, Job Creation and Community Impacts. Prepared for the Clean Energy Assn of BC. April 2016. • ECONOMIC BACKBONE MAP –FPAC http://www.fpac.ca/canadian-forestry-industry/economy/ • BC Biomass Action Strategy https://www2.gov.bc.ca/assets/gov/farming-natural.../bc_bioenergy_strategy.pdf |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.4.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that the health, vitality and other services provided by forest ecosystems are maintained or improved (CPET S7a).</p> |
| Finding | <p>Health and vitality of the forest ecosystem relate to the resilience of the ecosystem to withstand change. Indicators of health and vitality include the level of disturbance observed, changes in biodiversity, or the presence or absence of key 'indicator' species.</p> <p>Relevant ecological functions and values, and forest services include:</p> <ol style="list-style-type: none"> 4. Forest regeneration and succession 5. Genetics, species and community diversity; and 6. Erosion control <p>On Crown land these functions and values are maintained or improved as follows:</p> <p><u>Forest regeneration and succession</u> On Crown land forest regeneration and succession is a requirement across the legislative framework. Stocking standards are identified in forest licensees Forest Stewardship Plans. This includes identifying the net area to be reforested and free growing dates (FPPR section 44). These requirements are also included in Site Plans prepared for each area to be harvested (FPPR Section 34). These legal requirements are enforced through Professional Reliance as well as through FLNRORD Compliance and Enforcement investigations.</p> <p>According to the Western Silviculture Contractors Association, the area in BC that is not satisfactorily restocked has increased considerably in the last two decades, as a result of the mountain pine beetle epidemic and increased wildfires. Provincial funding through Trees For Tomorrow and more recently through the Forest Enhancement Society of BC has prioritized regenerating these stands.</p> <p><u>Genetic and species diversity</u> Forest genetic and species diversity is maintained through rules around seed use and</p> |

stocking standards. Seed use is defined through *FRPA* section 169 and *FPPR* section 43. Seed must meet specific collection, genetic diversity and physical quality requirements to be eligible for registration with the Chief Forester. Registered seedlots and vegetative lots are assigned unique identification numbers to facilitate the tracking from their source to their planting site. The details of each registered lot, including its source, ownership, quantity, and germination rate are recorded in the FLNRORD Seed Planning and Registry System (SPAR).

Stocking Standards are included in Forest Stewardship Plans for each licensee, based on the use of this registered seed (*FRPA* section 16 and *FPPR* section 26).

Erosion Control

Erosion Control is addressed through several measures:

7. Government objectives for soils are set out in *FRPA* Section 5, specifically to, 'conserve the productivity and hydrologic function of soils'.
8. Terrain stability assessments are required to be conducted by Qualified Professionals, including professional engineers and geoscientists. Requirements for assessments of slope stability, erodability, sediment delivery, and terrain stability are defined;
9. Soil disturbance restrictions are set for permanent access structures including roads, bladed skid trails and landings. Under *FPPR* section 36, the soil disturbance limit for permanent access is 7% of the gross cutblock area. Access that does not meet the above definition is considered temporary access and may require rehabilitation as per requirements in sections 35 and 36;
10. Terrain stability requirements under *FPPR* sections 37 to 54 contains results-based practice requirements that cannot be varied in an FSP. These include: not causing landslides (section 37) or gully processes (section 38), maintaining natural surface drainage patterns (section 39), ensuring adequate revegetation of soil exposed during road construction or deactivation (section 40), and not destabilizing alluvial and colluvial fans on the Coast (section 54).
11. Soil conservation (soil disturbance and terrain stability) is recognized in the definition of environmental damage. Soil (or drainage) may not be disturbed in such a way that ecosystems are adversely altered as per *FPPR* section 3 and *FRPA* section 46.

On Private Land, the health, vitality and other services provided by forest ecosystems are maintained or improved through the *Private Managed Forest Land Act* and Regulation as follows:

12. Critical habitat, as defined through section 5 of the provincial *Wildlife Act* and identified through the Federal Critical habitat for Species at Risk list; and
13. Riparian tree retention, defined in the PMFL Field Guide

Private land is outside of the timber harvesting land base and is not subject to the landscape level planning in the Province of BC. However, private land only accounts for a small portion of forested land in BC (see indicator 1.1.1) and would not have a material effect on the health and vitality of ecosystems across the province of BC.

The biomass producer does not direct manage forest management activities carried out on forested land in BC. However, the ability for BC to manage ecosystems at a landscape level covering 96% of the provinces land base is an exceptional result for the

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| | <p>management of health and vitality of ecosystems, therefore this indicator is deemed a low risk in BC.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Overall evaluation of potential impacts of operations on forest ecosystem health and vitality based on data from overseeing institutions • Assessment of potential impacts at operational level and of measures to minimise impacts • Best Management Practice manuals of biomass suppliers • Supply contracts with specific requirements for protecting health and vitality of the forest • Review of scientific reports and data • Regional, publicly available data from a credible third parties including provincial and federal agencies • Existence of a strong legal framework and policy framework for provincial and federal agencies • Compliance and Enforcement records for infractions of relevant regulations • Delivered Fiber and Logging & Hauling Agreements, Company policy and procedures, BMP Compliance checklists • Internal policies and procedures, field audits, third party data |
| <p>Evidence Reviewed</p> | <p>West Coast Environmental Law, 2001, Guide to Forest Land Use Planning: https://www.wcel.org/sites/default/files/publications/Guide%20to%20Forest%20Land%20Use%20Planning%20-%20Updated%202001.pdf</p> <p>Forest and Range Practices Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01</p> <p>Forest Planning and Practices Regulation: http://www.bclaws.ca/civix/document/id/loo83/loo83/12_14_2004</p> <p>Private Managed Forest Land Act: http://www.bclaws.ca/civix/document/id/lc/statreg/03080_01</p> <p>Private Managed Forest Land Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/12_371_2004</p> <p>BCs Unprecedented Reforestation Challenge, 2011. Western Silviculture Contractors Association: https://wfca.ca/wp-content/uploads/2015/02/Feb-3-A-Background-on-NSR-Anthony-Britneff.pdf</p> <p>Professional Engineers and Geoscientists of BC, 2008, Guidelines for the Management of Terrain Stability in the Forest Sector: https://www.egbc.ca/getmedia/b3f36705-fd6f-46ac-b45c-2fdd5d363b9f/APEGBC-Guidelines-for-Management-of-Terrain-Stability-in-the-Forest-Sector.pdf.aspx</p> <p>Mapping and Assessing Terrain Stability Guidebook.</p> |

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| | https://www.for.gov.bc.ca/TASB/LEGSREGS/FPC/FPCGUIDE/terrain/ziped/terrain.pdf |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

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| 2.4.2 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b). |
| Finding | <p>This indicator is interpreted as covering the monitoring for, detection of, and control of natural disturbances that include wildfires, pests and diseases.</p> <p>Forest pests and diseases are monitored by the provincial government using aerial surveys and actions are taken as the severity of an infestation warrants. In BC on Crown land disease and pests, collectively referred to as forest health, are managed at various scales.</p> <p>On Crown Land, forest health is managed as follows: Forest health is maintained primarily by altering forestry practices to prevent or minimize the impacts of pests that, through a risk analysis, are deemed to be significant enough to warrant management. Some of these methods have been legislated or accommodated for in legislation by providing on-site flexibility of planning and treatment. However, most forest health activities are non-obligatory (non-legal) and are carried out through mutual agreement by industry and government through the recommendations of professionals; MFLNRORD forest health specialists in headquarters, regions and districts have developed a Provincial Forest Health Strategy. This document identifies the key priorities and objectives for forest health in the province as determined by the MFLNRORD In general, the government’s three key strategic objectives for maintaining forest health in BC are Pest impacts are monitored and assessed; Practices are adapted to accommodate known forest health risks; and Forest resources are protected from pest damage through appropriately applied direct management actions <i>Forest & Range Practices Act (FRPA) section 6 sets forest health as one of twelve broad objectives.” (FRPA 6(a));</i> Funding priorities for the Land Based Investment Program have been strategically targeting efforts to reduce the mountain pine beetle’s impact to the mid-term timber supply. Protection of unattacked pine and other mature conifers is still a priority. Keeping damage to a minimum to extend the available mature timber supply (to maintain higher log and lumber value and Crown revenue) is the goal of these investments; Practices are adapted to accommodate known forest health risks including Free to grow stands (FRPA section 29); Using appropriate stocking standards (FRPA Section 6(2)); using pest resistant seed where it is available (FRPA section 72); Where a licensee or private land owner is not reacting quickly enough or simply not managing an important infestation then FRPA sections 26 and 27 may be used to permit the District Manager to direct the licensee to harvest or treat specific infestations Salvage licenses can be awarded to licensees or other operators on private and Crown land to treat identified infestations (FRPA section 26). This includes cut control and</p> |

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| | <p>stumpage flexibility</p> <p>Forest health is addressed under regulations in several ways, including:</p> <ul style="list-style-type: none"> A special bark beetle regulation came into force in 2001 and has been transitioned to <i>FRPA</i> Section 27 and <i>FPPR</i> section 109 to empower the Minister to declare emergency forest health management areas; Expediting harvest plan approvals where they are required to kill bark beetle brood before the next flight (<i>FRPA</i> section 4, 17 and 25) Promptly disposing of slash (Best Practices) Promptly treating baited trees or trap trees (<i>FRPA</i> section 41) Delaying green up for up to 20 years to account for forest health concerns in particular root disease (<i>FRPA</i> section 44); <p>In BC on private land including Private Managed Forest land, there are very few if any requirements to manage forest health.</p> <p>In BC, wildfire planning occurs at the provincial, landscape and community levels. On Crown land fire is managed at the provincial level as follows:</p> <p>The <i>Wildfire Act</i>, which applies to all activities on Crown land and not just forestry, set out government’s responsibilities for Forest and Range protection requirements (Part 1), Government Authority (Part 2), Administrative remedies and Cost Recovery (Part 3) Offenses and Court Orders (Part 4).</p> <p>The Wildfire Regulation sets out requirements for Fire Prevention (Part 2), Fire Control (Part 3), Permissible open fires (Part 4) and Cost recovery and Remedies (Part 6)</p> <p>FLNRORD manages wildland fire to mitigate negative impacts to communities, critical infrastructure and natural resources on Crown and private land. Fire detection is based on the use of fire wardens (approx. 400 hired during fire season), aerial reconnaissance, and the use of infrared technology and computer modelling to assess fire risk and expected fire locations. The provincial fire unit responds when fires are detected. In addition, forest operations on Crown land are required to have fire suppression equipment on site and are shut down during periods of high fire risk.</p> <p>In addition to considerable resources for fire suppression through the BC Wildfire Services Branch, increasing funds are deployed through different provincial agencies (UBCM Strategic Wildfire Prevention Initiative, Forest Enhancement Society of BC) for identifying, mapping, and reducing wildfire threats adjacent to communities in the Wildland Urban Interface. Increasingly collaboration between agencies responsible for community and resource protection including FLNRORD, Wildfire Services and local government.</p> <p>In BC on private land, the province handles wildfire suppression in the same manner as it would on crown land. The proximity between crown and private land requires the government to proactively address forest health concerns on private land the same as crown land.</p> <p>The extensive processes in place at the provincial level ensure the risk for this indicator is low.</p> |
| <p>Means of Verification</p> | <ol style="list-style-type: none"> 1. Overall evaluation of potential impacts of operations on forest ecosystem health and vitality based on data from overseeing institutions including FLNRO. 2. Assessment of potential impacts at operational level and of measures to minimise impacts or prevent disturbance (especially fire) 3. Regional Best Management Practice manuals 4. Supply contracts 5. Review of documentation |
| <p>Evidence Reviewed</p> | <p>Provincial Forest Health Strategy: http://www.for.gov.bc.ca/hfp/health/Strategy/Forest%20Health%20Strategy.pdf</p> |

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| | <p>MFLNRO Forest Health: http://www for.gov.bc.ca/hfp/health/index.htm https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/aerial-overview-surveys</p> <p>Provincial Fire Detection https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-response/fire-characteristics/detection</p> <p>Wildfire Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_04031_01</p> <p>Wildfire Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/11_38_2005</p> <p>Forest and Range Practices Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01</p> <p>Private Managed Forest Land Act: http://www.bclaws.ca/civix/document/id/lc/statreg/03080_01</p> <p>FRPA, various sections, as listed above</p> <p>Private Managed Forest Act, various sections, as listed above</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.4.3 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is adequate protection of the forest from unauthorised activities, such as illegal logging, mining and encroachment (CPETS7c).</p> |
| Finding | <p>On BC Crown land, unauthorized activities and unauthorized use are enforced by Natural Resource Officers (NROs) from the Compliance and Enforcement Branch (CEB) of the Ministry of Forests, Lands, Natural Resources Operations and Rural Development (FLNRORD). NROs are authorized under the <i>Natural Resource Compliance Act</i>. To ensure statutory obligations pertaining to natural resources are enforced, the NROs are authorized to inspect, investigate and take enforcement action (<i>FRPA</i> – Part 6 – Compliance and Enforcement). The scope of CEB includes but is not limited to: unauthorized timber harvesting (including damaging or destroying trees); trespass issues; damage to the environment; water stewardship; fish habitat (Provincial only); abandoned tenures and unauthorized structures, forest operations, range practices; forest recreation use; off road vehicles and access management; environmental protection; wildfire use; wildlife habitat protection; and road construction, maintenance, deactivation and use (industrial).</p> <p>CEB produces an Annual Report that contains information on inspections, compliance actions and enforcement actions related to legislation governing forest, lands, range, water and natural resource activities. Also, CEB provides statistics on the time that NRO spend enforcing the various Acts, presence in the field or interacting with industry or the public, and the number of enforcement and patrol statistics, all demonstrating a strong compliance and enforcement program.</p> |

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| | <p>In addition, BC also maintains an independent board (Forest Practices Board) to conduct independent audits as well as to investigate alleged contraventions.</p> <p>In the past three years, unauthorized harvesting of Crown timber (including issues related to private land adjacency to Crown land) is one of the top five issues alleged or successfully prosecuted.</p> <p>Both the FSC Global Registry and FSC Canada’s National Risk Assessment have concluded that the risk of ‘illegal logging’ is low.</p> <p>The forest tenure holders (licensees) are not required to control unauthorized activities, however, procedures for protection/mitigation, detection and appropriate action, which includes contacting NROs, is a best management practice.</p> <p>Private land owners would address any unauthorized activities and uses on their land base through appropriate actions to protect their lands.</p> <p>The level of enforcement that monitors unauthorized activities on land in BC ensures the risk designation for this indicator is low risk.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Legislation • Compliance & Enforcement • Compliance Reports • Best Management Practices • Interviews with staff & stakeholders |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • FRPA – Part 5 – Protection of Resources – http://www.bclaws.ca/civix/document/id/lc/statreg/02069_01#part5 • FRPA – Part 6 – Compliance and Enforcement – http://www.bclaws.ca/civix/document/id/lc/statreg/02069_01#part6 • Natural Resource Compliance Act – http://www.bclaws.ca/civix/document/id/complete/statreg/11021_01 • Natural Resource Officers – https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resource-law-enforcement/natural-resource-officers • Natural Resource Compliance Reports and Statistics – https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resource-law-enforcement/natural-resource-officers/compliance-reports • Forest Practices Board – https://www.bcfpb.ca/board/what-we-do/ • FSC-NRA-CAN V1-0 2018 – https://ca.fsc.org/preview.download-the-full-nra-here-a-2025.pdf • Global Forest Registry: http://www.globalforestregistry.org/ |
| <p>Risk Rating</p> | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| <p>2.5.1</p> | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest are identified, documented and respected (CPET S9).</p> |
| <p>Finding</p> | <p>The geographic scale of risk assessment for this indicator is at the provincial scale. A more complete discussion of aboriginal rights and title in British Columbia is described in Indicator 1.6.1.</p> |

This indicator primarily concerns provincial crown and municipal land, since few legal, customary and traditional tenure and use rights exist on private land.

Definitions:

In BC, legal, customary and traditional tenure are treated differently in law as well as in practice. These are defined and evaluated separately below. Legal tenures apply equally to both indigenous peoples as well as local communities. While both indigenous peoples as well as local communities have customary and traditional tenures, these are enshrined in law for Aboriginal peoples in Canada through Section 35 of the *Constitution Act* (1981).

Legal Tenure

Definition: The *Land Act* in BC defines legal tenure as:

- (a) Any interest in Crown land that is granted or otherwise established under a prescribed instrument, or
- (b) A prescribed designation or other status that, under an enactment, is given to, conferred on, or made or otherwise established in relation to Crown land.

The Association of BC Forest Professionals states that under the *Forest Act* the province has the authority to enter into a number of tenure agreements (See. Indicator 1.2.1 for additional information on tenure rights). These agreements confer rights to Crown resources and may include obligations and restrictions. Legal tenure is granted in BC to indigenous people and local communities for values such water, forestry and recreation trails through Community Forest Agreements, First Nations Woodlot Agreements, Woodlot Licenses, Tree Farm Licenses and other short-term tenures.

Such legal tenure is identified and documented as part of the tenure granting mechanism. Natural Resource Officers and Conservation Officers conduct compliance inspections and take enforcement actions, including investigations of commercial business operations and activities of individual members of the public. This helps ensure that rights, obligations and restrictions are properly observed and respected.

Legal tenure is administered through different provincial Ministries including FLNRORD for forestry and wildlife and MoE for water tenures. Water is further protected under the FPPR riparian areas (Divisions 3) and watersheds (Division 4).

Customary and Traditional Tenure

Definition: The Forest Stewardship Council defines Customary rights as follows: *Customary rights result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.*

Customary and traditional tenures are asserted by individual indigenous peoples and local communities in BC but are not typically legally recognized unless proven in court, through the treaty process or through other legal agreements. The identification and documentation of these customary and traditional tenure and use rights are therefore legally protected. See Indicator 1.6.1 for more information regarding Aboriginal Rights and Title established through court cases and treaties.

To summarize findings for this indicator:

- Local communities' and indigenous peoples' legal tenure rights are well identified, documented and respected in provincial regulatory framework;
- Local communities' and indigenous peoples' customary and traditional use rights are not well identified and documented in BC;
- Treaties define and protect legal, customary and traditional tenure and use rights of indigenous people but cover only a very small part of the Supply Base;
- Several First Nations, BC and Federal governments are involved in treaty negotiations

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| | <p>(see 1.6.1)</p> <p>The process of verifying that legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest has been clearly defined in the indicator findings. The process for consultation on land use decisions does not always satisfy all involved parties, which may include First nations, government, industry or other stakeholders. However BC has a functioning process where the intent of consultation is to ensure that decisions are made only after careful consideration has been given to all stakeholder interests. Therefore it is reasonable to justify a low risk designation for this indicator.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Customary and traditional tenure and use rights are identified and documented; • Disputed regarding customary and traditional tenure and use rights are identified and documented; • Interviews with indigenous peoples and local communities and other stakeholders, indicate that their customary and traditional tenure and use rights are respected • Appropriate mechanisms to resolve disputes exist • Agreements exist between biomass suppliers and indigenous peoples and local communities regarding customary and traditional tenure and use rights |
| <p>Evidence Reviewed</p> | <p>BC Land Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_96245_01</p> <p>Definition of Indigenous Territory: http://www.thecanadianencyclopedia.ca/en/article/indigenous-territory/</p> <p>Tsilhqot'in Nation v. BC Supreme Court Case: https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/14246/index.do</p> <p>Forest Planning and Practices Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/14_2004</p> <p>History of Treaties in BC: https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/about-first-nations-treaty-process/history-of-treaties-in-bc</p> <p>West Coast Environmental Law Forest Policy Review: https://www.wcel.org/sites/default/files/publications/Forest%20Policy%20Review%20Brief.pdf</p> <p>Role of Natural Resource Officers: https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resource-law-enforcement/natural-resource-officers</p> |
| <p>Risk Rating</p> | <p>X Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.5.2 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that production of feedstock does not endanger food, water supply or subsistence means of communities, where the use of this specific feedstock or water is essential for the fulfillment of basic needs.</p> |
| Finding | <p>The geographic scale of risk assessment for this indicator is at the provincial scale.</p> <p>Constitutionally protected aboriginal rights and title which include food, water supply or subsistence means for the fulfillment of basic needs for indigenous communities are a separate issue and are addressed under indicators 1.6.1 and 2.5.1.</p> <p><u>Definitions</u> 'Communities' are understood to mean both indigenous and non-indigenous communities in BC. Feedstock and water are protected for both indigenous and non-indigenous communities under provincial regulation. In addition, feedstock and water for indigenous communities as an aboriginal right are protected under section 35 of the Constitution Act, 1982. See Indicator 1.6.1 for more information on the legal background to indigenous people's rights.</p> <p>Subsistence is defined by the Oxford dictionary as "The action or fact of maintaining or supporting oneself, especially at a minimal level ... denoting or relating to production at a level sufficient only for one's own use or consumption, without any surplus for trade".</p> <p>Food sourced from areas supplying feedstock is typically freshwater or anadromous fish, ungulates especially moose, elk and deer as well as berries and mushrooms. In BC, these are addressed primarily through provincial regulation aimed at protecting habitat, specifically the Wildlife Act and the Forest and Range Practices Act. See Indicator 2.2.3 and 2.2.4 for additional information.</p> <p>In BC, many communities rely on surface water for the fulfillment of basic needs. A water right is the authorized use of surface water or groundwater. The Crown, on behalf of the residents of the province, owns all water in British Columbia. The BC government has issued over 24,000 domestic water licenses.</p> <p>For forest managers, water is protected under legislation at both the watershed and riparian scale through the FPPR riparian areas (Division 3) and watersheds (Division 4).</p> <p>In addition, in 2016 the provincial government made changes to the rules governing the use of surface water and groundwater. The new Water Sustainability Act (WSA) is designed to protect B.C.'s water supply and make sure it is managed now and in the future.</p> <p>For additional information regarding the protection of water see Indicator 2.2.6.</p> <p>The extensive legislation in place at the provincial level ensure the risk for this indicator is low.</p> |
| Means of Verification | <ul style="list-style-type: none"> • Food, water supply or subsistence means of communities are identified and documented • Interviews with local communities and other stakeholders, indicate that the food, water supply or subsistence means of communities are not endangered by feedstock production • Appropriate mechanisms to resolve disputes exist • Agreements exist regarding food, water supply or subsistence means of |

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| | <p>communities</p> <ul style="list-style-type: none"> • Compliance and Enforcement records show no/negligible violations of habitat and water regulations |
| Evidence Reviewed | <p>Definition of Subsistence: https://en.oxforddictionaries.com/definition/subsistence</p> <p>Water Allocation in BC: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/water-rights-databases/surface-water-allocation</p> <p>Water Sustainability Act: http://www.bclaws.ca/civix/document/id/complete/statreg/14015</p> <p>Water Policies: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-policies</p> <p>Forest Planning and Practices Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/14_2004</p> |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.6.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions.</p> |
| Finding | <p>Tenure Rights – Indicator 1.2.1 concerned control system that the BP has in place to assure the legality of ownership and land use. The province grants tenure which establishes the legality referred to in 1.2.1. However, disputes may occur regarding various aspects of tenure, including the terms of the tenure agreement, the area covered by the agreement, and how special situations are dealt with (e.g. withdrawal of area from area granted in a forest licence). Because tenure is granted to provincial Crown land, this part of the indicator is applicable to this ownership. This part of the indicator is also applicable to private land that is included in tenure granted under instruments that permit the inclusion of private land, such as Tree Farm Licences. Because tenure is not granted on other private lands, this part of the indicator is not applicable to private land outside the mixed ownership tenure areas.</p> <p>The licences themselves provide mechanisms for the resolution of certain specified types of disputes. For example, a 2018 TFL includes a provision for the Regional Director to resolve disputes between the licensee and the FLNR/District Manager or Timber Sales Manager regarding areas selected for operations.</p> <p>"The laws of British Columbia govern the interpretation of Licences and the performance of the Parties under [the] Licences." This sentence is included directly in some licences issued in BC (e.g. Tree Farm Licences) and applies to all tenure granted under provincial legislation (in this case, the <i>Forest Act</i>). Should a dispute arise regarding an issue covered under the Forest Act but not specifically addressed in the licence, civil law processes are available to resolve the dispute if discussion /negotiation with FLNR/District staff do not achieve a resolution.</p> |

Regulations under the *Forest Act* also include dispute resolution mechanisms. For example, the Timber Harvesting Contracting & Subcontracting Regulation provides that certain harvesting contracts contain dispute resolution procedures and also sets out practices to be followed when a tenure holder is affected by a reduction due to the Forestry Revitalization Act.

Use Rights –Disputes may also occur regarding various use rights which may exist on the forest. Indicator 1.2.1 concerned the legal use rights of the forest owner and manager and Criterion 2.5 requires that legal, customary, and traditional tenure and land use rights of indigenous peoples and local communities are identified, documented and respected. The risk assessment of 2.5.1 observed that “Customary and traditional tenures are asserted by individual indigenous peoples and local communities in BC but are not typically legally recognized unless proven in court, through the treaty process or through other legal agreements.” Therefore, the provincial legal system provides the framework for dispute resolution of use rights.

Forest Management Practices – Disputes regarding forest management practices may revolve around planned practices and around the outcomes of the application of approved practices. In the former case, disputes are generally resolved during the development of the Forest Stewardship Plan and operational plans, since plan approval is required before the plan can be put into place. Also, consultation opportunities provide stakeholders and Aboriginal representatives to identify potential conflicts that could be resolved during the plan development process.

The Forest Practices Board (FPB) may also adjudicate disputes regarding management practices, since its involvement may be triggered by complaints or requests for an audit or assessment. The FPB’s website states that the FPB serves “the public interest as the independent watchdog for sound forest and range practices in British Columbia.” The FPB responds to complaints and may play a role in providing evidence that can be used to resolve a disagreement.

A second appeal body is the Forest Appeals Commission (FAC), which is an independent tribunal originally established under the [Forest Practices Code of British Columbia Act \(Code\)](#) and continued under the [Forest and Range Practices Act](#). The Commission hears appeals from certain decisions made by government officials related to forests and the environment.

Work Conditions – The term “work conditions” is being interpreted as being concerned with workplace characteristics and the balance of power and rights between the employers and the employees. The term “work conditions” also covers the characteristics of the workplace as experienced by contractors. However, a number of workplace characteristics are addressed in other indicators, specifically:

Indicator 2.7.1: Freedom of Association and the right to collective bargaining are respected; Indicator 2.7.2: Absence of compulsory labour; Indicator 2.7.3: Absence of child labour; Indicator 2.7.4: Absence of discrimination; Indicator 2.7.5: Fair wages are paid; and Indicator 2.8.1: Forest worker health and safety are protected.

In British Columbia, the main act covering workplace conditions is the *Employment Standards Act*. Among other things, the *Employment Standards Act* and associated regulations set minimum standards for wages and working conditions in most workplaces. Section 37.7 of the Regulations applies to loggers in the interior of the province and regulations 37.9 apply to silviculture workers. The Act includes a complaint process. The Employment Standards Branch helps employers and employees to resolve disputes under the *Employment Standards Act* and Regulation through a variety of means such as education, mediation, investigation and adjudication. The Employment Standards Tribunal can hear appeals on decisions made with regards to the Employment Standards Act. [The BC Labour Relations Board](#) mediates and adjudicates employment and labour relations matters related to unionized workplaces.

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| | <p>The Director of Employment Standards may compile and publish information about contraventions of the Act and Regulation and make this information public.</p> <p>The aforementioned control systems justify a low risk designation for this indicator.</p> |
| Means of Verification | <ul style="list-style-type: none"> Existing legislation Existing licences Level of enforcement Interviews with staff and stakeholders Company employment policies Fibre contracts & Annual Supplier correspondence |
| Evidence Reviewed | <ul style="list-style-type: none"> FLNRORD Tree Farm Licence #1 January 1, 2018. https://www.for.gov.bc.ca/dmswww/tfl/TFL-01/Licences/TFL-01-Lic-05-January-1-2018.pdf FLNRORD – Timber Harvesting Contract & Subcontract Mediation and Arbitration – https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/forest-tenure-administration/timber-harvesting-contract-subcontract-mediation-arbitration BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour Employment Standards Act – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01 Employment Standards Act Regulations – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95 Employment Standards Act – Interpretation Guidelines Manual – https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/igm/toc Employment Standards Act Complaint Process – https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/complaint-process https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/info-forms/forms-complaint-submission/complaint-submission Employment Standards Tribunal – www.bcest.bc.ca |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.7.1 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that Freedom of Association and the effective recognition of the right to collective bargaining are respected.</p> |
| Finding | <p>Freedom of Association refers to the right to join others for a legal common cause without interference.</p> <p>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 ratified and in force. Convention C098 – Right to Organize and Collective Bargaining Convention (1949), has been ratified and will come into force in Canada on June 14, 2018.</p> <p>The International Trade Union Confederation (IUTC) Global Rights Index ranks 139 countries against 97 internationally recognised indicators to assess where workers’ rights are best protected, in law and in practice. The Survey ranks countries on a scale of 1 to 5 (where 1 is</p> |

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| | <p>best), based on a consideration of violations of the rights to freedom of association, collective bargaining and strike as defined by ILO Conventions, in particular ILO Convention Nos. 87 and 98 as well as jurisprudence developed by the ILO supervisory mechanisms. The IUTC Global Rights Index 2017 assigns Canada a rating of 2, where a score of 1 is exemplary and a score of 5 indicates poor conditions for labour. This assessment of “2” is given to countries where “<i>Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis.</i>” This is a generally high rating – 12 countries were rated at “1” and 21 rated a “2”, so Canada stands in a group with high standards.</p> <p>The key provincial legislation governing labour rights and practices is the Labour Relations Code, which governs Rights, Duties and Unfair Labour Practices, Collective Bargaining, and Strikes, Lockouts and Picketing. The Act, which among other things provides for Freedom of Association as well as the Right to Communicate, is overseen by the Labour Relations Board, which has power to certify trade unions, ensure that unions of employees as well as employers follow applicable legislation. The Board also encourages collective bargaining and British Columbia is well-known as a province with relatively strong unions and the forest sector in particular is a heavily unionized industry, providing a reliable mechanism to collective bargaining.</p> <p>The Canadian Foundation for Labour Rights reports that since 1982 federal and provincial governments have passed 224 pieces of legislation that have restricted, suspended or denied collective bargaining rights for Canadian workers. Of this legislation, 92 instances were “back to work” legislation, and another 53 pieces of legislation suspended the collective bargaining rights of public sector employees. The Foundation’s web site indicates that 39 of the pieces of “Restrictive Labour” legislation were passed in BC; the bills generally pertained to the education system, public transit, the public service, and health care. One piece of legislation applied to the forest sector – a 1984 bill called the Pulp and Paper Collective Bargaining Assistance Act, which ended a strike in the sector and appointed a mediator. Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| <p>Means of Verification</p> | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> • Existing legislation • Level of enforcement • Monitoring records • Regional, publicly available data from a credible third party • Publicly available information (news and media) <p>Biomass Producers’ MOV</p> <ul style="list-style-type: none"> • Interviews with producer staff and stakeholders, and with local union representatives • Company employment policies |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf • Global Forest Registry – http://www.globalforestregistry.org/NEW/map/ • ILO – Ratifications for Canada – http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200COUNTRYID:102582 • ITUC Global Rights Index, 2017 – https://www.ituc-csi.org/ituc-global-rights-index-2017 • US Legal https://definitions.uslegal.com/f/freedom-of-association/ • Canadian Foundation for Labour Rights https://labourrights.ca/issues/restrictive-labour-laws-canada • BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour (Fair Wages, OHS, WSBC, Works Appeal Tribunal) • Employment Standards Act – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01 |

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| | <ul style="list-style-type: none"> • Employment Standards Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95 • Canadian Foundation for Labour Rights – https://labourrights.ca/restrictive-labour-laws |
| <p>Risk Rating</p> | <p>X Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.7.2 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using any form of compulsory labour. |
| Finding | <p>Canada has ratified C105 – Abolition of Forced Labour Convention (1957, ratified 1959).</p> <p>The ILO describes forced labour as work that is performed involuntarily and under the menace of any penalty.</p> <p>Although forced labour is a global problem, it is very uncommon in Canada. The World of Work report (2014) reported that Canada shows a lower rate of excessive work hours compared to most countries. Canada is mentioned as one of the countries where labour provisions are proliferating.</p> <p>According to the Global Slavery Index (GSI) Canada in 2016 ranks 138 out of 167 evaluated countries in the World (1 being the worst offender) with an estimated 0.018% population in modern slavery. Canada is one of the countries with the lowest estimated prevalence of modern slavery by the proportion of their population. These 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.</p> <p>Through Provincial labour laws, the British Columbia Ministry of Labour, Employment Standards Branch regulates employment in British Columbia, including employment in the forest industry. The <i>Employment Standards Act</i> and <i>Employment Standards Regulation</i> set minimum standards for wages and working conditions in most workplaces. The <i>Act</i> applies to all non-union employees who fall under provincial jurisdiction, including temporary foreign workers.</p> <p>The <i>Act</i> does not have any language in it that specifically refers to forced or compulsory labour, reflecting the absence of such practices. The <i>Act</i> contains extensive requirements regarding Hours of Work and Overtime, observance of Statutory Holidays, Leaves and Vacations. The <i>Act</i> also specifies that minimum wage must be paid and there cannot be false representations made to a prospective employee.</p> <p>Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| Means of Verification | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> • Ratifications of ILO Conventions • ILO reports and assessment tools • Other international compulsory labour monitoring programs • Existing legislation • Level of enforcement • Monitoring records • Publicly available information (news and media) • Employment Standards Tribunal decisions <p>Biomass Producers’ MOV</p> <ul style="list-style-type: none"> • Interviews with staff and stakeholders • Company employment policies |
| Evidence Reviewed | <ul style="list-style-type: none"> • FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf • Global Forest Registry – http://www.globalforestregistry.org/NEW/map/ |

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| | <ul style="list-style-type: none"> • ILO – Definition of Forced Labour http://www.ilo.org/global/topics/forced-labour/definition/lang--en/index.htm • ILO – Ratifications for Canada – http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200COUNTRYID:102582 • BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour (Fair Wages, OHS, WSBC, Works Appeal Tribunal) • Employment Standards Act – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01 • Employment Standards Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95 • Canadian Foundation for Labour Rights – https://labourrights.ca/restrictive-labour-laws • World of Work report. (2014) http://www.ilo.org/wcmstp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_243961.pdf • Global Slavery Index 2016 – https://www.globallslaveryindex.org/findings/ |
| Risk Rating | <p>X Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 2.7.3 | The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is not supplied using child labour. |
| Finding | <p>The ILO does not provide a standardized 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.</p> <p>According to ILO Convention C138, employment at the age of 15 (or the age of completing of compulsory schooling) is allowed as long as it does not jeopardise the health, safety or morals of young persons. 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). Canada also ratified the Convention on the Rights of the Child in 1991.</p> <p>There are numerous international organizations that have country-level monitoring programs that consider employment conditions, treatment of employees, and other labour related conditions. A current review of dedicated global websites (ILO Child Labour, Child Labour Index (Maplecroft), Global March Against Child Labour) found that child labour is uncommon in Canada. Canada is not a part of the Child Labour Dashboard owing to the negligible level of child labour in the country. The only specific critique of Canada in the 2010 report Accelerating Action Against Child Labour was that Canada had not ratified Convention 138, which it has since done.</p> <p>Ratification of International Labour Organization (ILO) conventions occurs at the federal level while regulations regarding minimum age of employment are under the jurisdiction of the provinces.</p> <p>Through Provincial labour laws, the British Columbia Ministry of Labour, Employment Standards Branch regulates employment in British Columbia, including employment in the forest industry. The <i>Employment Standards Act</i> and <i>Employment Standards Regulation</i> set minimum standards for wages and working conditions in most workplaces. The <i>Act</i> applies to all non-union employees who fall under provincial jurisdiction, including temporary foreign workers.</p> <p>Section 9 of the <i>Employment Standards Act</i> is concerned with setting minimum ages for employment, and 15 is a key threshold age. In this regard, the provincial legislation is consistent with international standards. Under the <i>Act</i>, children younger than 15 years of age cannot be employed unless the employer has obtained the written consent of the child's parent or guardian.</p> <p>Part 7 of the <i>Employment Standards Regulation</i> sets out the Conditions of Employment for Children. There are a number of specific regulations that apply to young people under the age of 15 and their employers in British Columbia. The Employment Standards Tribunal lists decisions (not complaints) in a searchable database. A search for decisions related to child labour primarily showed that the decisions occurred in the agricultural sector. A search of “child labour” and “forestry” yielded no relevant decisions in the past ten years.</p> <p>Typically, within BC in the 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 age requirement.</p> <p>Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| Means of Verification | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> • Ratifications of ILO Conventions • ILO reports and assessment tools • Other international child labour monitoring programs • Existing legislation • Level of enforcement • Monitoring records • Publicly available information (news and media) |

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| | <ul style="list-style-type: none"> • Employment Standards Tribunal decisions <p><u>Biomass Producers' MOV</u></p> <ul style="list-style-type: none"> • Interviews with staff and stakeholders • Company employment policies |
| Evidence Reviewed | <ul style="list-style-type: none"> • FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf • Global Forest Registry – http://www.globalforestregistry.org/NEW/map/ • ILO – Definitions http://www.ilo.org/ipecc/facts/lang--en/index.htm • ILO – Ratifications for Canada – http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102582 • ILO. 2010. Accelerating Action Against Child Labour. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_127688.pdf • BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour (Fair Wages, OHS, WSBC, Works Appeal Tribunal) • Employment Standards Act – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01 • Employment Standards Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95 • Employment of Young People – https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/specific-industries/employment-of-young-people • Employment Standards Regulation - Part 7.1 – Conditions of Employment of Children – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95#part7.1 • Child Labour Index 2014 – https://maplecroft.com/portfolio/new-analysis/2013/10/15/child-labour-risks-increase-china-and-russia-most-progress-shown-south-america-maplecroft-index/ • ILO Child Labour Country Dashboard – http://www.ilo.org/ipecc/ChildlabourstatisticsSIMPOC/lang--en/index.htm and http://www.ilo.org/ipecc/Regionsandcountries/lang--en/index.htm • Global March Against Child Labour – http://www.globalmarch.org |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.7.4 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using labour which is discriminated against in respect of employment and occupation. |
| Finding | <p>Canada is signatory to the following two ILO Conventions relevant to this indicator:</p> <ul style="list-style-type: none"> • C100 – Equal Remuneration Convention (1951, ratified 1972) • C111 – Discrimination in Respect of Employment and Occupation Convention (1958, ratified 1964) <p>Discrimination can be defined as any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin or any other arbitrary differentiation, which has the effect of nullifying or impairing equality of opportunity</p> |

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| | <p>or treatment in employment or occupation. This definition is derived from ILO Convention 111.</p> <p>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.</p> <p>Federal law prohibits discrimination in society, including in the workplace. The <i>Canadian Human Rights Act</i> broadly prohibits discrimination on the basis of gender, race, ethnicity and many other grounds. In addition, Canada's <i>Employment Equity Act</i> and the Federal Contractors Program require employers to take active measures to improve the employment opportunities for specific groups of people in Canada.</p> <p>Both the labour rights and responsibilities of employers and employees within federally regulated sectors fall under the Canada Labour Code. The rights of foreign workers in Canada are also protected under federal or provincial/territorial labour laws.</p> <p>Nationally, Canada is considered to have strong laws and agencies to protect against discrimination at work. The ILO Help Desk, for example, does not identify any violations of employment rights in Canada.</p> <p>The 2018 draft NRA concluded that Canada was designated as low risk for violation of most forms of labour rights, including discrimination. The NRA process expressed concern regarding discrimination against women in the labour market, especially Aboriginal women. However, the most recent draft of the NRA indicates that a low risk conclusion was adopted regarding discrimination. The draft NRA cited evidence that the percentage of Aboriginal workers in the forest sector is higher than in other sectors and some new policies in the forestry sector are favourable for Aboriginal women in the labour market.</p> <p>There does remain some level of discrimination in Canadian society, and undoubtedly some of this occurs in the forest sector.</p> <p>British Columbia's law to protect and promote human rights is the Human Rights Code or the Code. The Code has numerous sections in it that protect people from discrimination and harassment in the workplace and in their broader lives. The Code, which is overseen by the provincial Attorney General, has provisions in it prohibiting discrimination regarding wages, employment, and by unions.</p> <p>The independent Human Rights Tribunal is responsible for dealing with complaints under the Human Rights Code. Information about the tribunal, including decisions by the Tribunal, is available online. A scan of decisions by the tribunal revealed that two of 279 decisions rendered in 2017 involved forestry companies, and to the end of April 2018, none of the 93 decisions involved a forestry company (or at least one that could be identified by the company name). Both decisions concerned whether to accept a complaint filed by a former employee after the six-month time limit had expired (one complaint was accepted, the other rejected; no information could be found that describes how the case where the complaint was accepted was concluded).</p> <p>The number of times the Tribunal was asked to rule on a complaint from the forest sector is rather low, suggesting that there is a relatively low level of discrimination encountered in the forest sector. This conclusion is consistent with the notion that forestry companies are finding it difficult to hire and retain employees, and in such circumstances, discrimination is less likely than it would be if there was an abundance of people interested in working in the sector. The sector also generally needs to maintain wages and benefits in line with other resource-based industries, otherwise forestry's retention rate would suffer.</p> <p>The Hay Group reports that British Columbia has not enacted pay equity laws but has instead developed policy frameworks for negotiating pay equity with public sector employees.</p> <p>Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
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| <p>Means of Verification</p> | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> Existing federal and provincial legislation Level of enforcement Monitoring records Regional, publicly available data from a credible third party Publicly available information (news and media) <p>Biomass Producers' MOV</p> <ul style="list-style-type: none"> Interviews with staff and stakeholders Company employment policies |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf ILO – Ratifications for Canada – http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200COUNTRYID:102582 ILO Labour Help Desk http://www.ilo.org/empent/areas/business-helpdesk/lang--en/index.htm Canada https://www.canada.ca/en/canadian-heritage/services/rights-workplace.html BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour (Fair Wages, OHS, WSBC, Works Appeal Tribunal) BC Human Rights Code – http://www.bclaws.ca/Recon/document/ID/freeside/00_96210_01 Decisions from the BC Human Rights Tribunal - http://www.bchrt.bc.ca/law-library/decisions/index.htm https://www2.gov.bc.ca/gov/content/justice/human-rights/human-rights-protection |
| <p>Risk Rating</p> | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

| | Indicator |
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| 2.7.5 | <p>The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is supplied using labour where the pay and employment conditions are fair and meet, or exceed, minimum requirements.</p> |
| Finding | <p>Some aspects of pay and employment conditions have been addressed in the following Indicators:</p> <p>2.7.1 – Freedom of Association and Right to Bargain Collectively 2.7.2 – Absence of Compulsory Labour 2.7.3 – Absence of Child Labour 2.7.4 – Absence of Discrimination</p> <p>All of these indicators were assessed as being low risk. The assessment of this indicator will focus on the presence and suitability of minimum wage and employment conditions in B.C.</p> <p>Convention 26 was ratified by Canada in 1935. However, its complementary Convention (No. 30), which calls for the participation of women in wage-fixing bodies, has not been ratified by Canada. Likewise, Canada has not ratified Convention 131, which encourages the development of a system of minimum wages.</p> <p>Macmillan reports that in the area of employment law, the federal government only has jurisdiction in areas within exclusive federal constitutional jurisdiction. The forest sector is not one of these areas, hence it is the provincial legislation and standards that govern employment and wages in the B.C. forest sector.</p> <p>The British Columbia Ministry of Labour, Employment Standards Branch regulates employment in British Columbia, including employment in the forest industry. The <i>Employment Standards Act</i> and Employment Standards Regulation set out standards for minimum wage levels, hours of work, vacation and holiday pay, leaves of absence, notice periods for termination and severance pay.</p> <p>The <i>Employment Standards Act</i> includes a requirement that the minimum wage be paid. British Columbia has embarked on a measured series of increases to the minimum wage, which will rise from \$11.35/hour to \$12.65/hour on June 1, 2018 and increase again each June 1 until it reaches \$15.20/hour on June 1, 2021. The June 1, 2018 increase will put B.C.'s minimum wage as the fifth highest in Canada (behind Ontario, Alberta, Northwest Territories and Nunavut).</p> <p>Unions play a key role in protecting workers rights. The BC forest sector is a heavily unionized industry, providing a reliable mechanism to collective bargaining. This keeps wages competitive with other industrial sectors and consistent with the non--unionized forest sector. The forestry sector struggles to find people willing to work in the sector, as reported by CBC in 2017, and it generally competes for employees against other resource-based industries, notably mining and energy. As a result, forestry is forced to pay a competitive wage otherwise it cannot retain staff or attract competent ones. For the same reason, the industry is required to offer good working conditions. Employment Standards Regulation 37.7 provides specific requirements regarding working conditions for loggers in interior British Columbia.</p> <p>Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| Means of Verification | <p><u>Publicly Available MOV</u></p> <ul style="list-style-type: none"> • Existing legislation • Level of enforcement • Monitoring records • Regional, publicly available data from a credible third party • Publicly available information (news and media) |

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| | <p><u>Biomass Producers' MOV</u></p> <ul style="list-style-type: none"> • Interviews with staff and stakeholders • Company employment policies |
| Evidence Reviewed | <ul style="list-style-type: none"> • FSC-NRA-CAN V1-0 20-18 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf • CBC Forest sector losing jobs – but desperately needs more skilled workers. Posted May 8, 2017. http://www.cbc.ca/news/canada/british-columbia/forest-sector-losing-jobs-but-desperately-needs-more-skilled-workers-1.4103694 • Retail Council of Canada https://www.retailcouncil.org/quickfacts/minimum-wage-by-province • Macmillan LLP. Undated. Employment law in Canada: provincially regulated employers. Available at: https://mcmillan.ca/files/Employment%20Law%20in%20Canada%20-%20provincially%20regulated%20employers.pdf • BC Ministry of Labour – https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour (Fair Wages, OHS, WSBC, Works Appeal Tribunal) • Fair Wages Commission – https://engage.gov.bc.ca/fairwagescommission/ • Employment Standards Act, Part 3 – Wages, Special Clothing and Records – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01#part3 • Employment Standards Act, Part 11 – Enforcement – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96113_01#part3 • Employment Standards Regulation – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95 • Employment Standards Regulation - Part 7 - Variances And Exclusions, ESR Section 37.7 – Loggers working in interior – https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/igm/esr-part-7-section-37-7 • Employment Standards Regulation - Part 7 - Variances And Exclusions, ESR Section 37.9 – Silviculture Workers – http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/396_95#section37.9 |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

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| 2.8.1 | The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12). |
| Finding | Canada is signatory to ILO Convention C187 – Promotional Framework for Occupational Safety and Health Convention (2006, ratified 2011). Canada has not ratified Convention C148: Working Environment (Air Pollution, Noise, Vibration) from 1977 nor has Convention C155 been ratified: Occupational Health and Safety Convention from 1981. Ergon reports that Canada has laws governing health and safety at the federal level (for workers covered under federal legislation) and at the provincial level. Federal health and safety law, commonly referred to as Canada Labour Code Part II and regulations, covers employees of companies or sectors that operate across provincial or international borders. |

This generally excludes forest sector workers, although it does cover highway transport workers who might from time to time ship wood fibre.

Ergon concluded that the federal government’s health and safety system is comprehensive, including inspection, enforcement, reporting notification, stakeholder consultation, and education and training for both employers and employees. No concerns were identified, other than that the federal legislation used the terminology “employees” as opposed to the broader terminology of “workers”. The latter includes self-employed people and contractors, of which there are many such workers in forestry in Canada as well as in B.C.

In British Columbia, legal requirements and standards regarding occupational health and safety (OHS) for all workplace parties are present in the *Workers Compensation Act*, *Occupational Health & Safety Regulation* (OHSR), OHS Polices and WorkSafeBC Standards. These Acts, policies and standards are administered by WorkSafeBC (WSBC), which is an independent reporting/inspecting agency responsible for protecting and maintaining the overall well-being of the workers’ compensation system. WSBC, which is under the umbrella of the British Columbia Ministry of Labour, has the legal authority to set and enforce occupational health and safety standards, assist injured or disabled workers, and assess employers and collect funds to operate WSBC. Companies with safe workplaces can be awarded a Certificate of Recognition (COR) if they pass an audit, conducted by a third-party audit organization. Once a COR is obtained, annual audits ensure that the workplace continues to meet a high level of safety. WSBC also has the authority to audit the financial records of a company to determine the relevant payroll and industry classification to ensure that the proper premium is paid.

By law, all businesses in BC (regardless of size) who hire full-time, part-time, casual or contract workers must register with WSBC. Employers in British Columbia must comply with the provisions in both the Workers Compensation Act and the OHSR for their own workers, and other workers (i.e. contractors and subcontractors) present at the worksite. If these requirements are not followed, WSBC may choose from a variety of enforcement tools including stop work orders and administrative penalties.

OHSR describe provisions for safety responsibilities of all parties, safe workplace conditions, specific hazards, and industry (Section 20-34) and activity related requirements. The forest industry has specific and applicable OHS provisions (S. 26) which include but are not limited to: legally required personal protection equipment for persons involved in harvesting activities, implementation of safe felling and transport practices, establishment of protection zones around harvesting sites, safety requirements for machinery used, and legally required safety requirements in relation to chemical usage. WorkSafe BC has put in place a Forestry High Risk Strategy to increase awareness of safety procedures in the sector and reduce the injury and fatality rate. The three-year strategy (2018-2020) is aimed at timber harvesting as well as silviculture, which also generates a high rate of injury.

The British Columbia Forest Safety Council (BCFSC), created in 2004, is the health and safety association (HSA) for forest harvesting, sawmills and pellet manufacturing in British Columbia. The BCFSC works with forest sector employers, workers, unions, contractors and provincial government agencies to support industry in implementing changes necessary to eliminate fatalities and serious injuries in the forest sector. The BCFSC is fully supported by WorkSafeBC and the government of British Columbia.

The BC forest sector has developed the SAFE (Safety Accord Forestry Enterprise) Companies as a prequalified safety initiative that companies must attain before they can bid on forestry work in BC. The SAFE Companies standard ensure a minimum standard of safety in all forestry work places and qualified companies are required to maintain safety programs that receive audits to verify compliance. As of December 2017, 2,974 Companies in BC are SAFE certified. The website maintains a weekly listing of all SAFE Companies, as well as submitted audits.

The *OHS Regulation* requires that certain individuals undertaking certain tasks, or with certain responsibilities, have appropriate training. Areas where the regulation requires training include first aid and emergency evacuation procedures, fire prevention, the hiring of new workers and /or young workers, and training requirements for worker health and safety reps and joint health and safety committee reps. Specific training is required for workers who work in isolation, and for those who check on such workers.

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| | <p>Paragraph 26.3(1), in the part of the Regulation that pertains to forestry workers, states that “(1) Every worker in a forestry operation must receive the training necessary to safely perform the worker’s duties.” Moreover, training records must be maintained. Training is required annually for every worker who might be required to fight forest fire, for tree fallers, and for those staff who may be required to assess whether a tree is dangerous or not. The training requirements for falls are very specifically spelled out in the Regulation, and the training program must meet Board standards.</p> <p>For workplaces that have achieved a Certificate of Recognition (COR) or another designation of a high standard of OHS, training is a part of maintaining that status. Training can take the form of formal courses and supervisors as well as health and safety reps will provide pointers and advice to employees during the course of their workday. Most forest operations have daily/weekly/monthly/quarterly health and safety meetings to ensure that health and safety is foremost in their minds as they are working. These meetings are generally recorded.</p> <p>Canada and BC have sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| <p>Means of Verification</p> | <p>Publicly Available MOV</p> <ul style="list-style-type: none"> • Existing legislation • Compliance/Enforcement Reports – OR – Level of enforcement / assessment of law enforcement • Regional Best Management Practices • Training Records • WorksafeBC Records/Statistics • Interview with Worksafe BC <p>Biomass Producers’ MOV</p> <ul style="list-style-type: none"> • BP’s Management System • Proof of contributions to WorkSafe premiums • Interviews with BP staff • Interviews with Suppliers • Supply contracts • Supplier Declaration • Annual supplier correspondence • Monitoring records |
| <p>Evidence Reviewed</p> | <ul style="list-style-type: none"> • ILO – Ratifications for Canada – http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102582 • Ergon, 2018. Independent Report: Human rights in Canada, Mexico and the USA in the context of a potential FIFA 2026 World Cup competition. March 7, 2018. • BC Forest Industry Claims Statistics; 2012-2016 https://www.worksafebc.com/en/health-safety/industries/forestry/statistics • Workers Compensation Act, Part 3, Division 1 – 17, Occupational Health and Safety – https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/workers-compensation-act/workers-compensation-act • Workers Compensation Act, Part 3, Division 12 – Enforcement – https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/workers-compensation-act/workers-compensation-act#SectionNumber:Part3Division12 • OHS Regulation, Part 26, Forestry Operations and Similar Activities – https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-26-forestry-operations • OHS Guidelines, Part 26, Forestry Operations and Similar Activities https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines/guidelines-part-26 |

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| | <ul style="list-style-type: none"> • WCB Standards – https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/wcb-standards/wcb-standards • Worksafe BC Forestry High Risk Strategy – https://www.worksafebc.com/en/about-us/what-we-do/high-risk-strategies/forestry • Worksafe BC Statistics: Forestry – https://www.worksafebc.com/en/health-safety/industries/forestry/statistics • Worksafe BC Industry Safety Information Centre: 7030 Forestry – https://online.worksafebc.com/anonymous/wcb.ISR.web/IndustryStatsPortal.aspx?c=0 • BC Forest Safety Council – http://www.bcforestsafef.org • Forest Safety News, Issue 6/Vol. 4, December 2017 – http://www.bcforestsafef.org/files/ForestSafetyNewsletter_2017December.pdf |
| Risk Rating | <input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 2.9.1 | Biomass is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks. |
| Finding | <p>The indicator description in the SBP standard gives two examples of types of areas that might have high carbon stocks: wetlands and peatlands. There is no exploitation of wetlands and peatlands for timber production purposes in BC.</p> <p>It is notable that the examples of high carbon areas given in the standard are localized features, as many wetlands and peatlands are relatively small in size. This implies that “forest stand” is, or could be, analogous to the term “area” in the indicator, and this is how it will be interpreted here.</p> <p>On productive sites in particular, BC’s high carbon stands include old forests, especially old growth, Black et al. (2008) reported that mean total ecosystem C stocks in mature stands in the Pacific Northwest vary from 750 t/ha to 1130 t/ha, with 30-50% of the carbon being stored in the soil. In interior BC, old growth stands have from 324 to 423 t/ha C, while second growth stands have approx 200 t/ha. In contrast, old growth stands in the northeastern United States were found to have total ecosystem C amounts ranging from 217 – 267 t/ha, with approximately 50% in the soil (Hoover et al 2011). On this basis, old growth stands in BC would appear to qualify as high-carbon stands.</p> <p>Old forests are typically identified as CO₂ sources, however recent research has reached the opposite conclusion; Black et al (2008) cited a global study of 519 stands upwards of 800 years old that concluded old forests continue to accumulate carbon. Consistent results have been found in BC.</p> <p>The BC Ministry of Forests Lands and Natural Resources has a Climate Change Strategy (2015 – 2020) that aims to manage climate change as a core part of its business and to increase the use of climate science, data and knowledge to better understand the implications of climate change. While useful, these are largely planning initiatives that have no immediate consequences for carbon storage.</p> <p>In BC wetlands and peatlands are protected on public land through comprehensive legislation (FRPA Section 150.5) and associated regulation (Forest Planning and Practices Regulation Section 52, Woodlot License Planning and Practices Regulation, Range Planning and Practices Act). Protection on private land is not as robust and does not systematically protect all wetlands and peatlands.</p> |

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| | <p>Old growth has been at the centre of political battles in BC for more than four decades. At the landscape level, old growth is conserved in protected areas as well as through land use planning such as Land and Resources Management Plans, developed at the sub regional scale. At the stand level, the current management approach is detailed in the Landscape-Unit Planning Guide, which provides procedures for identifying and mapping Old Growth Management Areas (OGMAs). The current approach involves a combination of legally protected OGMAs and non-delineated OGMAs that contribute to an old growth retention target. Old growth protection has been constrained by government’s reluctance to allow old growth retention to reduce allowable harvest levels by more than 4%.</p> <p>When the FRPA replaced the Forest Practices Code, legally binding protection of old growth was continued under the <i>Land Act</i>, and the Minister responsible for the <i>Land Act</i> was given legal authority to establish new objectives for Crown land for FRPA purposes, although such orders are presently only binding on tenure holders. Under the FRPA, forest stewardship plans (FSP) are required to specify results and /or strategies for old growth retention; these commitments are legally binding.</p> <p>As a result, OGMAs are identified and mapped across the province. However, there are four different categories of OGMA:</p> <ul style="list-style-type: none"> • OGMA’s mapped and legally defined by order (spatial OGMA order); • OGMA’s mapped and not legally defined by order, but identified in an FSP and therefore protected for the duration of the plan; • OGMA’s mapped and not legally defined by order or identified in an FSP, in which case OGMAs may be used to meet the non-spatial old growth order commitments; • OGMA’s not mapped but tracked to meet the non-spatial old growth order commitments. <p>In categories 1 and 2, OGMAs are legally delineated (spatial OGMA orders) while OGMAs in categories 3 and 4 are not legally delineated (non-spatial OGMA orders) and have no binding commitment for protection. In 2011, 70% of the OGMAs were in categories 2 and 3.</p> <p>In the case of both spatial and non-spatial OGMAs, there is a pre-determined upper limit of 4.3% impact on timber supply. Thus, if more than 4.3% of the forest area is old growth, there will be unprotected old growth which can be harvested. Old growth requirements also do not distinguish between productive and unproductive old growth, which can allow industry to protect more non-productive old growth, which is of little commercial interest.</p> <p>The BC government is also moving towards facilitating other approaches that may protect high-carbon forest types. MFLNRORD’s Competitiveness Agenda advocates supporting the ability of existing tenure holders and new business partners to develop business-to-business contracts or arrangements for forest carbon management.</p> <p>The aforementioned analysis supports a low risk designation for this indicator.</p> |
| <p>Means of Verification</p> | <p>14. Supplier assertions 15. Company site inspection form 16. Company random audits /review of harvest plans</p> |
| <p>Evidence Reviewed</p> | <p>Natural Resources Canada. Forest carbon https://www.nrcan.gc.ca/forests/climate-change/forest-carbon/13085</p> <p>BC MFLNRO. 2016. Strong Past, Bright Future: A Competitiveness Agenda for British Columbia’s Forest Sector. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/competitive-forest-</p> |

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| | <p>industry/print_version_bcfs_agenda_final_lrsingles_r2.pdf.</p> <p>BC Ministry of Energy, Mines and Petroleum Resources. 1988. Peatland Inventory of British Columbia. D.E. Maynard. Mineral Resources Division, Geological Survey Branch.</p> <p>BC Ministry of FLNRO. 2013. Climate mitigation potential of British Columbian forests: Growing carbon sinks. November 2013. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nrs-climate-change/mitigation/climatepotentialofbritishcolumbianforests.pdf</p> <p>BC Forest Practices Board https://www.bcfpb.ca/reports-publications/reports/conserving-old-growth-forests-in-bc-implementation-of-old-growth-retention-strategies-under-frpa/</p> <p>BC Forest Carbon Strategy 2016-2020: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nrs-climate-change/mitigation/bc_forest_carbon_strategy_09092016_sept_21.pdf</p> <p>The BC Climate Leadership Plan (August 2016): https://climate.gov.bc.ca BC MLNRO Climate Strategy: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nrs-climate-change/climate_change_strat_2015-20.pdf</p> <p>BC Biodiversity Guidebook: https://www.for.gov.bc.ca/hfd/library/documents/bib19715.pdf</p> <p>Forest and Range Practices Act: http://www.bclaws.ca/civix/document/id/consol21/consol21/00_02069_01</p> <p>Forest Planning and Practices Regulation: http://www.bclaws.ca/Recon/document/ID/freeside/14_2004</p> <p>BC Private Managed Forest Land Act: http://www.bclaws.ca/Recon/document/ID/freeside/00_03080_01</p> <p>Environmental Law Centre Clinic. 2013. An Old Growth Protection Act for British Columbia. University of Victoria. Spring 2013.</p> <p>Black, T. Andrew, Rachhpal Jassal, and Arthur L. Fredeen. 2008. Carbon Sequestration in British Columbia’s Forests and Management Options. Pacific Institute for Climate Solutions. November 2008.</p> <p>Hoover, Coeli M., W.B. Leak and B.G. Keel. 2011. Benchmark carbon stocks from old growth forests in northern New England, USA. Forest Ecol and Mgmt. 266: 108-114.</p> |
| Risk Rating | X Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA |

| | Indicator |
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| 2.10.1 | Genetically modified trees are not used. |
| Finding | The Canadian Food Inspection Agency is responsible for GMO legislation and for issuing licenses for commercial use and permits for trials. There is no ban against GMO in Canada. However, there is a very strict scientific protocol that needs to be conducted |

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| | <p>before a permit for commercialization. This protocol requires confined field trials to demonstrate safety. At this time, NRCan reports that there are two small confined GM tree research trials (species – poplar) are being conducted in Ontario and Quebec and one in Alberta. Currently there are no licenses for use for timber production issued or underway. According to the latest FAO data (2004), there is no commercial use of genetically modified timber trees in Canada and more specifically British Columbia.</p> <p>The use of tree seed for reforestation on Crown lands is regulated under the <i>Forest Range Practices Act (FRPA)</i>, which provides the applicable regulations and standards that establish criteria for the registration of seed lots and vegetative lots used as well as regulating the storage, selection, use, and transfer of registered lots.</p> <p>BC’s Chief Forester’s Standards for Seed Use prohibit the registration of genetically modified seed. Since only registered seed can be used to reforest Crown lands, these standards ensure that no genetically modified seed is used in operational planting on Crown land in BC.</p> <p>In BC, 19 different native tree species are used in reforestation, none of which have been genetically modified.</p> <p>All seedlings planted in British Columbia can be traced back to the nursery of origin and seed origin via registered unique identification numbers (BC Government Seed Planning and Registry System (SPAR)). The FPPR (S.43) and WLPPR (S.32) require maintenance of records of seed used, including a map showing locations of where the seed was planted. Information is recorded within the BC Government RESULTS database and includes the seedlot registration number, number of trees planted per seedlot, and number of trees planted outside its respective transfer limits.</p> <p>The BC Ministry FLNRORD –Forest Improvement and Research Management Branch works to understand, protect and conserve the genetic foundations of B.C.’s public forests. The Branch’s tree-breeding programs do not involve any genetic engineering, gene insertion, gene splicing or biotechnology that results in genetically modified organisms. Seed orchard production (public and private) and related tree improvement activities are coordinated by the Forest Genetics Council of BC (FGC), a multi-stakeholder advisory body reporting to the Chief Forester.</p> <p>In 2007/08 the B.C. government initiated the planning for a climate-based seed transfer system to assist in reducing some of the negative effects and capitalizing on some of the benefits that a changing climate will have on forest productivity. The seed transfer system is based on peer-reviewed science and is not a GMO program.</p> <p>Private landowners obtain seedlings from Crown and Private Nurseries which are regulated by the Federal & Provincial legislation listed in sources of information.</p> <p>BC has sufficient legislation in place to consider this indicator to be low risk the purposes of this risk assessment.</p> |
| <p>Means of Verification</p> | <ul style="list-style-type: none"> • Legislation • Compliance/Enforcement Reports • Licenses for commercial use • Permits for trials • Interviews confirm that GMO (trees) are not used • Records demonstrate that GMO (trees) are not used |

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| Evidence Reviewed | <ul style="list-style-type: none"> • FSC-NRA-CAN V1-0 2018 – https://ca.fsc.org/preview.download-the-full-nra-here.a-2025.pdf • Global Forest Registry: http://www.globalforestregistry.org/ • FAO – 2004 (Cited source from Global Forest Registry Risk Assessment) – Preliminary review of biotechnology in forestry, including genetic modification, 2004 • Canadian Food Inspection Agency – FIA - Division 28 (Novel Foods) section of the Food and Drug Regulations C.R.C., c. 870. • B.C. Chief Forester’s Standards for Seed Use: https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use • Genome Canada. https://www.genomecanada.ca/en/fast-tests-rating-and-amelioration-conifers-fasttrac • Canadian Food Inspection Agency – Plants With Novel Traits: Information for the general public • Natural Resources Canada – Research Projects – Research on the potential environmental impact of genetically modified trees • Chief Forester’s Standards for Seed Use – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/legislation-standards/chief-forester-s-standards-for-seed-use • Tree Seed – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed • Forest Genetics – https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/forest-genetics • Forest Planning and Practices Regulation – S.43 – Use of Seed – http://www.bclaws.ca/civix/document/id/complete/statreg/14_2004#section43 • Woodlot License Planning and Practices Regulation – S. 32 – Use of Seed – http://www.bclaws.ca/civix/document/id/complete/statreg/21_2004#section32 |
| Risk Rating | <p><input checked="" type="checkbox"/> Low Risk <input type="checkbox"/> Specified Risk <input type="checkbox"/> Unspecified Risk at RA</p> |

ⁱ Council of Forest Industries. 2016. Accessed from: <http://www.cofi.org/industry-info/forest-facts/>

ⁱⁱ Certification Canada. 2014. British Columbia - SFM - Year-end 2014.

ⁱⁱⁱ Private Forest Landowners Association. 2017. Accessed from: <http://www.pfla.bc.ca/managed-forest-land/>

^{iv} State of Canada’s Forests. Annual Report. 2017. Accessed From: <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

^v Ministry of Forest Lands and Natural Resource Operation. 2016. Accessed from: <http://www.for.gov.bc.ca/>