



TOLKO TOLKO INDUSTRIES LTD

WOOD PRODUCER INFORMATION PACKAGE

April 2023

Introduction

Tolko is a member of the Western Canada Sustainable Forestry Initiative® Implementation Committee (WCSIC) and supportive of this guidance for managing forestlands that supply its facilities. Tolko Woodlands is committed to responsible sustainable forest management and recognizes the importance of maintaining viable public and private forestlands. Forest landowners have an important stewardship responsibility and a commitment to society. Tolko supports sustainable forestry practices on the forestland they manage and promote it on lands they source fibre. Tolko supports efforts to protect private property rights, and to help all landowners manage their forestland sustainably. To ensure that this commitment is achieved Tolko procures timber only from demonstrated reliable non-controversial sources.

The Tolko Wood Producer Information Package is an outreach tool for landowners or wood producer supplying wood to SFI Certified Organizations from North American forests. This Package provides guidance for managing forestlands consistent with SFI Program Principles and Objectives. Tolko also encourages forest landowners to participate in forest management certification. Landowners considering certifying their lands should contact the nearest the WCSIC through our website: www.wcsic.ca, for additional information.

Purpose

The purpose of this Information Package and its appendices is to provide guidance to Wood Suppliers to Tolko's Facilities with information on Training and awareness of the Sustainable Forestry Initiative for SFI 2022 Fiber Sourcing Standard.

SFI 2022 Fiber Sourcing Standard

Tolko supports the principles outlined in the SFI 2022 Fiber Sourcing Standard for purchased fibre from other landowners and/or wood producers.

SFI Principles:

1. Sustainable Forestry
2. Forest Productivity and Health
3. Protection of Water Resources
4. Protection of Biological Diversity
5. Aesthetics and Recreation
6. Protection of Special Sites
7. Legal Compliance
8. Research
9. Training and Education
10. Community Involvement and Social Responsibility
and respect for Indigenous Rights
11. Transparency
12. Continual Improvement
13. Responsible Fibre Sourcing

SFI Objectives

The SFI Fibre Sourcing Standard 2022 contains Objectives, Performance Measures, and Indicators to communicate and verify conformance with the overarching Principles. There are eleven Objectives that SFI Certified Organizations adhere to for their Fiber Sourcing Standard certification, supported by numerous Performance Measures and Indicators applicable to fibre sourcing from North American forests. We provide the listing of the Objectives below and encourage readers to review the more detailed Performance Measures and Indicators on the SFI website: <https://forests.org/>

1. Biodiversity in Fiber Sourcing
2. Adherence to Best Management Practices
3. Use of Qualified Resource Professionals, Qualified Logging Professionals and SFI-Certified Logging Companies
4. Legal and Regulatory Compliance
5. Forestry Research, Science, and Technology
6. Training and Education
7. Community Involvement and Landowner Outreach
8. Public Land Management Responsibilities
9. Communications and Public Reporting
10. Management Review and Continual Improvement
11. Avoid Controversial Sources

Sustainable Forest Management Practices

Tolko supports forest land managers in conducting sustainable forest management operations. Wood producers are expected to conduct harvesting operations in compliance with all applicable provincial or federal legislation. There is legislation that applies to both Crown (public) forest land and private land that is managed for forestry.

SFI Certified Organizations encourage wood producers to consider the following guidance on forest land managed by the wood producer or landowner. Landowners should contact an appropriate qualified resource professional for additional guidance particularly with respect to Best Management Practices for Water Quality.

- a) **Reforestation:** Prompt reforestation of lands being managed for forestry will help to ensure successive crops of trees. Reforestation plans can detail the steps needed to successfully re-establish seedlings on harvested forest lands. Tolko will, on request, support you in identifying Registered Forest Professionals in your area to assist you in developing a reforestation plan for your site. A list of seedling nurseries can also be obtained from Tolko. Note that seedlings generally need to be ordered at least one year in advance of planting dates.
- b) **Afforestation:** When feasible forest landowners are encouraged to practice afforestation; converting lands back to productive forests or planting trees on lands that have not recently supported forests. Afforestation has many benefits to the environment; two examples are increased overall land productivity and increasing carbon storage. Afforestation may qualify as carbon credits for offsetting greenhouse gas emissions.

- c) **Invasive Species:** The SFI Standard requires participants to limit the introduction, impact and spread of invasive species (plants and animals) that directly threaten or are likely to threaten native plant and animal communities. Information on the control of invasive plants can be found through the;
- BC - Invasive Species Council of British Columbia (<http://bcinvasives.ca/>),
 - AB - Alberta Invasive Species Council (<https://www.abinvasives.ca/>)
 - SK - Saskatchewan Invasive Species Council (<http://www.saskinvasives.ca/>).
 - Canada - The Government of Canada documents incidences and develops strategies for “Invasive Alien Species in Canada”. <https://www.canada.ca/en/services/environment/wildlife-plants-species/invasive-species.html>
- d) **Water Quality and Riparian Management:** Riparian habitat (area adjacent to creeks, lakes and wetlands) is very important for protecting water quality and provides high value wildlife habitat. Special measures are often required in riparian habitat to ensure water quality and habitat is managed on a sustainable basis. Tolko will, on request, support you in identifying qualified resource professionals in your area to assist you in preparing prescriptions to manage riparian habitat.
- Management and control of sediment during road construction, maintenance and deactivation activities is key to maintaining water quality. Adhere to local wet weather shutdown guidelines and cease activity if there are any safety or environmental concerns. Do not direct ditchwater directly into any fish streams or drinking water source areas (i.e., use ditch blocks, sumps, etc. Hay bales can also be used to assist with sediment control, but ensure they are maintained and removed once activity is complete. Where material is available, armour culvert intakes and outtakes for any areas of concern for sediment transport.
- e) **Fish and Fish Habitat:** It is prohibited under the Federal Fisheries Act (<https://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/introduction-eng.html>) to undertake works that result in the death of fish, a harmful alteration, disturbance or destruction of fish habitat (HADD) or to introduce a deleterious substance (e.g., excessive sediment) into fish habitat. Works in or adjacent to fish habitat may require a project review by Fisheries and Oceans Canada (<https://www.dfo-mpo.gc.ca/index-eng.html>) and if works are determined to result in a HADD an authorization will be required before work can be undertaken. The Fisheries and Oceans Canada website provides Measures to Protect Fish and Fish Habitat (<https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html>), Codes of Practice (<https://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html>) and guidance when a project review (<https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-001-eng.html>) is required.
- f) **Soil Conservation:** Protecting the soil resource is the key to long-term productivity of forest lands. Conducting operations in a manner that conserves the soil resource is critical to sustainable forestry. Weather conditions can be a major factor in soil disturbance. Operations should avoid conditions that create excessive rutting or compaction. Plan operations with soil disturbance in mind. Weather conditions and soil disturbance should be assessed, and consideration given to curtailing or stopping activities causing soil disturbance when soils are too wet to support equipment. For example, in the BC Interior and prairies, consider winter harvesting on wet ground to better support equipment. With different soil types, and phases of harvesting, it may be possible to carry out some operations in wet weather without causing excessive soil disturbance. Appropriate equipment should be used to minimize soil disturbance.

The area in permanent roads, trails and landings should be minimized to maintain productive forestland. Tolko will, on request, support you in identifying qualified resource professionals in your area to assist you in managing the soil resource on your forestlands.

- g) **Biodiversity:** Both regulation and government approved land use plans set out requirements at the stand level. These requirements vary by province and region. Landowners may seek assistance from Tolko or by contacting an appropriate qualified resource professional.
- h) **Wildlife Management:** Managing Forest lands for general wildlife features as well as specific management for species at risk are important components of sustainable forestry. Tolko has guides for species at risk management that can be made available upon request. In addition, Tolko will support you in identifying qualified resource professionals in your area to assist you in developing wildlife management strategies. There are also valuable resources on the Internet that can provide further information. Two websites of particular note are the Federal Government's website for species at risk (<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>) and NatureServe Canada's Conservation Data Centres (<https://www.natureserve.org/canada/>). Each may have species-specific information that applies to your situation.
- i) **Forests with Exceptional Conservation Value (FECV).** The FECV assessment, created by Tolko with the assistance of Professional Biologists, is intended to alert resource workers and wood suppliers to the potential presence of protected species to thereby minimize or avoid entirely negative impacts on sensitive animal and plant populations. Identified FECV are summarized by province with factsheets provided in Appendix C to assist landowners. The landowner is responsible to determine the presence of any FECVs on the land being harvested. Landowners may seek assistance from Tolko or by contacting an appropriate qualified resource professional.
- j) **Special Sites:** The SFI Standard requires Program Participants to manage lands that are ecologically, geologically or culturally important in a manner that takes into account their unique qualities. Identification and management of special sites covers a broad range of values: ecological, geological, historical, cultural and spiritual. Landowners may consult with local historians, archeologists, First Nations, local governments and others to determine significance to map and manage for their unique features.
- k) **Coarse woody debris/harvest residue:** The SFI Standard requires participants to manage harvest residue (e.g., slash, limbs, tops) with consideration given to economic, social and environmental factors (e.g. organic and nutrient value to future forests) and other utilization needs. In the absence of landowner harvest residue management plans, landowners should contact Tolko or qualified resource professionals in their area for suggested management practices for their forest lands.
- l) **Landscape Aesthetics:** Managing harvesting operations to minimize visual impact is an important part of sustainable forestry. Operations may impact the views of many individuals and communities. Tolko recommends that the visual impact of harvesting be considered within visually sensitive areas. For guidance or advice landowners are encouraged to contact a qualified resource professional knowledgeable in visual management assessment and planning.

Qualified Professionals: Tolko does not endorse specific professionals or companies as to their appropriateness to landowners. The following lists are intended to inform landowners seeking assistance from qualified resource

professionals to further manage and or develop their lands consistent with SFI Principles. Tolko may assist landowners in contacting qualified resource professionals.

m) **Qualified Resource Professionals**

Qualified Resource Professional Category	Resources
Forestry	<p>BC, Alberta, and Saskatchewan have respective Associations of Forest Professionals where membership directories can help you identify forestry consultants to assist you in planning aspects of forest management, including reforestation plans, visual management, riparian management, soil conservation and wildlife management.</p> <p>Association of BC Professional Foresters: https://abcfp.ca/web</p> <p>Association of Alberta Forest Management Professionals: https://aafmp.ca/</p> <p>Association of Saskatchewan Forestry Professionals: https://www.asfp.ca/</p>
Biologists	<p>Each province within the WCSIC has a membership database for professional biologists. Members could assist you with planning for riparian management and wildlife management. An SFI Program Participant can also assist you in identifying biologist consultants in your area.</p> <p>The College of Applied Biology – British Columbia: https://www.cab-bc.org/</p> <p>Alberta Society of Professional Biologists: https://www.aspb.ab.ca/</p>
Engineers	<p>The following websites have a member’s section that provides information on qualified professionals to assist in such areas as operations on potentially unstable or steep terrain and engineered structures such as bridges.</p> <p>The Association of Professional Engineers and Geoscientists of British Columbia: https://www.egbc.ca/</p> <p>The Association of Professional Engineers, Geologists, and Geophysicists of Alberta: https://www.apega.ca/</p> <p>The Association of Professional Engineers and Geoscientist of Saskatchewan: https://www.apegs.ca/</p>
Seedling Nurseries and Seed Procurement	<p>A list of BC Forest Seedling Nurseries and services is available on the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development website. (https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/tree-seed/seed-planning-use/spar or https://www.fnabc.com/). The nurseries can assist you in selecting and procuring appropriate seedlings for a reforestation project in BC. In Alberta and Saskatchewan please consult with Tolko for advice on obtaining seedlings.</p>

n) Qualified Logging Professionals:

Tolko encourages wood producers to utilize the services of qualified logging professionals. Qualified Logging Professionals will have successfully completed a training program recognized by Tolko. A list of local contractors with qualified logging professionals can be obtained from Tolko. If an individual wishes to become a Qualified Logging Professional, they can email woodlandstraining@tolko.com to obtain assistance on accessing Tolko Woodlands Training Site and the required training modules.

o) Guidebooks and sustainable forestry management practices:

Tolko supports small forest landowners' forestry operations through promotion of sustainable forestry management. Wood producers are expected to conduct harvesting operations in compliance with applicable provincial or federal legislation. The intent of sustainable forestry practices for these lands is to maintain or protect, where practical, forest resource values. The Western Canada Sustainable Forestry Initiative Implementation Committee (WCSIC) provides and/or directs small private landowners to information about sustainable forestry practices for reforestation, riparian management, soil conservation, wildlife management and visual or scenic quality. Resources for landowners can be found with the following organizations and on their websites:

- Western Canada Sustainable Forestry Initiative Implementation Committee (WCSIC) - <http://www.wcsic.ca/>
- Private Forest Landowners Association - <http://www.pfla.bc.ca/>
- Private Managed Forest Land Council - Field Practices Guide - <https://www.mfcouncil.ca/field-practices-guide/>
- BC Small Woodland Partnership Outreach - <http://woodlot.bc.ca/small-woodlands-program/>
- Agroforestry and Woodlot Extension Society of Alberta (awes-ab.ca)-<https://www.awes-ab.ca/>

Audits/ Inspections

As part of Tolko's commitment to sustainable forest management, an on-site visit of wood producer operations may be conducted to answer any questions about the SFI program. The visit may also include an assessment of the conditions on the logging site as part of Tolko's requirements to meet the applicable certification Standard(s).

Tolko hires third-party independent auditors, who verify that the companies' forest practices and environmental management meet the requirements of the certification system. To ensure transparency, these auditors' reports are available publicly on the SFI Inc. website <https://forests.org/>.

Appendix A: SFI Definitions

Controversial Sources are defined as:

- a) Forest activities which are not in compliance with applicable state, provincial, federal, or international laws.
- b) Forest activities that are contributing to regional declines in habitat conservation and species protection (including biodiversity and special sites, Alliance for Zero Extinction sites and key biodiversity areas, threatened and endangered species).
- c) Conversion sources originating from regions experiencing forest area decline.
- d) Forest activities where the spirit of the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at work (1998) are not met.
- e) Forest activities where the spirit of the United Nations Declaration on the Rights of Indigenous Peoples (2007) are not met.
- f) Fiber sourced from areas without effective social laws
- g) Illegal Logging including trade in CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora) listed species.
- h) Conflict Timber
- i) Genetically modified trees via forest tree biotechnology

Qualified Logging Professional:

A person with specialized skills in timber harvesting who has successfully completed wood producer training programs and continued education requirements recognized by SFI Implementation Committees as meeting the spirit and intent of performance measure under Objective 13 in the SFI 2022 Forest Management Standard or Objective 6 in the SFI 2022 Fiber Sourcing Standard.

Qualified Resource Professional:

A person who by training and experience can make forest management recommendations. Examples include foresters, soil scientists, hydrologists, forest engineers, forest ecologists, fishery and wildlife biologists or technically trained specialists in such fields.

Best management practices (BMPs):

A practice or combination of practices for protection of water quality that is determined by a federal, provincial, state, or local government or other responsible entity, after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective and practicable (including technological, economic, and institutional considerations) means of conducting a forest management operation while addressing any environmental considerations.

Appendix B: Other Considerations

Emergency Response

- a) **Spill Response Plan:** Fuel and other material spills have the potential to cause environmental damage. Wood producers are encouraged to become familiar with spill reporting requirements and to have an action plan and a supply of spill containment and mop up equipment available on site. Reportable spills must be communicated to the relevant provincial authority. For more detailed information on fuel handling a Fuel Handling course can be found at www.fueltraining.ca

Report a spill

British Columbia- Emergency Management BC at 1-800-663-3456

Alberta - Alberta Environmental Protection at 1-800-222-6514

Saskatchewan - Spill Report Centre at 1-800-667-7525

- b) **Fire Preparedness Plan:** Wood producers are encouraged to become familiar with applicable wildfire legislation in their province. Provincial legislation will dictate what type of preparedness plan and firefighting equipment must be on hand when harvesting wood.

Report a wildfire

BC – BC Wildfire Service 1-800-663-5555 (*5555)

Alberta - Report-A-Fire at 310-FIRE (310-3473)

Saskatchewan - Forest Fire Control Centre at 1-800-667-9660

Wood producers also should be aware of requirement of post-harvest wildfire hazard abatement requirements. Guidance on wildfire hazard abatement is available at the following sources:

- BC Wildfire Management Branch: <http://bcwildfire.ca/>
- BC Wildfire Management Branch: A Guide to Fuel Hazard Assessment and Abatement in British Columbia <https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/for-industry-commercial-operators/hazard-assessment-abatement>
- Alberta, Forestry and Rural Economic Development: Wildfire Prevention & Enforcement <https://wildfire.alberta.ca/compliance-and-enforcement/default.aspx>
- Alberta FireSmart Program <https://wildfire.alberta.ca/firesmart/default.aspx>
- Saskatchewan Public Safety Agency -<https://www.saskpublicsafety.ca/communities/firesmart-communities>

- c) **Health and Safety:** British Columbia, Alberta and Saskatchewan have acts and regulations for, Worker Compensation and Employment Standards. The regulations set minimum standards regarding occupational health, safety and employment. These agencies offer direction on the implementation and interpretation of the regulations through periodic training sessions, self-education guides and site visits. Information and training opportunities can be found at the following websites:

- Work Safe BC: <https://www.worksafebc.com/en>
- BC Forest Safety Council: <https://www.bcforestsafesafe.org/>

- BC Employment Standards Branch: <https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards>
- BC Employers' Advisors Office: <https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/labour>
- Work Safe Alberta: <https://www.wcb.ab.ca/>
- Alberta Safety Council: <https://www.safetycouncil.ab.ca/>
- Alberta Human Services – Employment Standards: <https://www.alberta.ca/labour-and-immigration.aspx>
- Work Safe Saskatchewan: <https://www.worksafesask.ca/>
- Saskatchewan Safety Council: <https://www.sasksafety.org/>
- Saskatchewan Labour Relations & Workplace Safety:
<https://www.saskatchewan.ca/government/government-structure/ministries/labour-relations-and-workplace-sa>

Appendix C: Forests of Exceptional Conservation Value Assessment Summaries

Forests of Exceptional Conservation Value (FECV)
Assessment Summary for Alberta

The FECV assessment, created with the assistance of Professional Biologists, is intended to alert resource workers and wood suppliers to the potential presence of protected species to thereby minimize or avoid entirely negative impacts on sensitive animal and plant populations. The following is a list of forest species that reside or potentially reside within Tolko’s Forest Management Agreement (FMA) areas and associated timber procurement ranges by manufacturing facility in the province of Alberta that have a conservation ranking as G1 - critically imperiled (endangered) or G2- imperiled (threatened) by NatureServe or COSEWIC.

Alberta FMAs and quota licenses:

- F14, F26, P19, P21 = High Level Area
- S19, S21, G15, G16 = High Prairie Area
- S17 = Slave Lake Area

Timber Procurement Area is defined as the 200km radius surrounding Tolko Mills located at Slave Lake, High Prairie, and High Level.

Globally Listed - G1 Critically Imperiled

Globally Listed - G1 Critically Imperiled

There is only one species globally listed as G1, critically imperiled, in the Alberta fibre sourcing area. This is the **Northern Long-eared Bat**, *Myotis septentrionalis*.

Further information about this bat is available [here](#). An additional Tolko information factsheet on the northern myotis is also available.



Forests of Exceptional Conservation Value (FECV) Assessment Summary for British Columbia

The FECV assessment, created with the assistance of Professional Biologists, is intended to alert resource workers and wood suppliers to the potential presence of protected species to thereby minimize or avoid entirely negative impacts on sensitive animal and plant populations. The following is a list of species or plant communities that reside or potentially reside within Tolko’s Timber Supply Areas in the province of British Columbia that have a conservation ranking as G1- critically imperiled (endangered) or G2 - imperiled (threatened) by NatureServe.org, or Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The review was completed for all the districts identified below.

Tolko B.C. Timber supply area (TSA) Districts:

- Quesnel
- Cariboo Chilcotin
- 100 Mile House
- Cascades
- Thompson Rivers
- Okanagan Shuswap
- Selkirk

Conservation Status Ranking

G - Global ranking

1: Critically Imperiled

2: Imperiled



Map image from BC government - Natural Resource Regions and Districts Map

FECV BC Species Summary

The following table outlines species/ communities globally listed as 1 (critically imperiled) or 2 (imperiled) in specific Tolko TSA Districts. Additional Tolko information factsheets for each G1 and G2 species/ community are available.

Conservation Ranking	Common Name(s)	Scientific Name	BEC Zone	District Locations
G1	Northern (Long-eared) Bat	<i>Myotis septentrionalis</i>		ALL
G1	Lodgepole pine / Krukeberg's holly fern - Dense lace fern	<i>Pinus contorta</i> / <i>Polystichum kruckebergii</i> - <i>Aspidotis densa</i>	SBSmw/00	Quesnel, Cariboo-Chilcotin
G2	Douglas-fir / Douglas maple / Step moss	<i>Pseudotsuga menziesii</i> / <i>Acer glabrum</i> / <i>Hylocomium splendens</i>	SBSmh/04	Quesnel, Cariboo-Chilcotin

There is only one species globally listed as G1 (critically imperiled) in all TSAs, this is the **Northern Long-eared Bat**. *Myotis septentrionalis*. Further information is available [here](#).

Forests of Exceptional Conservation Value (FECV) Assessment Summary for Saskatchewan

The FECV assessment, created with the assistance of Professional Biologists, is intended to alert resource workers and wood suppliers to the potential presence of protected species to thereby minimize or avoid entirely negative impacts on sensitive animal and plant populations. The following is a list of forest species that reside or potentially reside within Tolko’s Timber Supply Areas and associated timber procurement ranges for the manufacturing facility in the province of Saskatchewan that have a conservation ranking as G1 - critically imperiled (endangered) or G2- imperiled (threatened) by NatureServe or COSEWIC.

Timber Supply Areas (TSA) surveyed are the Meadow Lake and Prince Albert TSAs.

The timber procurement area is defined as the 400km radius surrounding the Tolko Mill located at Meadow Lake, SK.

Globally Listed - G1 Critically Imperiled

There is only one species globally listed as G1, critically imperiled, in the Saskatchewan fibre sourcing area, this is the **Northern Long-eared Bat**, *Myotis septentrionalis*.

Further information about this bat is available [here](#). An additional Tolko information factsheet on the northern myotis is also available.



NORTHERN MYOTIS / NORTHERN LONG-EARED BAT

TOLKO FACTSHEET AND IDENTIFICATION AID

The Northern Myotis (*Myotis septentrionalis*) has a global ranking of G1 (critically imperiled) across Canada. Therefore additional attention must be placed on the identification and protection of the Northern Long-eared bat when operating in the forest. The Little Brown Bat, a close relative, is provided here for comparison. They are similar in length and weight with the only defining feature being the ear and tragus length.

Average length is approx. 78 mm / 3"



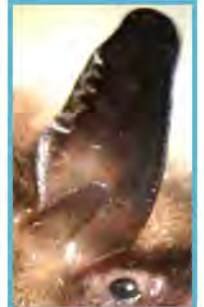
NORTHERN MYOTIS



Long ears are ~ 17mm, and extend beyond nose
Tragus (cartilage flap) is ~10mm, long and slender

TRAGUS

LITTLE BROWN BAT



Long ears are ~ 7mm, do not extend beyond nose
Tragus (cartilage flap) is ~7mm, short and blunt

HABITAT

- Spring to fall – bats roost in tree cavities or under loose bark. They change roost frequently (every other day).
- They forage for insects (i.e. moths, flies, leafhoppers, caddis flies, beetles and spiders) in young forests and at the borders between open patches and intact forest.
- Winter – migrate to hibernacula (subterranean features, such as caves, abandoned mines, wells, cellars, tunnels, rock crevices or tree root hollows where light and noise levels are low). They will hibernate alongside other species.

ROOSTING Typical forest day roosting sites can be found in tree cavities and under the loose bark of dead or dying trees.



RECOMMENDED ACTIONS

- Avoid disrupting patches of forest that contain a large number of suitable roosting trees (dead, dying, or cavity bearing trees).
- Prioritize leaving snags and dead trees associated with greater canopy gaps – daytime sunlight reduces thermoregulation costs, resulting in more attractive roosting sites.
- Identify cliffs or rock outcroppings (especially with southern, sunny aspect), incorporate these habitats into wildlife tree patches.
- Refrain from using pesticides near wetlands and riparian areas where bats feed on insects.

WHITE-NOSE SYNDROME

White-nose syndrome is the main cause of population decline across Canada. There are sterilization protocols following capture/handling of any bat species and prior to/following entering or sampling any suspected hibernacula.

DOUGLAS-FIR / DOUGLAS MAPLE / STEP MOSS COMMUNITY

TOLKO FACTSHEET AND IDENTIFICATION AID

Scientific Name

Pseudotsuga menziesii / *Acer glabrum* / *Hylocomium splendens*

Conservation Status / Legal Designation

Global Status: G2

Provincial Status: S2 (Nov 2014)

BC List: Red

BEC Zone: SBSmh/04

Forest District/Location: Quesnel and Cariboo Chilcotin



DOUGLAS FIR

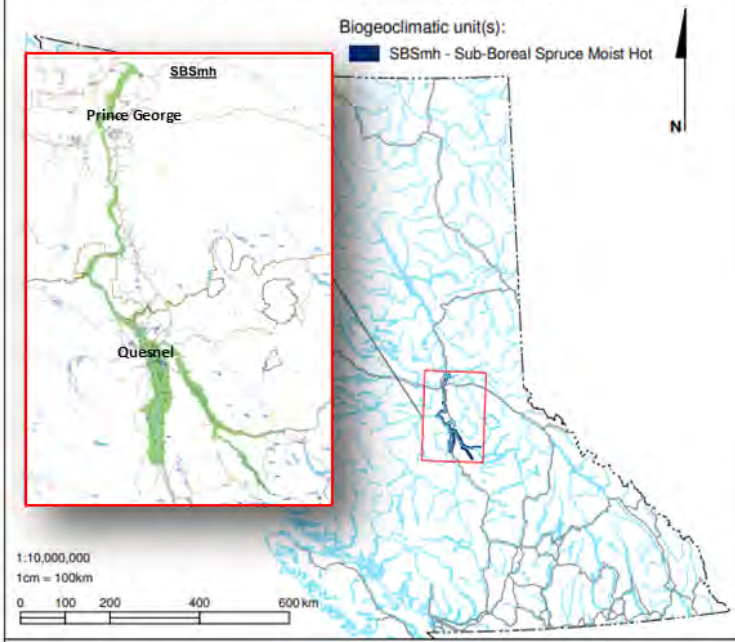


DOUGLAS MAPLE



STEP MOSS

Distribution by Known Biogeoclimatic Unit of *Pseudotsuga menziesii* / *Acer glabrum* / *Hylocomium splendens*



INFORMATION SOURCE:

B.C. Conservation Data Centre. 2012. Ecological Community Summary: *Pseudotsuga menziesii* / *Acer glabrum* / *Hylocomium splendens*. B.C. Minist. of Environment. Available: <https://a100.gov.bc.ca/pub/eswp/>.

Pseudotsuga menziesii / *Acer glabrum* var. *douglasii* / *Hylocomium splendens* Woodland | NatureServe Explorer

FOR ADDITIONAL INFORMATION CONTACT YOUR TOLKO REPRESENTATIVE OR REVIEW THESE LINKS:

B.C. Ministry of Forests, Lands, and Natural Resource Operations. Biogeoclimatic Ecosystem Classification (BEC) Map

[1997, A Field Guide to Forest Site Identification and Interpretation for the Cariboo Forest Region - 2 part book with 2 supplements \(gov.bc.ca\)](https://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh39-Sup2.pdf)

www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh39-Sup2.pdf

HABITAT

This ecological community is endemic to central interior British Columbia. It has a limited range, which includes lower valley slopes and valley bottoms of the Fraser River valley, from Alexandria north to about Prince George and in the Quesnel River valley west of Quesnel Forks. Elevations range from 450 to 750 m (1476-2460 feet).

The mature, moderately open, small patch occurrence has a forest canopy dominated by Douglas-fir and occasionally includes scattered hybrid Engelmann x white spruce and subalpine fir. Shrub and herb layers have a large diversity of species and high ground cover. Shrubs include Douglas maple, tall Oregon grape, saskatoon, soopolallie, common prickly rose and birch-leaved spirea.

It occupies the warmest sites within its range. These warm aspect sites (southeast to west) occur on steep mid- to upper-slope positions, ranging from 35 to 90% slopes. Sites are dry and soils are coarse gravelly loams and sands, developed from colluvial and morainal parent materials. Soil nutrient availability is poor to very poor.

Over the long term this community has declined substantially due to harvesting and conversion to agriculture. However, the association potentially occurs within the 24 km² of protected area within its range.

LODGEPOLE PINE / KRUCKEBERG'S HOLLY FERN - DENSE LACE FERN

TOLKO FACTSHEET AND IDENTIFICATION AID

Scientific Name

Pinus contorta* / *Polystichum kruckebergii* - *Aspidotis densa

Conservation Status / Legal Designation

Global Status: G1

Provincial Status: S1 (May 2015)

BC List: Red

BEC Zone: SBSmw/00

Forest District/Location: Quesnel and Cariboo Chilcotin



LODGEPOLE PINE

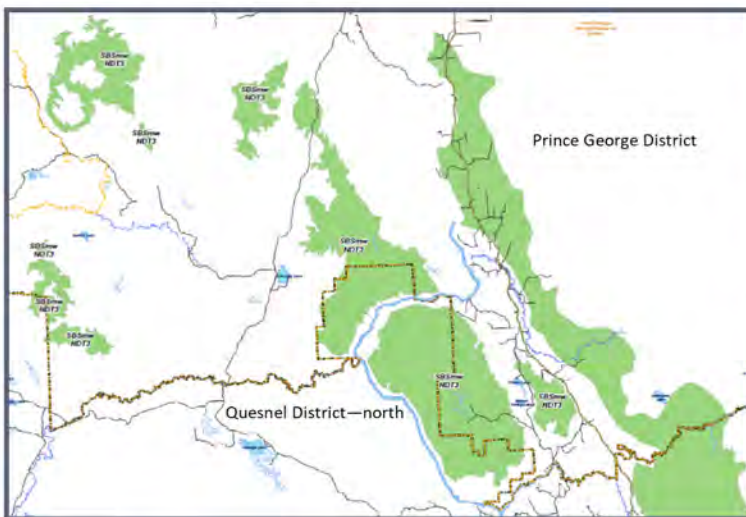


K. HOLLY FERN



DENSE LACE FERN

The following two maps identify the locations of BEC SBSmw/00 (green areas), in the Quesnel, Cariboo Chilcotin and Prince George Natural Resource Districts.



HABITAT

This ecological community is noted by the presence of several unusual ferns: *Polystichum Kruckebergii* (Kruckeberg's holly fern), a rare fern, *Aspidotis densa* (Indian's dream) and *Adiantum pedatum* (maidenhair or northern maidenhair fern), which are outliers from their normal distribution.

The only trees found in this community are lodgepole pine and subalpine fir. The lodgepole pine is not very productive (< 17 metres at 170 years). Shrubs include common juniper, black huckleberry, dwarf blueberry, birch-leaved spiraea and saskatoon. Other ferns present include parsley fern, bracken fern, northern holly fern, as well as plants compact selaginella, and Wallace's selaginella. Herbs, grasses, lichens and a well developed moss layer are also present. There are 18 lichen species have been identified in this plant community including eight *Cladonia* species.

This community occurs in small patches, on steep south-facing subxeric, extrusive basic basalt serpentine (ultramafic) geological formation between 1,100 to 1,330 metres on Sovereign Mountain.

INFORMATION SOURCE: B.C. Conservation Data Centre. 2009. Ecological Community Summary: *Pinus contorta* / *Polystichum kruckebergii* - *Aspidotis densa*. B.C. Minist. of Environment. Available: <https://a100.gov.bc.ca/pub/eswp/>.

FOR ADDITIONAL INFORMATION CONTACT YOUR TOLKO REPRESENTATIVE OR REVIEW THIS SITE: B.C. Ministry of Forests, Lands, and Natural Resource Operations. Biogeoclimatic Ecosystem Classification (BEC) Map