Tolko Industries Ltd.
Wood Procurement Program

July 2022

For the purposes of the SFI Fibre Sourcing Standard this program and its commitments are considered the Wood Procurement Policy.

Introduction

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 demonstrate this commitment, Tolko is a Sustainable Forestry Initiative (SFI) participant and certified to the SFI Fibre Sourcing Standard. SFI is a sustainability leader through their work in four focus areas: Standards, Conservation, Community and Education. In addition, Tolko is a member of the Western Canada SFI Implementation Committee (WCSIC) which is made up of SFI participant members from British Columbia, Alberta and Saskatchewan, structured under two regional committees, BC and Prairie. WCSIC has developed a Wood Producer Information Package which Tolko uses as guidance for its Wood Procurement Program. The WCSIC performs local outreach and education activities that promote sustainable forestry, the SFI program, and SFI Standard conformance on public and private forestlands.

This Wood Procurement Program is an outreach tool for landowners supplying wood to Tolko. The Program 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 SFI Program Participant or the WCSIC through their website: www.wcsic.ca

SFI 2022 Fiber Sourcing Standard

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

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 Fiber Sourcing

Objectives:

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

Commitments

Tolko commits to maintain certification to the SFI Fibre Sourcing Standard by:

- Providing wood producers and other wood suppliers Tolko's Purchase Wood Procurement Program.
- Ensuring that purchase wood has been obtained legally and follows all environmental and safety legislation, including where practicable, the use of Best Management Practices.
- Implementing a monitoring system to ensure that the supplier meets Tolko's purchase wood requirements.

Tolko is committed to the principles of Sustainable Forest Management and will only procure wood from demonstrated reliable sources. This is achieved by:

- Tolko will not procure wood from unknown sources or controversial sources as defined by SFI (definition in Appendix C) and PEFC 2002:2020.
- Tolko's priority will be to source wood products from certified wood producers and harvest areas. Non-certified sources will be individually evaluated to confirm they are not supplying wood from controversial sources.
- Tolko will strongly encourage and assist its suppliers to achieve SFI Certification.
- Where applicable, purchase wood operations will follow the same planning and timber harvesting legislation and standards as are applied to crown lands. Deviations may be for timber salvage operations where the harvested lands will not be reforested but will be used for other purposes such as farming, grazing or for the construction of facilities.
- Qualified logging and resource professionals are to be used when possible. Definitions of these can be found in Appendix C. A list of Qualified Logging Professionals can be made available with our Log Purchase Agreements through request to a Tolko Representative or by emailing WoodlandsEMS@tolko.com.
- Tolko will assess if there are Forests of Exceptional Conservation Value, defined as critically imperiled (G1) and imperiled species (G2) and ecological communities, within the wood supply area. The summary of each provinces assessment is available in Appendix D.
- Continual improvement will be through internal evaluations and independent audits.

Risk Assessment

Tolko will complete a Wood Procurement Risk Assessment at the beginning of each wood purchase. If volume purchased is less than 1000 m^3 or the land is being cleared for non-forest use (e.g., land development), no further information is required if it is determined by staff that there is low risk to impacting water resources. This assessment is used to determine:

a. the likelihood that activities defined under the term controversial sources occur in the country / region of the supply
b. the likelihood that the supply chain has not been able to identify a potential controversial source of supply.
c. the likelihood that the wood supplier's operations do not follow best management practices.

The Wood Procurement Inspection Form will be completed based on the assessed risk, as indicated in Tolko's Wood Procurement Risk Assessment form.

If the Seller becomes aware that any of the wood fibre sold or traded to the Purchaser's Facilities may be deemed to be from a "high risk" source by the Purchaser, the Seller will provide any information necessary to the Purchaser to clearly identify the origin of the material and will cooperate with any audits or inspections necessary to investigate this material in more detail.

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: Best Management Practices

Landowners should consider the following guidance:

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-practique-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):** Tolko will evaluate your lands to determine if they have FECV present. FECV are lands with critically imperiled (G1) and imperiled (G2) species and ecological communities, a conservation status determined by NatureServe that can be accessed through the https://www.natureserve.org/canada. Landowners may seek assistance from Tolko or by contacting an appropriate qualified resource professional. Further FECV assessments by province is provided in Appendix D.

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.

m) **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.

n) Qualified Resource Professionals

Qualified Resource Professional Category	Resources
Forestry	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.

Qualified Resource Professional Category	Resources
	Association of BC Professional Foresters: https://abcfp.ca/web Association of Alberta Forest Management Professionals: https://aafmp.ca/ Association of Saskatchewan Forestry Professionals: https://www.asfp.ca/
Biologists	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. The College of Applied Biology – British Columbia: https://www.cab-bc.org/ Alberta Society of Professional Biologists: https://www.aspb.ab.ca/
Engineers	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. The Association of Professional Engineers and Geoscientists of British Columbia: https://www.egbc.ca/ The Association of Professional Engineers, Geologists, and Geophysicists of Alberta: https://www.apega.ca/ The Association of Professional Engineers and Geoscientist of Saskatchewan: https://www.apegs.ca/

- Seedling Nurseries and Seed Procurement:

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.

o) **Qualified Logging Professionals**:

Tolko encourages wood producers to utilize the services of qualified logging professionals. These loggers will have successfully completed a training program recognized by Tolko. A list of local qualified logging professional can be obtained from Tolko.

p) 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/

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.

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.bcforestsafe.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-safety

Appendix C: 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.

a. Each crew must include a qualified logging professional who (1) has completed the SFI Implementation Committee approved wood producer training program; (2) is an owner of, employee of, or contracted by the wood producer; (3) has direct responsibility and is on-site regularly to consistently carry out the roles and responsibilities of the qualified logging professional under the SFI 2022 Standard(s) (e.g., safety, protection of soils, streams, and other water bodies).
b. To be considered a qualified logging professional, an individual must complete the required training appropriate to their level of responsibility (e.g., owner, supervisor, employee) within the specified time period required by their SFI Implementation Committee. SFI Implementation Committees have the flexibility to require different training requirements for owners of logging businesses versus training requirements for other employees (e.g., supervisors). Once classified as a qualified logging professional, the individual must complete the required SFI Implementation Committee maintenance training within the prescribed time period to retain their status as a qualified logging professional.

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.

Appendix D: 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

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.


Photo: Dave Thomas

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

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	Myotis septentrionalis		**ALL**
G1	Lodgepole pine / Kruckeberg's holly fern - Dense lace fern	*Pinus contorta / Polystichum kruckebergii - Aspidotis densa*	SBSmw/00	Quesnel, Cariboo-Chilcotin
G2	Douglas-fir / Douglas maple / Step moss	*Pseudotsuga menziesii / Acer glabrum / Hylocomium splendens*	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.


Photo: Dave Thomas

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

TRAGUS

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

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.

For additional information contact your Tolko representative or review these links: Government of Canada U.S. Fish & Wildlife Service

Document Date—June 2022

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

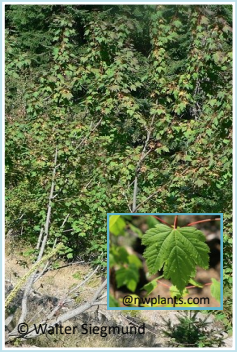
Provincial Status: S2 (Nov 2014)

BC List: Red

BEC Zone: SBSmh/04

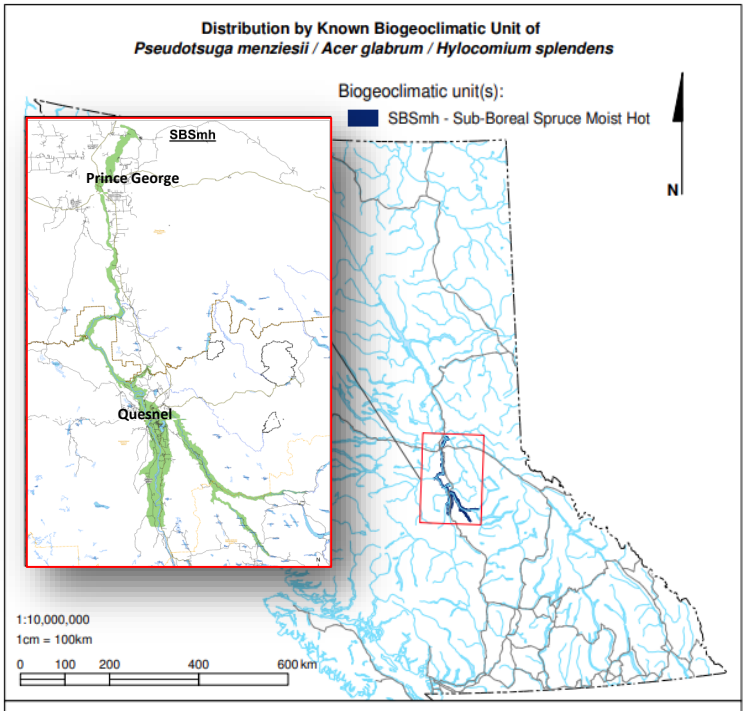
Forest District/Location: Quesnel and Cariboo Chilcotin

DOUGLAS FIR



DOUGLAS MAPLE

STEP MOSS



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)

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 Engelman 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 km^2 of protected area within its range.

Document Date—June 2022

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

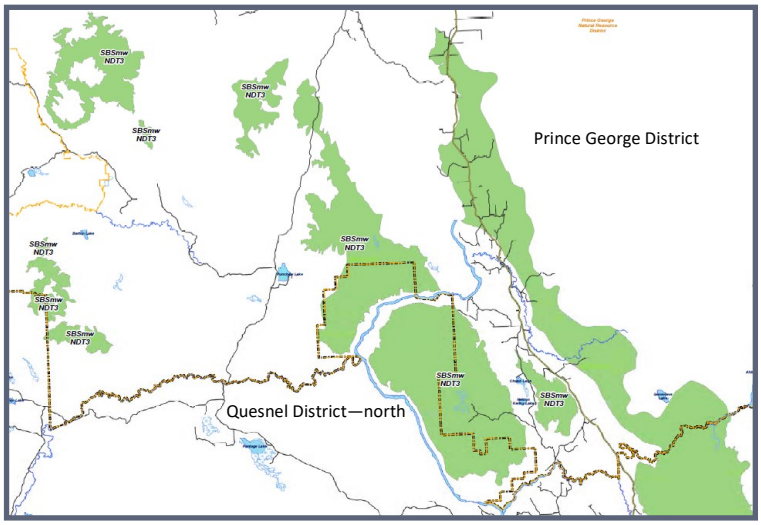
Forest District/Location: Quesnel and Cariboo Chilcotin

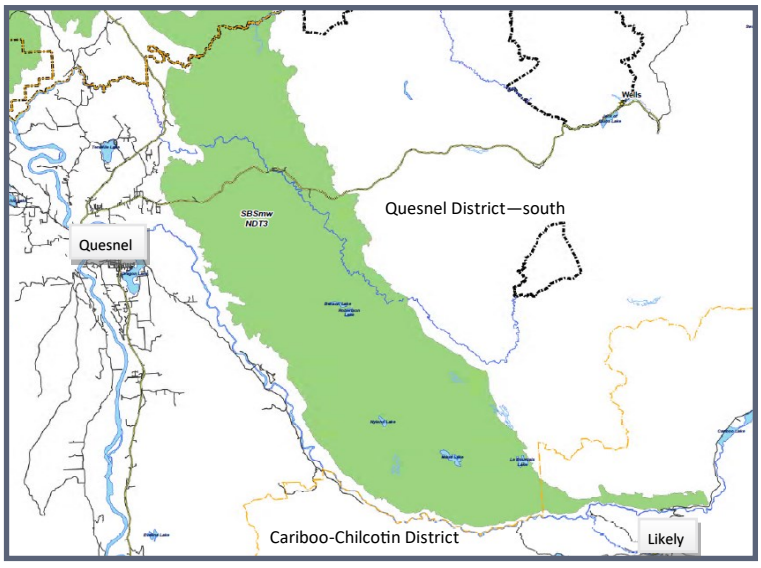
LODGEPOLE PINE

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

Document Date—June 2022